

Research Data Life Cycle

- Data Repurposing/Re-use
- Data Citation



Creating Data

- Designing Data Management Plans
- Data Capture
- Data Storage
- Metadata creation

Processing Data

- Data Storage
- Metadata Creation
- Data Cleansing
- Data Verification
- Data Validation
- Data Anonymisation

Analysing Data

- Data Storage
- Metadata Creation
- Data Cleansing
- Data Verification
- Data Validation
- Data Anonymisation
- Data Interpretation & Analysis
- Data Publishing
- Data Visualisation

Preserving Data

- Data Archiving
- Data Preservation
- Metadata Creation
- Link data to outputs

Giving Access to Data

- Data Sharing
- Link Data to Outputs



Based on UK Data Archive Lifecycle

What is a Data Management Plan?

- A Data Management Plan is “a formal document that outlines what you will do with your data during and after you complete your research” (The University of Virginia Library, 2014).
- A Data Management Plan “outlines your practices for collecting, organizing, backing up, and storing the data you will be generating” (University of Minnesota)

Why do researchers need to complete a Data Management Plan (DMP)?

- Meet funding body grant requirements, e.g. NSF, NIH;
- Meet publisher requirements
- It helps you ensure your research data are accurate, complete, reliable, and secure both during and after you complete your research (University of Edinburgh)
- It saves time in the long run because there is no need to re-organise, re-format, or try to remember details about data (Wikipedia)
- It allows you to critically review your project and develop a suitable plan of action to overcome any issues.(University of Nottingham)
- DMPs outline the practices for collecting, organising, backing up, and storing the data that will be generated

DMP Elements

Element	Typical Questions
Data Collection	What type(s) of data will you create, collect or generate?
	How will the data be collected or created?
	What data formats will you create?
Responsible persons	Who will be responsible for managing the data? Who will take responsibility for verifying that the Data Management Plan is adhered to?
Resources	What resources will you require to deliver your Plan?
Metadata	What information is needed for the data to be to be read and interpreted in the future? (e.g. Bibliographic - or Subject Specific Metadata) How will you create or capture the metadata?

DMP Elements

Element	Typical Questions
Access, sharing and privacy	<p>Which data can be shared, or given access to? How will you share the data? Are there any restrictions on data sharing required? (e.g. Creative Commons License)</p>
Ethics and Legal Compliance	<p>How will you manage ethical issues? (e.g. protection of identity of participants, Anonymisation, Sensitive data etc.) How will you manage copyright and Intellectual Property Rights (IPR) issues?</p>
Data storage and back-up	<p>How will data be stored and backed up during the research? How will you manage access and security?</p>
Selection and Preservation	<p>Which data should be retained, shared, and/or preserved? How will data be archived/preserved for long-term? Where will the data be held? (e.g. archive, repository)</p>

Things to remember about DMPs

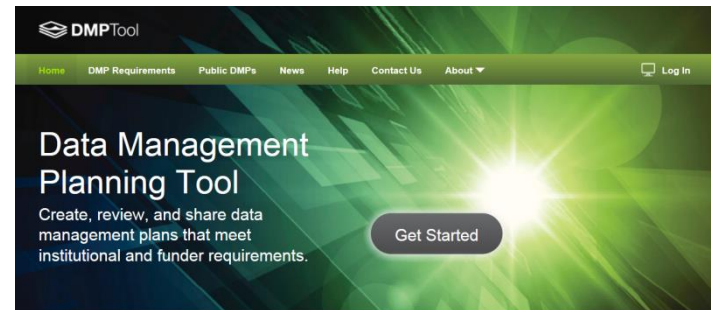
- Every project is unique so there is no one data management plan that fits all projects
(University of Edinburgh)
- DMPs are live documents. They must be continuously maintained and kept up-to-date throughout the course of your research (University of Edinburgh)

Creating a Data Management Plan

- Review your funding agency guidelines/requirements that need to be addressed:
 - University of Minnesota Libraries.
<https://www.lib.umn.edu/datamanagement/funding>
 - SPARC's Data Sharing Requirements by Federal Agency
<http://datasharing.sparcopen.org/compare?ids=>
- Examples of Data Management Plans
 - https://dmptool.org/public_dmpps
 - <http://www.dcc.ac.uk/resources/data-management-plans/guidance-examples>
- Data Management Planning Tools

Data Management Planning Tools

Data Management Planning Tool
(DMPTool) <https://dmptool.org/>
(University of California Curation Center
of the California Digital Library)



DMPOnline Tool
<https://dmponline.dcc.ac.uk>
(Digital Curation Centre, UK)



DIRISA Tool
<http://pilot.meraka.csir.co.za>



Useful Resources

- **Browse Data Sharing Requirements by Federal Agency.** Washington, DC: SPARC, 2016. <http://datasharing.sparcopen.org/compare?ids=> (Accessed 7 June 2016)
- Digital Curation Centre. 2015. **Funders Data Plan Requirements.** <http://www.dcc.ac.uk/resources/data-management-plans/funders-requirements> (UK Funders) (Accessed 1 December 2015)
- Digital Curation Centre (2011). **Checklist for a Data Management Plan, v.3.** [http://www.dcc.ac.uk/sites/default/files/documents/data-forum/documents/docs/DCC Checklist DMP v3.pdf](http://www.dcc.ac.uk/sites/default/files/documents/data-forum/documents/docs/DCC%20Checklist%20DMP%20v3.pdf) (Accessed 1 December 2015)
- **Funding Agency Guidelines (USA).** University of Minnesota Libraries. <https://www.lib.umn.edu/datamanagement/funding> (Accessed 2 December 2015)

Useful Resources

- Jones, S. (2011). *How to Develop a Data Management and Sharing Plan*. (DCC How-to Guides). Edinburgh: Digital Curation Centre. <http://www.dcc.ac.uk/resources/how-guides/develop-data-plan> (Accessed 1 December 2015)

Happy Planning