

The International Governance of Bioweapons

The governance of bioweapons and synthetic biology spans concerns relating to international security; interstate conflict; chemical, biological, radiological, and nuclear (CBRN) weapons; public and environmental health; lab biosafety; and responsible life sciences research. Therefore, a large number of institutions theoretically have mandates to concern themselves with aspects relating to preventing the misuse of synthetic biology, ranging from disease surveillance to prosecuting terrorists. However, there are almost no institutions that concern themselves with preventing the proliferation of bioweapons as a primary mandate.

Therefore, I list organisations that set policy, establish guidelines, or convene states to homogenise domestic policy related to bioweapons. This means I ignore organisations that focus strictly the prosecution of bioterrorists such as INTERPOL; organisations that largely promote scientific engagement and cooperation such as the International Science & Technology Center (ISTC); organisations that do not address risks related to misuse, such as the Cartagena Protocol on Biosafety which primarily addresses risks to biodiversity; and organisations focused on public health countermeasures in general, such as the Coalition for Epidemic Preparedness Innovations (CEPI).

I exclude regional institutions such as the European Union (EU) and industry consortia such as the International Gene Synthesis Consortium. I do separately consider industry actors for my data collection. However, for regional and industry actors, there is a dearth of independent policy, guidelines, and standards, such that I also deprioritise these for scope reasons. For example, much of the EU's bioweapons policy focuses on supporting the implementation of the Biological Weapons Convention for EU member states.

Fig. 9—Relevant International Institutions Governing Bioweapons

Name	Year Founded	About	Role in Bioweapons Governance	Primary Source(s)
World Organisation for Animal Health (WOAH)	1924	An intergovernmental organisation that focuses on animal diseases and improving animal health globally	Develops guidelines related to responsible veterinary research, suspicious biological events, and contributes to the Biological Weapons Convention	woah.org
Food and Agriculture Organization (FAO)	1945	A UN agency leading efforts against hunger and improving food security	Has investigated implications of synthetic biology on food security	fao.org

United Nations Security Council (UNSC)	1945	One of the principal organs of the United Nations; responsible for maintaining international peace and security	Adopts resolutions (such as Resolution 1540) that mandate measures to prevent the proliferation of bioweapons	main.un.org/security-council/en
International Organization for Standardization (ISO)	1946	An independent, non-governmental international organisation developing voluntary, consensus-based, market-relevant international standards	Develops standards related to laboratory biosafety and biosecurity, such as ISO 35001	iso.org
World Health Organization (WHO)	1948	A UN agency responsible for global health	Supports the implementation of the International Health Regulations (which include measures against bioterrorism); conducts horizon scans of developments in biotechnology relevant to global health	who.int
Organisation for Economic Co-operation and Development (OECD)	1961	Intergovernmental organisation oriented around stimulating economic progress and world trade	The OECD Programme on Chemical Safety and Biosafety issues reports and guidelines related to the bioeconomy, including the safe use of biotechnology	oecd.org/en/about/programmes/oecd-programme-on-chemical-safety-and-biosafety.html

Biological Weapons Convention (BWC)	1972 (entered into force in 1975)	The primary international legal instrument prohibiting bioweapons	Regularly holds Review Meetings; Meetings of the States Parties; and Meetings of Experts. Implementation Support Unit assists states in the implementation of the convention.	disarmament.unoda.org library.unoda.org search.archives.un.org
United Nations Institute for Disarmament Research (UNIDIR)	1980	The primary research arm of the UN on disarmament affairs	Conducts research on disarmament affairs, including on biological weapons. Significantly contributed towards efforts on establishing a science and technology review mechanism at the BWC.	unidir.org
The Australia Group	1985	A multilateral export control regime regulating the spread of chemical and biological weapons	Develops and standardises export controls to prevent the proliferation of materials and technologies that could be used in bioweapons, including maintaining common control lists for restricted technologies and agents	dfat.gov.au
UN Secretary-General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons (UNSGM)	1987	The leading instrument for the UN to investigate alleged use of chemical and biological weapons by states	Has worked on improving mechanism for investigating allegations of chemical and biological weapons usage by states	disarmament.unoda.org/wmd/secretary-general-mechanism/

InterAcademy Partnership (IAP)	1993	A network of national and regional academies of science from around the world	Has conducted numerous conferences and produced reports relevant to risks from biotechnology; established the IAP Biosecurity Working Group in 2003 (updated in 2020)	interacademies.org
International Bioethics Committee (IBC)	1993	A body of UNESCO composed of a body of 36 independent experts that follows progress in the life sciences and its applications	Engages in bioethics and science policy discussions, including the ethical implications of biotechnology, which indirectly relate to bioweapons governance	https://www.unesco.org/en/ethics-science-technology/ibc
Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies	1995	An international export control regime for dual-use goods and technologies	Develops and standardises export controls to prevent the proliferation of dual-use goods and technologies, including biotechnologies	wassenaar.org

UN Office for Disarmament Affairs (UNODA)	1998	The primary UN office focused on promoting nuclear disarmament and non-proliferation	Supports the implementation of the Biological Weapons Convention; oversees the UNSGM; produces publications and updates about bioweapons proliferation	disarmament.unoda.org library.unoda.org search.archives.un.org
Global Health Security Initiative (GHSI)	2001	An informal, international partnership focused on health security and chemical, biological, radiological and nuclear (CBRN) threats	Regularly meets to discuss matters and exchange information related to CBRN threats	ghsi.ca
Global Partnership Against the Spread of Weapons and Materials of Mass Destruction	2002	The primary multilateral group, led by the G7, that coordinates nations to curtail the spread of weapons of mass destruction (WMDs)	Implements various projects to secure and dismantle WMDs, including biological weapons	gpwmd.com
United Nations Security Council Resolution 1540	2004	A UN Security Council resolution established to prevent non-state actors from acquiring WMDs. Supported by the 1540 Committee.	Provides guidelines, assistance, advice, and operational support for states to enforce U.N. Resolution 1540	un.org/en/sc/1540/

International Experts Group of Biosafety and Biosecurity Regulators (IEGBBR)	2007	A consortium of the regulatory authorities from 11 member countries that have biosafety and biosecurity regulatory oversight systems	Facilitates the standardisation of biosafety and biosecurity regulations	iegbbr.org
Global Health Security Agenda (GHSA)	2014	A group of more than 70 countries, international organisations, and private sector companies focusing on Infection prevention and control	Supports the implementation of the International Health Regulations (which include measures against bioterrorism)	globalhealthsecurityagenda.org
International Science Council (ISC)	2018	An international non-governmental organisation composed of scientific bodies around the world	Announced the ISC Expert Group for the Biological Weapons Convention in 2024 which has contributed to the Biological Weapons Convention	council.science