Focus on research data management – trends and future guidelines

Researchers Seminar, Wednesday 25 November 2015

MARIA JOHSSON, UNIVERSITY LIBRARY, LUND UNIVERSITY
Focus on Research Data Management – Trends and Future Guidelines

Agenda

1. The concept ”Research Data Management”
2. Trends internationally – some examples
3. Current situation in Sweden and at Lund University
4. Data management plan
5. Research infrastructures
6. Share research data
7. Group discussion
8. Links & resources
9. Conclusion
1. The concept Research Data Management - RDM

- Includes the whole research process from project start to archiving and sharing research data
- Common in the academic world, in particular in USA, UK, Australia
- Often in connection with a process, i.e. data life cycle process
- Related term ”Data Management”
Example of a data life cycle

Source: ICPSR Inter-University Consortium for Political and Social Research, Guide to Social Science Data Preparation and Archiving, http://www.icpsr.umich.edu
1. The concept "Research Data Management": Example University of Edinburgh

Activities involved in research data management

- **Data management planning**: Writing a brief plan at the start of your project. Most funding applications now require a ‘data management plan’ (DMP) or similar document.
- **Creating data**: What type and format of data you will create and how you will create your data.
- **Documenting data**: Providing information to users (and yourself later) to understand your data. Is the file structure/naming understandable to others? Which data will be kept? Which data can be discarded?
- **Accessing / using data**: How will you organise your data? At least two people should have access to your data.
- **Storage and backup**: Storing and saving your data safely and securely during your project.
- **Sharing data**: Making your data publicly available (where possible) at the end of your project. Are you expected / allowed to share your data?
- **Preserving data**: How will you preserve your data after the end of your project?

Source: http://www.ed.ac.uk/information-services/research-support/data-management
2. Trends internationally – some examples

European Union

• Horizon 2020 Data Pilot
• “Commission Recommendation of 17.7.2012 on access to and recommendation of Scientific information”, European Commission
• “Riding the Wave: How Europe can gain from the rising tide of scientific data”, 2010
• “The Data Harvest: How sharing research data can yield knowledge, jobs and growth”, 2014

United Kingdom

• “RCUK Policy on Open Access”, 2013
• Many universities have policies on for RDM
• Research funders have introduced requirements on data management plans and data sharing
• Service centra for digital curation and archiving, such as Digital Curation Centre (DCC), UK Data Archive
2. Trends internationally – some examples

USA

• The National Science Foundation (NSF) early launched requirements for data management plans in their funding guidelines

• ”DMP Tool” is a widespread tool for data management plans

• Many universities have policies on for RDM, example Purdue University

• Education programs specialized on data curation, such as Graduate School of Library and Information Science GSLIS

Australia

• ”Research Data Australia”, national repository for research data

• Australia National Data Service (ANDS), national service provider for data curation and archiving

• Many universities have policies on for RDM, example Monash University
2. Trends internationally – some examples

Some global initiatives

- **Research Data Alliance (RDA)**, global organization working for data sharing in all disciplines
- **DataVerse Project**, open source web application to share, preserve, cite, explore and analyze research data
- **DataCite**, is an international not-for-profit organisation which aims to improve data citation
3. Current situation in Sweden

Sweden

• The Research Council (VR) has formed a proposal for national guidelines for open access to scientific information including research data, which is currently reviewed by the Department of Education. Will probably be included in the “Forskningsproppositionen” next year.

• Many Swedish universities are investigating the area of RDM. Some universities are developing their own systems, for example Swedish University of Agricultural Science (SLU)
### 3. Current situation at Lund University

**Lund University (LU)**
- Many initiatives and projects across LU
- Research infrastructures, such as ICOS, Max IV, HumLab
- Projects, such as Lund University Library, Archive, LUCRIS
- E-science and e-infrastructure, such as eSSENCE, LUNARC
- Seminars and networks, such as ”Digital Tools”, ”Researcher Seminar” (today!)
4. Data management plan (DMP)

- Requirement from many research funders
- Part of the research application process
- Fairly common and established in USA and UK
- Tools for data management plan: ”DMP Tool” and ”DMP Online”
- Advantages of planning data management early in the research process
  - Increased documentation of the research process
  - Example ”Checklist for data management plan”, DCC
4. Research infrastructures

Research infrastructures may act as important communities and tools for sharing research data in specific areas.

Examples

• Svensk Nationell Datatjänst (SND)
• Bioinformatics Infrastructure for Life Sciences (BILS)
• Environment Climate Data Sweden (ECDS)
• ICOS Carbon Portal
• Max IV
5. Share your research data

Different ways to share research data:

Data journals
- *F1000 Research*
- *Biodiversity Data Journal*
- *Scientific Data*

Repositories
- DataVerse
- Dryad
- Re3Data.org
- Zenodo
- FigShare
- DataGuru

Research infrastructures
- Svensk Nationell Datatjänst (SND)
- Environment Climate Data Sweden (ECDS)
- Bioinformatics Infrastructure for Life Sciences (BILS)
- ICOS
- Global Biodiversity information facility (GBIF)
- Worldwide LHC Computing Grid

Research communities and colleagues...
"Movie time"

Speaking of sharing data....

https://www.youtube.com/watch?v=N2zK3sAtr-4
6. Group discussion

1. What experiences do you have of sharing research data and/or using other researchers’ data?

2. What would be benefits or challenges for your work with an increased focus on RDM?

3. What kind of support services would you prefer concerning RDM?
7. Conclusion

- Introduction to RDM
- Brief outlook; USA, UK, EU
- Current situation at LU
- Role of research infrastructures
- Share data

There is more to discover...

- Data citation
- Persistent identifiers (PID)
- Long-term preservation
- Legal aspects
- Personal data protection
Focus on Research Data Management – Trends and Future Guidelines

Links

- Scientific Data, [http://www.nature.com/sdata/](http://www.nature.com/sdata/)
- Dryad, [http://datadryad.org/pages/organization](http://datadryad.org/pages/organization)

Resources

- Digital Curation Centre DCC, [http://www.dcc.ac.uk/](http://www.dcc.ac.uk/)
  Service provider in RDM, a lot of training materials
- MANTRA, [http://datalib.edina.ac.uk/mantra/](http://datalib.edina.ac.uk/mantra/)
  Online training in RDM
Sharing is caring

Thanks for listening!

Maria Johnsson
University Library
maria.johnsson@ub.lu.se