



# ICRC International Committee of the Red Cross

## Preventing hostile use of the life sciences: From ethics and law to best practice

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The following "Principles of Practice" incorporate some key points of discussion about ethics relating to life sciences. They apply to all stakeholders in the life sciences. The objective is to build a bridge from pertinent ethics and laws which should prevent poisoning and deliberate spread of infectious disease to best practice within the life science community.

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### Principles and Action Points

#### General Principle

Life sciences have been, and must continue to be, of great benefit to humanity. However, the benefits to humanity of any particular development in the life sciences must always outweigh the risks of that development being used to facilitate poisoning and deliberate spread of infectious disease.

#### Principles and action points

To minimize the risks of poisoning and deliberate spread of infectious disease resulting from advances in the life sciences, those working in this field should recognise their individual and collective responsibilities, bear in mind certain key principles and take action as appropriate:

#### Conflict of interest

1. Preventing advances in the life sciences from being used for poisoning and deliberate spread of infectious disease must always take precedence over personal, commercial or security interests.

#### Action points:

Encourage education of scientists from undergraduate level onwards about pertinent ethical issues.

Develop and promote professional ethics and adhere to agreed codes of conduct that may be voluntary, professional or enforced as appropriate.

#### Legal responsibilities

2. Research and its application must always be compatible with respect for, and promotion of, national and international laws.

#### Action points:

Encourage education of scientists from undergraduate level onwards about relevant national and international laws.

Work with government officials to prevent biological or chemical weapons from being developed, produced, transferred or used and call for governments to fully uphold, implement and strengthen existing and pertinent laws.

## **Diligence**

3. Undertaking well-intentioned research does not justify neglect of possible hostile use of the outcome.

### **Action points:**

Be diligent in safeguarding legitimate research, whether in academia, industry or defence from being used for any hostile purpose, including the development of chemical or biological weapons.

Raise concerns with policy-makers and institutions about existing regulations which may not be adequate for safeguarding legitimate research.

## **Governance of research and publication**

4. Knowledge gained from research must ultimately become universal for the progress of science; however, the potential for hostile use of some advances in life science and biotechnology may pose a fundamental dilemma about how and when knowledge is made accessible to others.

### **Action points:**

Maintain an open dialogue about and, if possible, define what constitutes 'dangerous' research.

Build a regime of governance of potentially dangerous research and its subsequent publication.

## **A culture of transparency**

5. Transparency and a culture of dialogue together constitute the most important element in minimising the risk that advances in life sciences will be turned to hostile use.

### **Action point:**

Create and promote a working culture of dialogue and transparency between colleagues about the nature of research undertaken.

## **Increasing speed of advances**

6. The increasing power and variety of advances in life sciences must be matched by commensurate objective assessments of risk and closer vigilance.

### **Action point:**

Be vigilant with respect to scientific advances that could facilitate poisoning and the deliberate spread of infectious disease.

Discuss mechanisms that could ensure that the divide between advances in science and advances in its governance and applicable law is minimised.

## **A "web of prevention"**

7. Minimising the risk of poisoning and deliberate spread of infectious disease require a range of synergistic measures and so is, by necessity, a multidisciplinary endeavour.

### **Action points:**

Encourage and participate in multidisciplinary dialogue and action about the prevention of poisoning and deliberate spread of infectious disease.

Make the risks of poisoning and deliberate spread of infectious disease comprehensible to actors in related fields and explore ways to work in cooperation to reduce the risks.

Work with the media with these principles of practice and action points in mind.

## **Voicing concern**

8. Those working in life sciences who voice concern and take responsible action require and deserve political and professional support and protection.

### **Action points:**

Encourage people who work in the life sciences to voice concern about issues relating to poisoning and the deliberate spread of infectious disease.

Ensure that adequate mechanisms exist for voicing such concerns without fear of retribution.

## **Specific characteristics of biological weapons**

9. Because of their particular characteristics, preventing the development, proliferation and use of biological weapons requires a very different approach to preventing the development, proliferation and use of chemical weapons.

### **Action point:**

Develop and promote awareness of the specific risks of the development, proliferation and use of biological weapons and promote preventive strategies.

## **"Dual use"**

10. Some materials and technologies more than others lend themselves to poisoning and deliberate spread of infectious disease.

**Action point:**

Be vigilant with respect to and maintain a dialogue about the 'dual-use' phenomenon.

## Diffusion of materials and technologies

11. Materials and technologies associated with the life sciences can diffuse rapidly.

**Action point:**

Ensure materials and technologies are transferred in a manner that minimises the risk of their use for poisoning and deliberate spread of infectious disease while maximising their potential benefit for humanity.

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