Introduction to Research Data Management Lifecycle

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Session Outline

1. What is data management?
2. What is a research data management plan?
3. What is the data management lifecycle?
4. How to use the data management lifecycle
5. Resources and Questions
6. Contact
Objectives

By the end of this session, you will be able to:

1. Understand the purpose of the research data management lifecycle
2. Identify the benefits of using the research data management lifecycle
3. Use the research data management lifecycle for your research
What is data management?
What is data management?
FAIR

• Findability
• Accessibility
• Interoperability
• Reusability

(FAIR) serves to guide data producers and publishers as they navigate around these obstacles, thereby helping to maximize the added-value gained by contemporary, formal scholarly digital publishing

https://www.go-fair.org/fair-principles/
**FAIR**

**Findable** – data should be possible for others to discover your data; metadata should be available online, and all data should have a persistent identifier (example: DOI)

**Accessible** – humans and computers should be able to gain access to your data (when appropriate); metadata can be accessible if the data cannot be

**Interoperable** – data and metadata should conform to recognized formats and standards to allow them to be exchanged

**Reusable** – Include documentation to support interpretation and reuse. License so others know what kinds of reuse are permitted
Data management plan (DMP) is a document that describes how you will treat your data during a project and what happens after the project ends. Typically covers all or portions of the data lifecycle.
Research Data Management Plan

Data Management Life Cycle:
- PLAN
- DOCUMENT
- PROTECT
- STORE
- OPEN
- PRESERVE

Research Life Cycle:
- RESEARCH PLANNING
- RESEARCH IMPACT
- RESEARCH PUBLICATION
- RESEARCH SETUP
- RESEARCH CONDUCT
- RESEARCH PROPOSAL
The Research Data Management Lifecycle

1. Planning Research
2. Collecting Data
3. Processing & Analyzing Data
4. Publishing & Sharing Data
5. Preserving Data
6. Reusing Data

The cycle continues with each step connecting to the next.
Where does the **Creation** of a Data Management Plan fall in the Data Management Lifecycle?
Where does the **Creation** of a Data Management Plan fall in the Data Management Lifecycle?
Research Data Management Checklist
Planning Research
Collecting and Creating

- Collect & Create
  - Collaborative Tools & Software
  - Electronic Lab Notebooks
  - Documentation & Metadata
- Analyze & Collaborate
  - Reproducibility
  - Analysis Ready Datasets
  - Image Management
  - Version Control
Evaluate and Archive

Store & Manage
- Storage Options
- Data Safety
Share and Reuse
Research Data Management Lifecycle

- Publish & Reuse
- Plan & Design
- Collect & Create
- Share & Disseminate
- Evaluate & Archive
- Analyze & Collaborate
- Store & Manage

- Preprints & Publishing
- Scholarly Products
- Intellectual Property
- Data Use Agreements
- Open Access
- Data Sharing
- Data Destruction
- Archives & Records Mgmt.
- Data Retention
- Data Security
- Version Control
- Image Management
- Analysis Ready Datasets
- Reproducibility
- Documentation & Metadata
- Electronic Lab Notebooks
- Collaborative Tools & Software
- Roles & Responsibilities
- File Naming Conventions
- Directory Structures
- Data Policies & Compliance
- Data Management Plans
- Data Repositories
- Storage Options
- Data Safety
Other Best Practices

• Organizing Data
  • File Structure & Naming Conventions
  • Be Consistent
  • Be Descriptive
• Create a unique & persistent identifier (DOIs, ORCID, etc.)
• Data sensitivity

https://unmc.libguides.com/rdm
Data Management Plan Resources

DMP Tools: https://dmptool.org/

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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Additional Resources

- Article: Ten Simple Rules to Creating a Data Management Plan
Copyright & Citation

If your using data collected and published by others, it’s important to cite to ensure that the proper credit is given to the original researcher, and so that readers can locate the original dataset.

Review your citation style (APA, AMA, etc.) manual on how to cite/acknowledge datasets in a paper.
Questions?
Stay in touch!

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Book an Appointment with me:
https://go.unmc.edu/veb3

Upcoming Events:
https://www.unmc.edu/library/services/instruction.html