Introduction to Research Data Management Planning

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Why manage your data?

https://www.youtube.com/watch?v=N2zK3sAtr-4
Some reasons for Data Management:

- it will protect your data from loss
- you will be able to locate your data easily whenever you need it
- your data will be secure
- you will be able to reuse your data
- your data will be easy to share with others
Data management plan (DMP)

A document providing information on accumulation, storage and access of project data:

• indicating the measures intended in the course of the project and upon its completion to ensure that the data are archived safely and reliably;

• it also states how and under what conditions the data will be accessible for re-use, provided there are no conflicting legal, ethical factors or security concerns;

• how and when the data will be opened for other users;

• the standard metadata intended to be used for the description of the project data, as well as the procedure for management and updating the data, and what type of data will be provided for the long or short-term storage, in the latter case indicating when and in what manner the data will be destroyed.

Guidelines on open access to scientific publications and data, approved by the Research Council of Lithuania, 29th of February 2016, oder No. VIII-2)
Your DMP will show:

- what kind of data you will create
- how you are going to document your data
- how you are going to deal with sensitive data
- what you are going to do with your data at the end of the research project
- how you are going to share your data
Why DMP is helpful?

before you start your research, you will consider how you document your research process and data, how you will store the data, etc.
you will make sure that your research is trustworthy and will be able to provide relevant data any time upon request
DATA SUMMARY

Provide a summary of the data addressing the following issues:

- State the purpose of the data collection/generation
- Explain the relation to the objectives of the project
- Specify the types and formats of data generated/collected
- Specify if existing data is being re-used (if any)
- Specify the origin of the data
- State the expected size of the data (if known)
- Outline the data utility: to whom will it be useful
Making data findable, including provisions for metadata:

- Outline the discoverability of data (metadata provision)
- Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers?
- Outline naming conventions used
- Outline the approach towards search keyword
- Outline the approach for clear versioning
- Specify standards for metadata creation (if any). If there are no standards in your discipline describe what metadata will be created and how

Making data openly accessible

Specify which data will be made openly available? If some data is kept closed provide rationale for doing so.

Specify how the data will be made available.

Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g. in open source code)?

Specify where the data and associated metadata, documentation and code are deposited.

Specify how access will be provided in case there are any restrictions.

"as open as possible, as closed as necessary"

Registry of Research Data Repositories
https://www.re3data.org
Project, experiment, and data description

• What documentation will you be creating in order to make the data understandable by other researchers?

• Are you using metadata that is standard to your field? How will the metadata be managed and stored?

• What file formats will be used? Do these formats conform to an open standard and/or are they proprietary?

• Are you using a file format that is standard to your field? If not, how will you document the alternative you are using?

• What directory and file naming convention will be used?

• What are your local storage and backup procedures? Will this data require secure storage?

• What tools or software are required to read or view the data?

Source: https://libraries.mit.edu/data-management/plan/write/
Documentation, organization and storage

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Source: https://libraries.mit.edu/data-management/plan/write/
• Who has the right to manage this data? Is it the responsibility of the PI, student, lab or the funder?
• What data will be shared, when and how?
• Does sharing the data raise privacy, ethical, or confidentiality concerns? Do you have a plan to protect or anonymize data, if needed?
• Who holds intellectual property rights for the data and other information created by the project? Will any copyrighted or licensed material be used? Do you have permission to use/disseminate this material?
• Are there any patent- or technology-licensing-related restrictions on data sharing associated with this grant?
• Will this research be published in a journal that requires the underlying data to accompany articles?
• Will there be any embargoes on the data?
• Will you permit re-use, redistribution, or the creation of new tools, services, data sets or products (derivatives)? Will commercial use be allowed?

Source: https://libraries.mit.edu/data-management/plan/write/
• How will you be archiving the data? Will you be storing it in an archive or repository for long-term access? If not, how will you preserve access to the data?

• Is a discipline-specific repository available? If not, you could consider depositing your data into institutional repository.

• How will you prepare data for preservation or data sharing? Will the data need to be anonymized or converted to more stable file formats?

• Are software or tools needed to use the data? Will these be archived?

• How long should the data be retained? 3-5 years, 10 years, or forever?

Source: https://libraries.mit.edu/data-management/plan/write/
Data management planning tools

- DMPonline, https://dmponline.dcc.ac.uk/
- DMPTool, https://dmptool.org
Functions of DMP tools

- to help create and maintain different versions of Data Management Plans
- to provide useful guidance on data management issues and how to meet research funders' requirements
- to export attractive and useful plans in a variety of formats
- to allow collaborative work when creating Data Management Plans
DMPonline helps you to create, review, and share data management plans that meet institutional and funder requirements.

It is provided by the Digital Curation Centre (DCC).
Welcome

DMPonline helps you to create, review, and share data management plans. It is provided by the Digital Curation Centre (DCC). Join the growing international community that have adopted DMPonline.

17,622 Users

23,083 Plans

Some funders mandate the use of DMPonline, while others provide templates without logging in, but the tool provides tailored advice to research organisations. Why not sign up for an account and:

Create account

* First Name

* Last Name

* Email

* Organisation

* Password

Forgot password?

- Or -

Sign in with institutional credentials (UK only)
My Dashboard

Welcome
You are now ready to create your first DMP.
Click the ‘Create plan’ button below to begin.

There are no records associated

Create a new plan

Before you get started, we need some information about your research project to set you up with the best DMP template for your needs.

* What research project are you planning?

[ ] mock project for testing, practice, or educational purposes

* Select the primary research organisation

[ ] Other

* Select the primary funding organisation

[ ] Other

Create plan  Cancel
DMP sections

Data Collection
- What data will you collect or create?
- How will the data be collected or created?

Documentation and Metadata
- What documentation and metadata will accompany the data?

Ethics and Legal Compliance
- How will you manage any ethical issues?
- How will you manage copyright and Intellectual Property Rights (IPR) issues?

Storage and Backup
- How will the data be stored and backed up during the research?
- How will you manage access and security?

Selection and Preservation
- Which data are of long-term value and should be retained, shared, and/or preserved?
- What is the long-term preservation plan for the dataset?

Data Sharing
- How will you share the data?
- Are any restrictions on data sharing required?

Responsibilities and Resources
- Who will be responsible for data management?
- What resources will you require to deliver your plan?
### PhD DMP

**Project Details**

**Project title**
- PRO DMP

**Funder**
- Kaunas University of Technology

**Grant Number**

**Project abstract**

**ID**

**Principal Investigator**
- Name: KTU doktorantas

**ORCID ID**
PhD DMP

Data Collection (0 / 2)

Documentation and Metadata (0 / 1)

Ethics and Legal Compliance (0 / 2)

Storage and Backup (0 / 2)

Selection and Preservation (0 / 2)

Data Sharing (0 / 2)

Responsibilities and Resources (0 / 2)
DMPonline: Data Collection

- What data will you collect or create?
- How will the data be collected or created?
What documentation and metadata will accompany the data?
DMPonline: Ethics and Legal Compliance

- How will you manage any ethical issues?
- How will you manage copyright and Intellectual Property Rights (IPR) issues?
DMPonline: Storage and Backup

- How will the data be stored and backed up during the research?
- How will you manage access and security?

Guidance:
Questions to consider:
- Do you have sufficient storage or will you need to include charges for additional services?
- How will the data be backed up?
- Who will be responsible for backup and recovery?
- How will the data be recovered in the event of an incident?

Guidance:
State how often the data will be backed up and to which locations. How many copies are being made? Storing data on laptops, computer hard drives or external storage devices alone is very risky. The use of robust, managed storage provided by university IT teams is preferable. Similarly, it is normally better to use automatic backup services provided by IT Services than rely on manual processes. If you choose to use a third-party service, you should ensure that this does not conflict with any funder.
DMPonline: Selection and Preservation

- Which data are of long-term value and should be retained, shared, and/or preserved?
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DMPonline: Data Sharing

- How will you share the data?
- Are any restrictions on data sharing required?
DMPonline: Responsibilities and Resources

• Who will be responsible for data management?
• What resources will you require to deliver your plan?
### My Dashboard

The table below lists the plans that you have created, and that have been shared with you by others. You can edit, share, download, make a copy, or remove these plans at any time.

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<th>Project Title</th>
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*Create plan*
## Funder requirements

Templates for data management plans are based on the specific requirements listed in funder policy documents. The DCC maintains these templates, however, researchers should always consult the funder guidelines directly for authoritative information.

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