



Global Awareness and Education for Biosecurity

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1. Article IV of the BTWC

- “Each State Party to this Convention shall, in accordance with its constitutional processes, take any necessary measures to prohibit **and prevent** the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, within the territory of such State...” (emphasis added)



2. Final Declaration, 2nd Review Conference, 1986

- Article IV

- “The Conference notes the importance of:
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- inclusion in textbooks and in **medical, scientific** and military **educational programmes** of information dealing with the prohibition...(emphases added)
- and believes that such measures which States might undertake...would strengthen the effectiveness of the Convention.”



3. The 2005 BTWC Meeting on Codes of Conduct

- *Australia* WP. 29

- “Amongst the Australian scientific community, there is **a low level of awareness of the risk of misuse of the biological sciences** to assist in the development of biological or chemical weapons. Many scientists working in ‘dual-use’ areas simply do not consider the possibility that their work could inadvertently assist in a biological or chemical weapons programme...” (emphasis added)



4. Some Insights from UK Academia

- *Bradford Briefing Paper No. 16*, May 2005
 - “There is little evidence from our seminars that participants:
 - a. regarded bioterrorism or bioweapons as a substantial threat;
 - b. considered that developments in life sciences research contributed to biothreats;
 - c. were aware of the current debates and concerns about dual-use research; or
 - d. were familiar with the BTWC.”



5. Biosecurity Education in Europe

- *Fostering the Biosecurity Norm, 2008*
 - “The research suggests that **only 3 out of 57 universities identified currently offered some form of specific biosecurity module and in all cases this was optional for students**....nearly half of the degree programmes surveyed evidenced some form of bioethics module....27 of the 142 degree courses...contain a specific dedicated biosafety module although several...were optional...” (emphasis added)



6. Why the Lack of Biosecurity Education?

- We asked lecturers and found that:
 - Some were not interested;
 - “Not my cup of tea”
 - Others were interested but they lacked;
 - Knowledge
 - Resources
 - Space on the timetable
 - So what could be done to help?



7. The Education Module Resource (EMR)

- *Structure*

- A. Overview (s1)
- B. The threat of Biological Warfare and Bioterrorism and the International Prohibition Regime (s2-10)
- C. The Dual-Use Dilemma and the Responsibilities of Scientists (s11-18)
- D. National Implementation of the BTWC (s20)
- E. Building a “Web of Prevention” (s21)



8. Use of the EMR

- Given the problems faced by lecturers, we hope that the EMR will be used as a source for material to add to ongoing courses
- We have tested out such use of the EMR with colleagues in Japan and Italy
- We are gradually getting the lecture slides translated into different languages and intend to have, at the least, all UN languages



9. Beyond the EMR

- We have developed a train-the-trainer programme in order that lecturers can further develop their knowledge of the biosecurity/dual-use issue
- Our current aim is to develop a template for 5 country-specific lectures covering: the nature of the perceived threat; involvement in the BTWC; how the responsibility of scientists is handled; national implementation; and the whole “web of prevention” policies in the country



10. How do we get the 2008 Agreements enacted in 2011?

- Ideas valued in 2008 discussions on education included:
 - “Explaining the risks associated with the potential misuse of the biological sciences and biotechnology;
 - Covering the moral and ethical obligations incumbent on those using the biological sciences;
 - Providing guidance on the types of activities which could be contrary to the aims of the Convention and relevant national laws and regulations and international law;
 - Being supported by accessible teaching materials, train-the-trainer programmes, seminars, workshops, publications, and audio-visual materials...”