

# Open Science and Property Knowledge:

## From Policy into Practice

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# Overview

- The UK research councils.
- What do we mean by 'open'?
- Access to research outputs.
- Sharing of research data.
- The future – from policy to practice.
  
- Issues for the workshop.

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# What do we mean by open?

- Research process open and confidential:
  - Confidentiality for proposals and peer-review.
- Must operate within the law (FoI/EIR/DP).
- Openness is nothing new:
  - Antarctic Treaty, Article III (1) (c).
- Intellectual property rights – tools of public policy to foster creativity and innovation:
  - cf patents and trade secrets.

# Why are research councils interested in openness?

- Science and Innovation Framework:
  - ‘Step change’ in economic impact.
- Mission to advance public understanding.
- General principle – if publicly funded must deliver public benefit and must be in public domain.
- Change in public expectation.
- Change in researcher behaviours.



# Key principles

- Research outputs must be accessible to enable exploitation.
- **Research funders have a responsibility to ensure accessibility.**
- Dissemination is part of the research process and has to be paid for.

# Open access models

- Improved access to research outputs via:
  - Open access (pay to publish) journals;
  - Deposit in repositories;
  - Plain language summaries.
- Improved access to research data via:
  - Data sharing plans / data policies;
  - Deposit of data sets in data centres;
  - Obligation on PIs to manage and share data.



# Open access and quality

- Open access does not mean poor quality, un-reviewed research.
- <http://www.nature.com/news/2007/070122/full/445347a.html>



# RCUK four key principles

## 1. Accessibility to publicly-funded research.

*Ideas and knowledge derived from publicly-funded research must be made available and accessible for public use, interrogation and scrutiny, as widely, rapidly and effectively as practicable.*



# RCUK four key principles

1. Accessibility to publicly-funded research.
2. Rigorous quality assurance.

*Published research outputs must be subject to rigorous quality assurance, through effective peer review mechanisms.*



# RCUK four key principles

1. Accessibility to publicly-funded research.
2. Rigorous quality assurance.
3. Efficient and cost-effective access.

*The models and mechanisms for publication and access to research results must be both efficient and cost-effective in the use of public funds.*



# RCUK four key principles

1. Accessibility to publicly-funded research.
2. Rigorous quality assurance.
3. Efficient and cost-effective access.
4. Long-term preservation and accessibility of outputs.

*The outputs from current and future research must be preserved and remain accessible for future generations.*



# Access to research outputs

- Generic RCUK position on deposit in repositories applies to:
  - Published, peer-reviewed outputs only (eg. journal articles, conference proceedings);
  - New grants awarded after October 2006 (but encouraged for existing grants).
- RCUK ‘impacts’ study to report in 2008.



# Access to research outputs

Council	Requirement to deposit
AHRC	Mandate (If repository available)
BBSRC	Mandate (If repository available)
EPSRC	Strongly committed to RCUK principles (will review after RCUK impacts study)
ESRC	Mandate (use ESRC repository)
MRC	Mandate (use PubMed Central and publisher allowing deposit)
NERC	Mandate & copyright retention (provides repository of last resort)
STFC	Mandate (If repository available)



# Key issues

- Support for publication charges.
- Repositories need advocacy.
- Sustainability of learned societies.
- Low take up by scientists.
- Need to change academic behaviours - scientific community is conservative.



# Why share data?

- Scientific need - especially for large-scale or long-term studies.
- Increased value – where part of a larger collection (eg. Oceans or atmosphere).
- To support & verify the scientific record.
- Value for money – data collection can be very expensive.
- Public funds – public access.



# What do we mean by data?

- Data as a by-product of research.
- Data as a part of the scientific record – must be maintained to allow reproduction and validation.
- Data as a ‘published’ output in its own right.

# Data sharing policies

- Data policies and infrastructures have developed over time.
- Reflects different approaches to data sharing within different communities with differing scientific needs.
- Driven by the science – *a one size fits all* RCUK policy is not appropriate.



# Generic principles

- Research Councils recognise data as a valuable long-term, public-good resource.
- Data sharing improves opportunities for exploitation (OECD guidelines).
- Investigator teams have a right of first use and a right to be acknowledged.

# Key differences

- Differences not in policy principles, but in how data sharing is supported.
- Twin track approach:
  - Provision of national facilities;
  - Support for delegated infrastructure.

# National facilities

- ‘Early’ adopters of data policies have implemented long-term facilities:
  - ESRC: Joint JISC & ESRC supported UK Date Archive, including the Economic and Social Data Service;
  - NERC: Long-term commitment to managing and making available environmental data through 7 NERC Data Centres.



# Delegated infrastructure

- ‘Later’ adopters of data policies provide funds through the grant process to support data management and dissemination:
  - BBSRC: April 2007;
  - MRC: January 2006;
  - AHRC: From April 2008, previously funded centralised service.
- Onus on the PI and the institution.



# Which model is better?

- National facilities:
  - Longer-term, single points of contact, centres of excellence;
  - Perceived as expensive and less agile?
- Delegated:
  - More responsive, closer to the science, cheaper in the shorter term?;
  - Lack of long-term vision, access to key skills?



# Beyond policy into practice

- The policy is the easy bit:
  - Resourcing, implementation and enforcement is more difficult.
- Long-term commitment:
  - Data management and sharing needs long-term vision and long-term support.
  - Are PIs the right people to do this?

# Key issues

- Outputs must be accessible to be exploitable.
- Dissemination is part of the research process and is a valid call on research funds.
- *What's in it for me?* How do we reward 'openness'?
- How interventionist should research funders be?

# *The times they are a-changin'*

- For good or ill, the days of the benign, non interventionist research funder are over.
- A growing requirement for openness.
- This is the *real politick* of the research landscape.
- But in a changing landscape – must not throw the baby out with the bathwater !

# Further information

- For further information please contact:

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