Data Management Plans (DMPs)

Introduction to Data Management Practices course

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https://nbisweden.github.io/module-open-science-dm-practices/index.html

What is a DMP?

- Document
- Outlines the data management strategies in a project
- How the data is
  - collected
  - documented
  - organized
  - preserved

The main parts of a DMP

1. **Description of data**
    - What types of data will be created and/or collected, in terms of data format and amount/volume of data?
2. **Documentation**
    - How will the material be documented and described, with associated metadata relating to structure, standards and format for descriptions of the content, collection method, etc.?
3. **Storage and backup**
    - How is data security, storage and backup of data and metadata safeguarded during the research process?

cont. The main parts of a DMP

4. **Legal and ethical aspects**
    - How is data handling according to legal requirements safeguarded, e.g. in terms of handling of personal data, confidentiality and intellectual property rights?
5. **Accessibility and long-term storage**
    - How, when and where will research data or information about data (i.e. metadata) be made accessible?
    - In what way is long-term storage safeguarded, and by whom?
6. **Responsibility and resources**
    - Who are the responsible persons for data management?
    - What resources (costs, labour input or other) will be required for data management?

Why write a DMP?

Well-managed research data allows for:

- verification of published research
- reduce the potential for scientific fraud
- enable re-use of existing data
- discourage unintentional redundancy in research
- serve as training resource for new researchers

Funding agencies requires a DMP:

- For **transparency** and **openness**: publicly funded research data must be discoverable, accessible, and reusable to the public
- **Return on investment**: well planned data maximizes the research potential of the data and provides greater returns on public investments and research

When write a DMP?

A DMP is a living document:

- **Project planning**: Outline the strategies to be able to estimate the resources needed, so this can be included in the proposal for funding.
- **Project start**: Complete with details e.g. about documentation, data quality measures, file and folder strategies, etc.
- **Project end**: Update with e.g. links to published data and details about archiving (what data and where).

How write a DMP?

DMP templates:

- Provided by funding agencies, e.g. Swedish Research Council and Science Europe
- High-level questions, with no guidance on how to answer
- Use Word?

DMP tools:

- DMPOnline - The tool most universities have chosen to offer; Good guidance but typically generic and not Life Science specific
- Data Stewardship Wizard - Provided by SciLifeLab; Gives Life Science specific guidance

Key Points

- A data management plan (DMP) is a document that describes the data produced in the course of a research project.
- A DMP allows for well-managed data, and funding agencies often requires a DMP for transparency and return on investment.
- A DMP is a living document, the first version is written during project planning, and is then updated as the project proceeds.
- There are standard templates available e.g. at funder agencies, and tools to assist when writing.