CILIP Conference 2015

Bringing the information world together

Sponsored by
Research Data Management (RDM) Masterclass

Anne Donnelly
Academic Support Librarian
anne.donnelly@ed.ac.uk

Cuna Ekmekcioglu
Senior Research Data Officer
cuna.ekmekcioglu@ed.ac.uk
Overview

1. Research data
2. Research Data Management (RDM)
3. Research funder expectations
4. Data Management Plans (DMPs)
5. Data Curation Profiles (DCPs)
6. Data sharing
7. Potential RDM support roles
8. RDM training: Librarians & Research Support staff
9. RDM training: Researchers
10. RDM challenges
1. Research Data
Research data defined

Research data

- are facts, observations or experiences on which an argument, theory or test is based,
- may be numerical, descriptive or visual,
- may be raw or analysed, experimental or observational,
- can be created in a digital form,
- can be converted to a digital form (digitised).
Types of research data

- Instrument measurements
- Experimental observations
- Text documents
- Spreadsheets
- Databases
- Images, video & audio
- Quantitative data
- Interview transcripts & surveys
- Simulation data, models & software
- Slides, artefacts & specimens
- Sketches, diaries & lab notebooks

So, what do we mean by ‘research data’?

Anything & everything produced in the course of research
Research data challenge

To ensure that researchers

- recognise what constitutes research data:
  - Philosopher: “I don’t have data, I annotate books”

- document their data,

- manage their data, both digital & non-digital:
  - during the life time of their project
  - for future preservation, sharing & re-use.

Research data lifecycle

- Create
- Document
- Use
- Store
- Share
- Preserve
2. Research Data Management (RDM)
Research Data Management (RDM)

- RDM is caring for, facilitating access to, preserving and adding value to research data throughout their lifecycle.
- RDM is good research practice!
Why is RDM crucial?

- Enables compliance with Funder requirements.
- Helps researchers to understand, keep track of & find their data.
- Avoids any unnecessary duplication and data loss.
- Ensures that research is visible, has impact and can be validated.
3. Research Funder Expectations
What do funders want?

<table>
<thead>
<tr>
<th>Research Funders</th>
<th>Policy Coverage</th>
<th>Policy Stipulations</th>
<th>Support Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Published outputs</td>
<td>Data</td>
<td>Time limits</td>
</tr>
<tr>
<td>AHRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BBSRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRUK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPSRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NERC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STFC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wellcome Trust</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

http://www.dcc.ac.uk/resources/policy-and-legal/overview-funders-data-policies
Research funder expectations

- Funders are increasingly requiring researchers to meet certain data management criteria.
- Requirements are diverse but founded on RCUK common principles.

... and challenges

- No clear guidance about expectations.
- They are not mandatory.
4. Data Management Plans
Data Management Plans (DMP)

- DMPs are short documents written at the start of a project.
- Describe data collection/creation, documentation, storage, security and backup, data sharing and preservation plans.
- Funders are increasingly require DMPs as part of grant applications.
DMPs: challenges

- A new concept – involves cultural change.
- Additional work for researchers.
- Raising awareness of Funder requirements with regard to DMPs is crucial but a slow process depending on the size of the institution.
- Support is expected from Academic Support Librarians (ASLs) and Research Support staff.
- Training researchers, ASLs and Research Support staff takes priority.
5. Data Curation Profiles (DCPs)
The DCP: what it is

“… essentially an outline of the ‘story’ of a data set or collection, describing its origin and lifecycle within a research project.”

(Purdue University, Data Curation Profiles toolkit: http://datacurationprofiles.org/)
The DCP: what it does

- Provides a guide for discussing data with researchers.
- Gives insight into areas of attention in data management.
- Helps assess information needs & identify possible data services.
- Gives insight into differences between data in various disciplines.
- Creates a starting point for curating a data set for archiving & preservation.
Creating a DCP: what it can do for you

- Help you to understand the ‘business’ of the academic discipline you support.

- Help you develop strategies to support research staff in your academic area.

- Give you confidence in speaking to academics about their research and the data that underpin it.
DCPs @ Edinburgh: how it was for us

The toolkit
- We created our own – an excellent learning experience in itself.

The DCP interview
- Conducted confidently, competently and with a good understanding of the purpose & requirements of the exercise.

The outcome
- The complete ‘story’ of some of our data sets.
First data curation profile created at Edinburgh

Posted on September 13, 2013 by Anne Donnelly
6. Data Sharing
## Data sharing: Why?

<table>
<thead>
<tr>
<th>University of Edinburgh policy</th>
<th>Where appropriate, research data management plans must ensure that research data are available for access and re-use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK research funding council mandate</td>
<td>To avoid duplication of effort, maximise funding and extends its reach.</td>
</tr>
<tr>
<td>Academic integrity</td>
<td>Data sharing facilitates transparency, accountability and scrutiny, and prevents fraud.</td>
</tr>
<tr>
<td>Increased research impact</td>
<td>Both within and beyond the discipline in which the data were created.</td>
</tr>
<tr>
<td>Publicly funded research</td>
<td>Should be available to the public.</td>
</tr>
<tr>
<td>Preservation</td>
<td>Assists with long term storage, for retrieval and future use by yourself and others.</td>
</tr>
<tr>
<td>Teaching resource</td>
<td>Help students to collect and manage data.</td>
</tr>
</tbody>
</table>

*From Data Sharing Guide on UoE RDM website*
## Data sharing: concerns

<table>
<thead>
<tr>
<th>Unrealised commercial value?</th>
<th>Edinburgh Research and Innovation (ERI) can help you determine the value of your research and identify any patent potentiality.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity of data?</td>
<td>If there are ethical concerns, it may be possible to anonymise data to remove personal information, so that it may be shared.</td>
</tr>
<tr>
<td>Issues of data ownership?</td>
<td>If parts of the data are owned by others and/or your data is derived from the original source, you may not have the rights to share it.</td>
</tr>
<tr>
<td>Controlling access to data?</td>
<td>If data are sensitive and anonymisation to permit open sharing is not possible, then it is acceptable to limit access to the data to researchers who sign a suitable confidentiality agreement. Metadata about this data should be openly shared so that other researchers know what it contains and how to request access.</td>
</tr>
</tbody>
</table>

*From Data Sharing Guide on UoE RDM website*
Sharing sensitive data: challenges

Sharing is encouraged but not suitable for all data. Must be balanced with other obligations:

- Ethical duty of confidentiality and protect participants from harm.
- Allow participants to make their own decisions on how their information can be used, shared, and made public (through informed consent).
- Enable researcher to gain maximum benefit from findings.
7. Potential RDM Support Roles
Potential RDM support roles

These will depend on the size of the institution.

Here are just a few!

IT support

Librarians

Research administrators

RDM support team
Working in collaboration…

Libraries, researchers, research offices, senior managers, research support staff and IT support teams should work together to improve RDM across the institution.
Potential RDM support roles

- The Library leads RDM initiatives in the vast majority of cases.
- Research offices, IT Teams and other services such as records management are also involved but to a lesser degree.
- Librarians are well-placed to support researchers given their highly relevant skillset.
- However, librarians are not always best placed to understand the work being done in schools or to provide direct support to researchers with DMPs and RDM. This is where research support staff in schools come in.
8. RDM Training: Librarians & Research Support staff
Training Librarians: how we did it @ Edinburgh

Our inspiration …..

Data Intelligence 4 Librarians online!

Now superseded by …..

http://datasupport.researchdata.nl/
Training Librarians: how we did it @ Edinburgh

The challenge

With our RDM policy already in place, we needed to get our librarians up to speed quickly!

Our solution

We drew on and augmented existing training materials.

Free online course developed at Edinburgh for those who manage digital data as part of a research project.

http://www.data-archive.ac.uk/media/2894/managingshare.pdf

http://datalib.edina.ac.uk/mantra/

http://www.data-archive.ac.uk/media/2894/managingshare.pdf
Training Librarians: how we did it @ Edinburgh

We did

Provided a hybrid course that offered online learning, the opportunity to learn with others and put learning into practice.

Course elements

- Independent guided study & reflective writing.
- Facilitated face-to-face sessions with expert presentations, interactive group work & discussion.
- Homework in the form of a data curation profile interview with a member of academic staff.

They said

- I could work at my own pace & go back over stuff as it is available online.
- I found the presentations by experts very useful and the group discussions stimulating as well as getting the chance to hear other colleagues’ experience.
- I approached my first data curation profile interview with trepidation … now rather looking forward to the next one!
- A useful introduction to the basics of RDM best practice, vocabulary and principles.
Training Research & IT Support staff

- Research Support staff help researchers with grant applications & IT Store Managers help them with their storage allocations.
- RDM Team have been working with Research and IT Support staff to support researchers with their DMPs and RDM queries.
- Tailored training sessions have been delivered to bring Research Administrators and IT Store Managers up to speed with RDM and DMPs.
9. RDM Training: Researchers
Training researchers

- Training for research staff and students (PGRs)
- Online training: MANTRA
- A series of workshops and short sessions on:
  - Managing research data
  - Data Management Plans (DMPs)
  - Working with personal and sensitive data
  - Handling data with SPSS
- 500+ researchers and PGRs have been trained 2014-15.
- High number of registrations but low turn out.
Online training

MANTRA
Research Data Management Training

MANTRA is an online course designed for researchers or others planning to manage digital data as part of the research process.

LEARNING UNITS
- Research data explained
- File formats & transformation
- Data protection, rights & access
- Data management plans
- Documentation & metadata
- Sharing, preservation & licensing
- Organising data
- Storage & security
- Software practicals
A New MANTRA for researchers

“In fact, knowing how to handle data is no longer a skill simply for researchers to master. Data is part of almost every professional job. After all, how often do we come across the expressions ‘knowledge society’ or the ‘digital age’ as ways of depicting our time? Certainly, information is the product and tool of today’s society. Having an awareness of the relevant issues around information and learning how to manage data well should be everyone’s MANTRA”.

A New MANTRA for Researchers by Nevena Kostova: http://blogs.sps.ed.ac.uk/copyrightandcreators/2014/11/10/a-new-mantra-for-researchers/
10. RDM Challenges
RDM challenges

- Defining research data, e.g., in the visual arts.
- Lack of awareness: researchers are not yet entirely aware of the need for RDM, nor know about policy and services in their own university.
- Resistance from researchers to change their set ways of working with data, or sharing their data.
- Research funders’ expectations are not mandatory.
- No clear guidance from research funders on their expectations.
- RDM infrastructure needs to be created from scratch.
- Service development: takes time, does not happen over the night.
- On demand training and support needed: researchers only want to know when they need it!
Thank you!
Questions?
Register your interest