Fulfilling New Data Management & Sharing Expectations: 
*NiH DMS Policy & Beyond*

Janeway Society Presentation
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Agenda

● NIH Data Management and Sharing (DMS) Policy overview
  ○ Plus: Quick Look at White House's Office of Science & Technology Policy (OSTP) Memo
● Advice for writing DMS plans
● Strategies for succeeding in this new policy landscape
● Q&A
How many of you have worked on a data management plan already?
How’d it go?

👏 Great
👍 Fine
😮 Yikes
Policy Overview
Why?
★ Accelerate translation of results into **knowledge**
★ Maximize **value of** and **trust in scientific data**
★ Improve human health

Why?

Image via Unsplash

Yale Harvey Cushing/John Hay Whitney Medical Library
January 2023
Two Main Parts of NIH 2023 Policy

1. Submit DMS plan

2. Implement DMS plan
NIH: Elements of a DMS Plan

- Data type(s)
- Data standards
- Related tools, software, code
- Data preservation, access, and associated timeline
- Access, distribution, reuse considerations
- Oversight of DMS
1. Describe the data
2. Choose documentation types
3. Describe the tools and software
4. Use standard file types, identifiers, and descriptive elements
5. Understand the options for preserving data
6. Find a repository
7. Coordinate timelines for data sharing
8. Protect privacy and confidentiality prior to access
9. Know the controls and approvals needed for data accessibility
10. Plan for and outline oversight of data management and sharing

Elements of a NIH Data Management and Sharing Plan

- Data Type
- Related Tools, Software &/or Code
- Standards
- Data Preservation, Access, & Associated Timelines
- Access, Distribution, or Reuse Considerations
- Oversight of Data Management and Sharing
NIH: When & What to Share

- **Timeliness** in data sharing
  - At time of associated publication
  - **OR:**
  - End of grant (“performance period”)
    - Whichever is first

- Covers all scientific data generated in grant
  - “Data commonly accepted in the scientific community as of sufficient quality to validate and replicate research findings, regardless of whether the data are used to support scholarly publications.”
NIH: Data Sharing Approaches

“NIH encourages investigators to use the sharing approaches most appropriate for their data”:

- Data repositories (and archives)
- Data enclaves
- “Under the auspices of the investigator”
- Mixed modes
Additional NIH Policy Points

- Plans are just two pages
- Plans are NOT part of scored peer review criteria (unless otherwise noted in funding announcement)
- Plans can be updated (via RPPRS)
- Budgeting is important (see resources)
- Policy may not apply in some cases (but it probably does)
A Policy & A Memo

2020

**NIH DMS Policy Draft Released**
An update to its 2003 policy, NIH releases a draft plan for public comment of its new data management and sharing policy.

2022

**OSTP Nelson Memo Released**
White House releases memo stating that U.S. federal agencies must update their public access plans by 2025 — includes removal of publication embargos and more open data sharing.

2023

**[JAN] NIH DMS Policy In Effect**
NIH DMSP in effect — now applies to all research generating scientific data and requires DMS plans to be submitted with grants and implemented post-award. Data sharing timelines are more aggressive.

**[FEB] NIH Response to OSTP Memo**
NIH releases for public comment a draft public access plan to comply with new OSTP memo. Essentially, it points to its new DMS Policy as how it will comply.

2025

**[DEC] OSTP Memo In Effect**
All U.S. federal agencies must release plans to comply with memo’s expectations.

open.science.gov

NIH = National Institutes of Health
DMS = Data Management & Sharing
OSTP = Office of Science & Technology Policy
OSTP Memo — Data Implications (Section 3b)

- For those with federally funded research:
  - Share data freely and publicly at time of publication — unless subject to limitations
  - Share other data, even data without publications
  - Repositories used for data deposits should align with these guidelines
- According to the policy, federal agencies should create guidance, policies, and recommendations to facilitate this process
Strategies for Success
Using tools and templates

- Use DMPTool *(see resources)*
- Review sample plans from NIH and others
- Consult with colleagues
  - In future, consider the YSM Grant Library *(see resources)*
Contextualizing data

- Documenting data
- Using metadata standards
- Adhering to data standards and best practices *(see resources)*
Protecting participants

- Outlining participant consent (and opt-out) for data sharing early on
- Planning for data de-identification

Image via Unsplash
Maintaining research integrity

- Adding access controls
- Utilizing data licensing and/or data use agreements
- Tracking data reuse with persistent identifiers and data citation
Taking advantage of repositories

- May simplify long-term data preservation
- NIH lists repositories and characteristics to look for

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data.dryad.org

icpsr.umich.edu

re3data.org

Yale Harvey Cushing/John Hay Whitney Medical Library
## Repositories for Sharing Scientific Data

To ensure broad dissemination and accessibility of scientific data, NIH recommends that researchers use existing, well-established repositories. Some repositories have specific guidelines and requirements that users must follow. Some common characteristics of repositories include:

- **User-Friendly Interface:** Repositories that are easy to use and understand.
- **Secure and Efficient:** Data is stored securely and retrieved quickly.
- **Long-Term Preservation:** Data is preserved for long-term use.
- **Peer-Reviewed:** Data is subjected to peer review before publication.
- **Open Access:** Data is available to all, free of charge.

### NIH-supported Scientific Data Repositories

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### Additional repositories of note

- **vivli.org**
- **submit.ncbi.nlm.nih.gov**
- **osf.io**

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Browse through the listing of NIH-supported repositories to learn more about some places to share scientific data. Note that this list is not exhaustive. Select the site associated in the "Data Submission Policy" column to find data submission instructions for each repository.

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Intentions & Future Directions

- NIH wants “investigators to benefit from first and continuing use but not from prolonged exclusive use”

- **Goal**: Treating datasets as primary research outputs
Summing Up

- Data management and sharing expectations increasing at NIH and elsewhere

- Many resources and strategies available
References
References

4. PLOS ONE. Data Availability. [https://journals.plos.org/plosone/s/data-availability](https://journals.plos.org/plosone/s/data-availability)
References

Library Resources

Manage Data Site

DMP Email Course

Other Trainings & Info

Images via Unsplash

Yale Harvey Cushing/John Hay Whitney Medical Library
Resources: NIH DMS Plan Preparation

**NIH** Scientific Data Sharing
Main policy website

**DMP Tool**
Build your Data Management Plan
Plan generator with templates

**RDM Kit**
Resource compendium for data management

**re3data.org**
The “Google” of data repositories

**FAIRsharing.org**
The “Google” of data standards

Get more on OSP site
Get more on library site
Resources: NIH DMS Plan
Budgeting

NIH SCIENTIFIC DATA SHARING

Budgeting for DMS

Yale Office of Sponsored Projects (OSP)

Yale budgeting tip sheet
Get in touch!

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Subject line: NIH Data Mandate/DMP