SPA Series: Data Management Sharing Plans

What does it mean for Northwestern researchers?

Northwestern

Questions

- What does the NIH DMSP say?
- What does this mean for Northwestern?
- What resources are available to Northwestern researchers?

What is a Data Management Plan?

A description of how you plan to describe, preserve and share your research data?

This is often required by **funding agencies**.

Funders that require DMPs

Final NIH Policy for Data Management and Sharing

Notice Number:

NOT-OD-21-013

Key Dates

Release Date:	October 29, 2020
Effective Date:	January 25, 2023

- https://sharing.nih.gov/data-management-and-sharing-policy
- https://grants.nih.gov/grants/guide/notice-files/NOT-OD-21-013.html

What the policy says

- Effective **January 25, 2023 for all grants**
- Data management and sharing plans **submitted with grant applications**
- Evaluated by NIH staff (reviewers can comment)
- "Shared scientific data should be made accessible **as soon as possible**, and no later than the time of an associated publication, or the end of the award/support period, whichever comes first."
- **Exceptions** for data that cannot be shared must be described in the data management plan

Goal: **Make NIH-funded research data...**

- **Findable**: searchable and has a unique ID
- **Accessible**: backed up, preferably in a repository
- **Interoperable**: Described in common standards for your field
- **Reusable**: Properly formatted, documented and licensed for reuse

Implementation Details

Elements of an NIH DMSP

1. Data Type
2. Related Tools, Software and/or Code
3. Standards
4. Data Preservation, Access, and Associated Timelines
5. Access, Distribution, or Reuse Considerations
6. Oversight of Data Management and Sharing

https://grants.nih.gov/sites/default/files/DMS-Plan-blank-format-page.pdf

Elements of an NIH DMSP

1. What data, code etc. will you produce?
2. How will you assure others can use your data?
3. How will you preserve and provide access?
4. How will you make sure you follow your plan?

https://grants.nih.gov/sites/default/files/DMS-Plan-blank-format-page.pdf

Implementation Details

- DMSPs will be submitted in the **"other plans"** field
- **Additional details** in NIH Application Form Instructions by Fall 2022.
- Insufficient plans may be revised through the **Just in Time** process
- Plans can be updated during annual **Research Performance Progress Report** (RPPR) process

https://grants.nih.gov/grants/guide/notice-files/NOT-OD-22-189.html

Budget Details

- **Direct costs** to support data management designated as "Data Management and Sharing Costs"
  - R&R Budget Form: single line item in section F. Other Direct Costs
  - PHS 398 Modular Budget Form: as text embedded within the Additional Narrative Justification
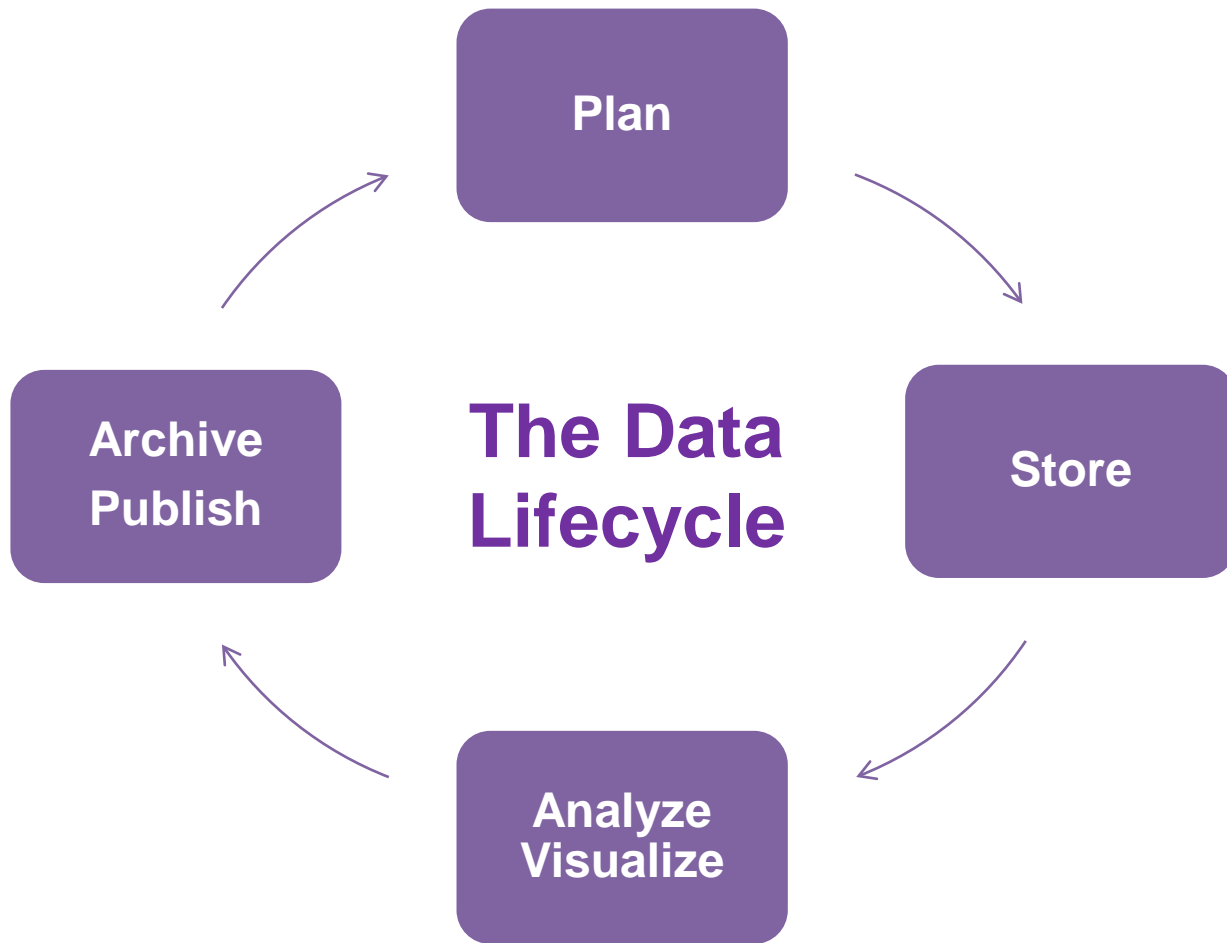
- Include summary of DMSP in **budget justification**

https://grants.nih.gov/grants/guide/notice-files/NOT-OD-22-189.html

What does this mean for Northwestern University?

NIH-funded research at Northwestern

Unit	number_grants	number_PIs	total_cost
Feinberg School of Medicine	761	407	$514,333,307
Weinberg College of Arts and Sciences	113	77	$46,248,119
McCormick School of Engineering	47	31	$22,770,975
Northwestern School of Communication	25	15	$8,035,478

Data retrieved from NIH reporter by searching "Northwestern University" in the Organization field. Subawards and R&D contracts were removed from the dataset.
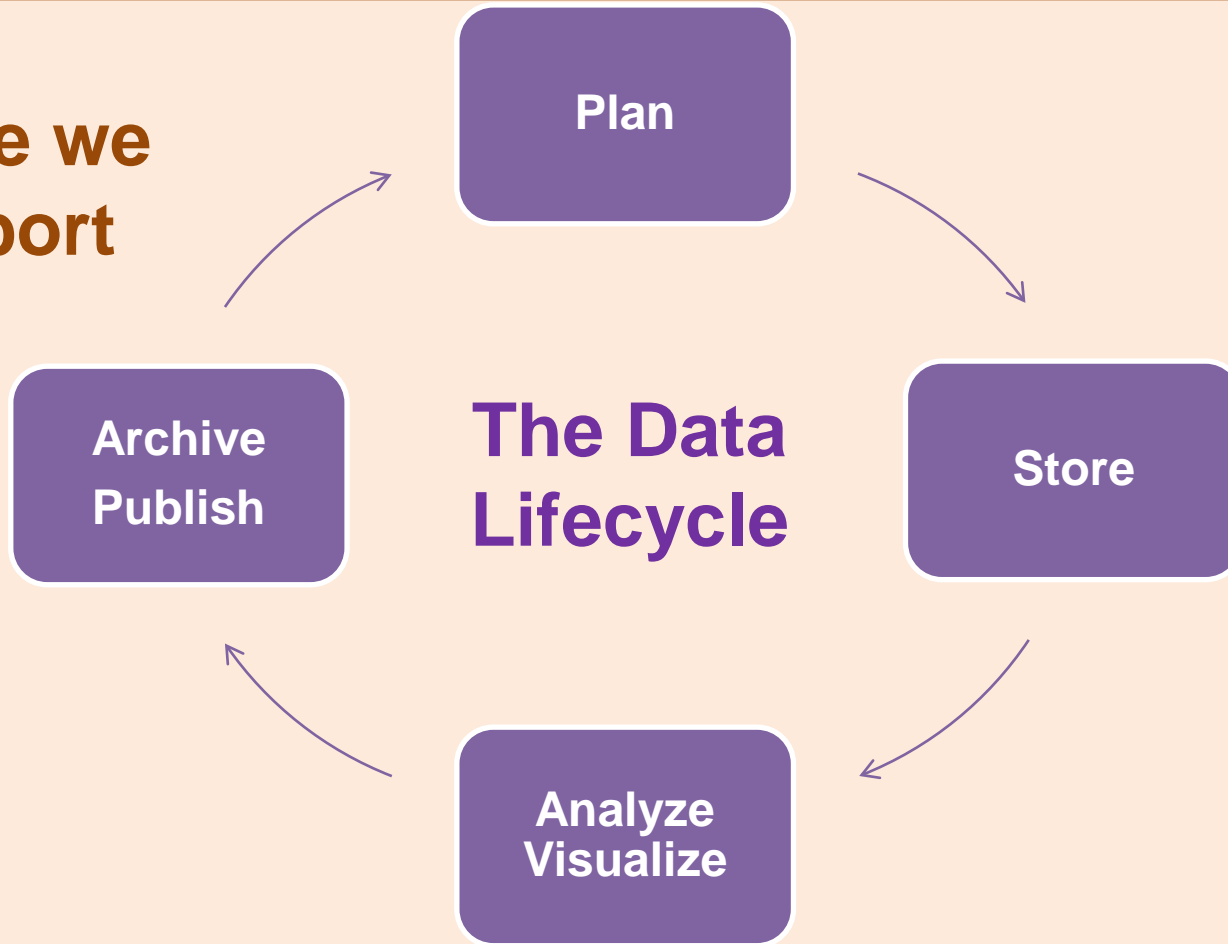
The Data Lifecycle

NIH Policy

Plan

Store

Analyze Visualize

Archive Publish

Where we support

Plan

The Data Lifecycle

Store

Analyze Visualize

Archive Publish

Researcher Perspectives

- Never written a DMSP before
- **Need help** framing their work from the **data perspective**
- Biomedical data has **privacy concerns**
- Varying levels of **support**
- **Compliance** could affect future funding

Culture Shift

Common Misconceptions

Objection	Response
This is just another hoop to jump through!	Planning is good for research.
This is an unfunded mandate!	Write data management costs into your budget.
What is I can't comply with what I wrote because something changed about my project?	The DMSPs are living documents. You can update your DMSP to reflect changes in your work.
I can't share my data because…	You don't have to. There are many reasons why data can't be shared. You just have to explain why.

Resources

Archive/Publish	Plan	Store	Analyze/Visualize
• Zenodo • Dryad • Microsoft Azure • Amazon Glacier	• DMPTool	• Globus • OneDrive • SharePoint • Amazon S3	• Quest Analytics Nodes • Quest High Performance Computing Cluster

Writing a DMSP

- Templates for writing Data management plans for all funding agencies

- Institute-specific guidance where available

- NIH format page

Build your Data Management Plan

Document Sharing and Data Storage

https://www.it.northwestern.edu/service-catalog/collab/doc-collab/storage-finder/index.html

Describe your data

Answer these questions to help identify the document sharing and data storage services suitable for your needs.

Clear Answers

> What is your role at the University?

> Are there access or information security restrictions to consider?

> What is the use case of the data?

> Who needs to access this data?

> What are your data needs over the next two years?

> Will you need data backup?

Choose the service(s) you would like to learn more about and compare. Then scroll down to see the comparison chart at the bottom of the page.

Select All   Clear Selections

Arch ○
Arch is an open access repository for the research and scholarly output of Northwestern University.

FSMResfiles ○
FSMResFiles is a shared network drive for Feinberg School of Medicine researchers to store sensitive data.

Google Drive ○
Google Drive is an online collaboration tool.

OneDrive ○
OneDrive is the cloud storage and file-sharing service within the Microsoft 365 Suite.

Public Cloud Services ○
Public Cloud hosting services are discounted through agreements with Amazon Web Services (AWS), Google, and Microsoft Azure.

Quest ○
The University's on-premise high-performance computing cluster, Quest, is suitable for workloads requiring large amounts of computational resources.

Research Data Storage Service (RDSS) ○
The Research Data Storage Service (RDSS) is the University's central storage platform that provides Northwestern researchers with a place to store and share research data securely.

SharePoint ○
SharePoint is an online content and document-management tool within the Microsoft 365 Suite for collaboration among multiple users.

Teams ○
Teams is a secure, cloud-based chat and group collaborative workspace within the Microsoft 365 Suite that seamlessly integrates with other Microsoft 365 applications.

Northwestern

Dryad Storage

- **Coming Soon:** Data Sharing Repository Service for Campus

- **About Dryad**
  - Launched 2009
  - Membership started in 2019
  - Non-profit
  - Community governance
  - Open-sourced
  - Based at the California Digital Library

Dryad features continued…

- Recommended by federal funding agencies

- Recommended by scientific journals

- Excellent user experience

- Enforces data sharing best practices

- Promotes FAIR data principles (Findable Accessible, Interoperable, Reusable)
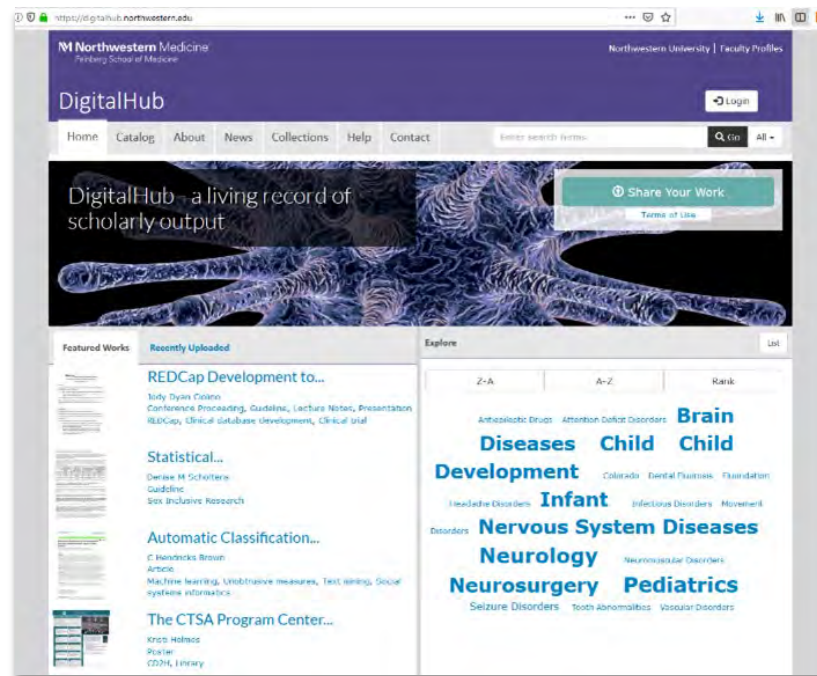
Dryad technical details

- 300 gb per data submission
- Reviewed by Dryad data curators before published
- All datasets are given a DOI and will be indexed by the Thomson-Reuters Data Citation Index, Scopus, and Google Dataset Search.

Data Consultations

- University Libraries support
  - Kelsey Rydland & Sarah Thorngate
- Research computing services (RCS)
  - Tobin Magle
- **Submit a support request!**
  - bit.ly/rcsconsult

Galter Health Sciences Library & Learning Center's NIH Data Management and Sharing Plan (DMSP) Resources

- Feinberg's resources for consultations on NIH DMSPs:
  - Sara Gonzales, data librarian
  - Galter DataLab's Data Clinic
- Data management and Bioinformatics trainings:
  - 10 classes ranging from basics of data management to Introduction to SQL for Clinical Researchers
  - Biosciences and Bioinformatics trainings
- LibGuides:
  - Biosciences and Bioinformatics
  - Creating an NIH Data Management and Sharing Plan
  - Data and Data Management
- Class: Getting to Know the NIH Data Management and Sharing Policy
- DigitalHub, Feinberg's institutional repository
  - https://digitalhub.northwestern.edu/

Thank you!

- RCS/Library assistance
  - bit.ly/rcsconsult
- Feinberg assistance
  - https://galter.northwestern.edu/contact/data/clinic