Enhancing Health and Security for All

Introduction to the dual use dilemma in the life sciences

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WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future
Dual use

Military and civilian application:

Peaceful ↔ Hostile

Good ↔ Bad

Defensive ↔ Offensive

Not good or bad
Biological threat or ‘biothreat’ refers to the accidental or deliberate release of a pathogen or toxin into a susceptible population.

Non-natural
Life sciences & Dual Use Dilemma

Biology and its branches
Medicine and its branches
Research in life sciences is the basis for public health and animal health:

- More knowledge
- Better protection
- Vaccine development
- Better therapy
- Better prevention

FDA approves game-changing treatment for blood cancer
Dual use dilemma

- Researchers could be held liable for acts committed by third parties
- Governments are responsible for security and health of the population

Ethical principles and values

Legal and regulatory requirements

More knowledge
Better protection
Vaccine development
Better therapy
Better prevention
Dual use potential in the life sciences

Material = pathogens and toxins

Technology

Knowledge

Equipment
Challenges - Technology

• Novel Technologies
  - Genome editing
  - Nanotechnology
  - Synthetic Biology
  - Convergence

• New players:
  - State-sponsored programs?
  - Terror groups
  - Criminals

• Lack of harmonization of international guidelines / procedures

Lower costs
De-skilling
Managing biological risks

Basic Research Findings, Knowledge

Technologies, Products, Materials, Substances

Biosecurity

Technologies, Products, Materials, Substances

Biosafety

Bio-ethics

Legally enforceable:
• National legislation
• National implementation of the Biological and Toxin Weapons Convention
• National implementation of UNSCR 1540
• Export Control (EU)

Not legally enforceable:
• question of conscience
• ethical guideline/code

Legally enforceable:
• National implementation of the Biological and Toxin Weapons Convention
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Legally enforceable:
• National legislation
Conclusions: Responding to dual use challenges at the health-security interface

Global challenges require global response
→ Networking and cooperation between nations but also disciplines and communities

Bacteria and viruses keep evolving
→ We can only “evolve” our technology and cooperation, keep developing and using countermeasures (e.g. vaccines)

Horizon scanning
→ for new developments and technology – both for good and bad (bioterrorism, biological weapons)

Intersectoral cooperation
→ Information sharing, transparency
Thank you

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