

# Governance of Dual Use Research in the Life Sciences Proceedings of a Workshop

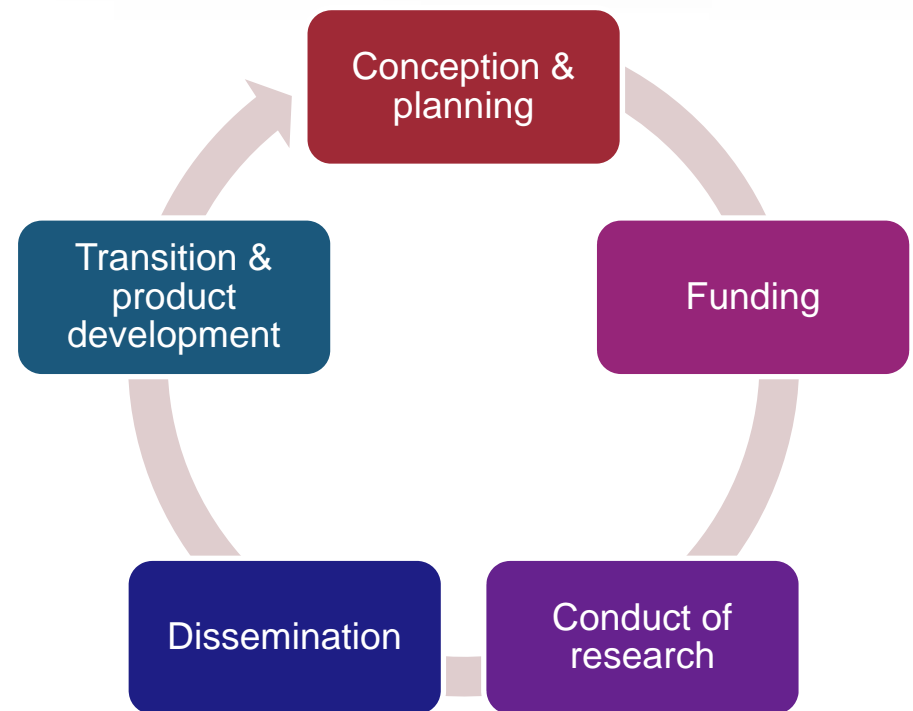
James Revill (Rapporteur)



# Governance across the research life cycle



- Governance as an ecosystem with:
- Multiple actors; and
- Multiple instruments.
- The importance of governance across the research life cycle.
- From initial planning through to product development.



# Governance in Action



Examples of  
Research with Dual  
Use Implications

- “information hazard management”; publication stage too late; scientist’s willingness and awareness; not just pathogens.

Governance of Dual  
Use Research in  
Australia

- Highlighted the challenge of intangible export controls
- Emphasized outreach (e.g. “capital cities roadshow”)

Governance of Dual  
Use Research in the  
US

- Role of IBCs in reviewing and mitigating risks.
- Risk Reviews, communications, training, codes.

Role of Young  
Academies – the  
Malaysian  
Experience

- The need for balancing research and protection
- “Education is key and young scientists are important”

Neuroenhancement,  
Responsible  
Research &  
Innovation

- Anticipation, reflexivity, inclusiveness and responsiveness
- Mutual learning exercises

# Fostering Change



## Coalface Governance – Huising



Bureaucracy



Relational  
Regulation

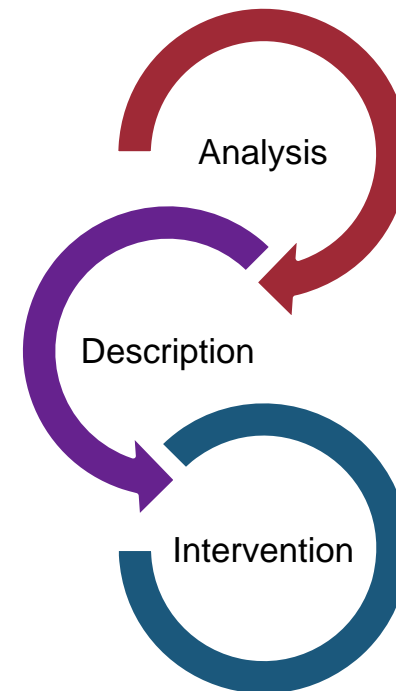


Nudge



Culture  
change

## Social, Behavioural and Decision science in Risk Management - Fischhoff



# Governance Activities That Cut Across the Life Cycle



## National advisory boards on biosecurity, biosafety, and bioethics

- National Science Advisory Board on Biosecurity (United States); National Advisory Council for Biosecurity (France)
- Biosafety and/or bioethics bodies such as those of Malaysia, Singapore, and Ukraine.

## Outreach conducted by national governments

- Cooperation on Government Outreach (Kenya and Denmark); Biosecurity Office (Netherlands)

## Systematic self-governance measures

- German Ethics Council

# Stages of the Life Cycle and Examples of Associated Activities



Conception & planning

- Safety and security awareness
- Embedding safety and security into planning
- Institutional review committees
- Technical approaches to risk mitigation

Funding

- Requirements and statements from research funders and sponsors

Conduct of research

- Risk mitigation plans
- Training in laboratory risk management
- Nucleic acid screening practices
- Supportive institutional cultures

Dissemination

- Statements and policies from journal editors
- Export control regimes

Transition & product development

- Intellectual property, patent restrictions, licenses, material transfer agreements

# Activities to Promote & Sustain Governance



Norms for  
Responsible  
Scientific Conduct

- International Science Council (ISC)
- UNESCO

Principles for  
Biosecurity

- InterAcademy Partnership (IAP)
- Hague Ethical Guidelines

Codes of Ethics  
and Conduct

- Cuban Code of Professional Ethics
- Japanese Code of Conduct for Scientists

Awareness  
Raising and  
Outreach

- Croatian Society for Biosafety and Biosecurity
- Moroccan Biosecurity Caravan

Education  
Programs

- Danish Centre for Biosecurity and Biopreparedness
- Dual Use Education in Pakistan

Educational  
Materials

- Module from Academy of Sciences Malaysia
- Resources developed by Bradford University & FAS

Networks and  
Clearinghouses

- UN Interregional Crime and Justice Research Institute (UNICRI) - International Network on Biotechnology



# Moving forward



- **The importance of context** - No one size fits all
- **Mapping progress** - Much has been done so perhaps a need to map this out.
- **Issues with terminology** - continuing difficulties posed by terminology and translation.
- **Developing Evidence-Based Policies** - Build in assessment and gap analysis
- **Assessment and Evaluation** - Explore innovative approaches used elsewhere.
- **Sustainability** - Building and maintaining networks

# Thanks



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