



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

**Janeway Society Presentation**  
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Yale *Harvey Cushing/John Hay Whitney Medical Library*

# 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?**



 **Raise Hand**

# How'd it go?



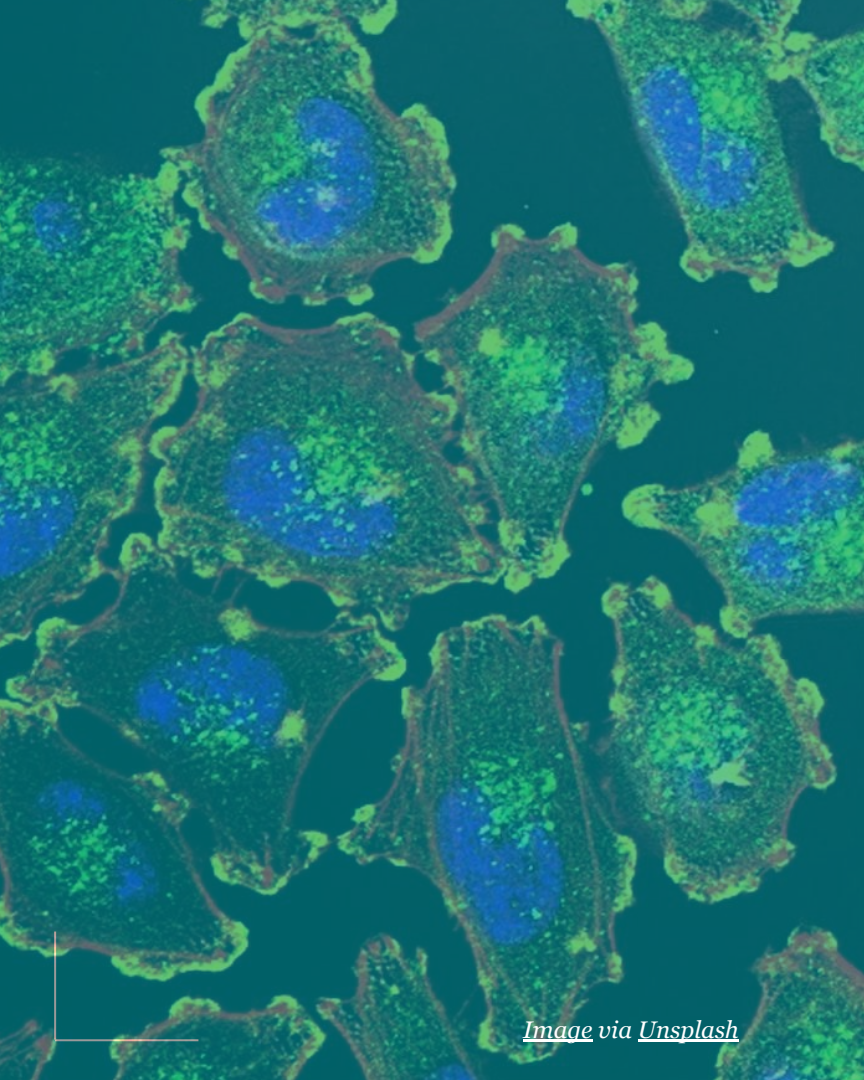
**Great**



**Fine**



**Yikes**



*Image via [Unsplash](#)*

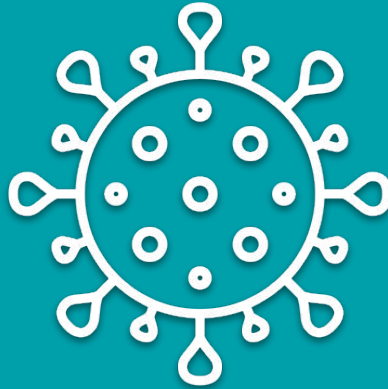
# Policy Overview

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# Why?



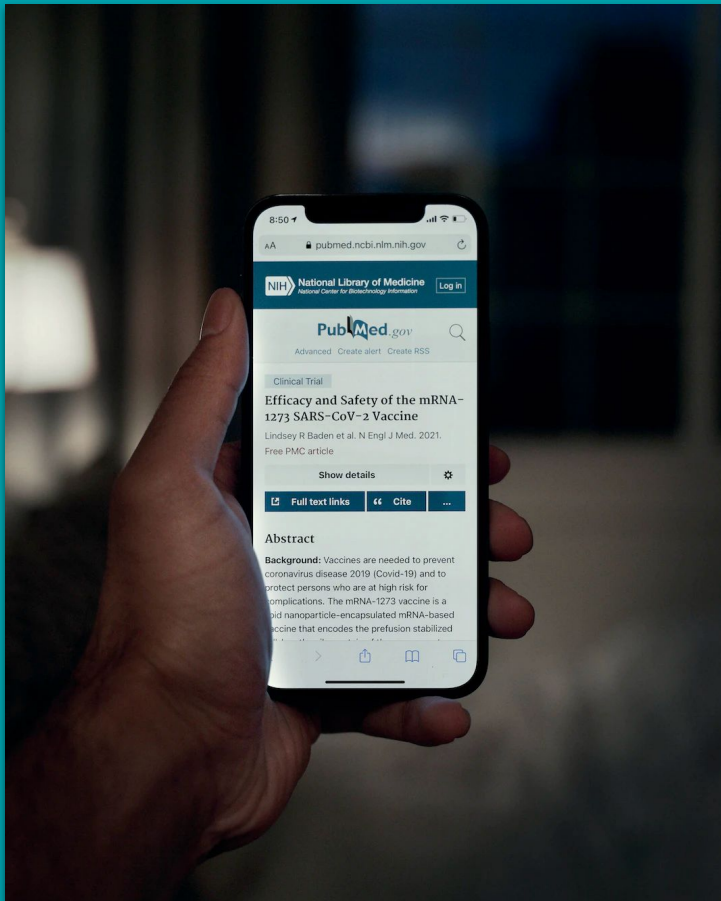
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2, 3, 4

# Why?

- ★ Accelerate translation of results into **knowledge**
- ★ Maximize **value of** and **trust in scientific data**
- ★ Improve human health



*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** SCIENTIFIC DATA SHARING

### Are you Ready for NIH's Data Management and Sharing (DMS) Policy?

NIH has issued the DMS Policy (effective for due dates on/after January 25, 2023) to promote the sharing of scientific data. See [sharing.nih.gov](https://sharing.nih.gov) for details and instructions.

#### Planning & Budgeting for Data Management and Sharing

Prospectively planning for how scientific data will be managed and ultimately shared is a crucial first step in optimizing the reach of data generated from NIH-funded research.

- **Determine** if proposed research is subject to the DMS policy.
- **Identify** appropriate methods/approaches and repositories for managing and sharing scientific data.
- **Develop a Plan** for managing and sharing scientific data and include in application or proposal. If subject to Genomic Data Sharing Policy, submit a single Plan that addresses genomic data considerations.
- **Estimate and request funds** for data management and sharing activities (if not already covered by institution or other sources.)

#### Submission & Review of DMS Plans

Applicants planning to generate scientific data will submit DMS Plans to NIH as part of the funding application or proposal.

- **Submit** DMS Plans and budget requests as part of the funding application or proposal.

Note: Plans are reviewed by NIH program staff for completeness and acceptability. If Plan is not acceptable and complete, work with NIH staff to modify as appropriate.

#### Implementing DMS Plans

Awardees are expected to carry out data management and sharing as outlined in approved plans and as a term and condition of award.

- **Manage and share** data as described in the approved DMS Plan.
- **Provide updates** on data management and sharing activities in annual progress reports.
- **Work with NIH staff** to obtain review and approval of modifications if plans change.

Learn more at <https://sharing.nih.gov/>

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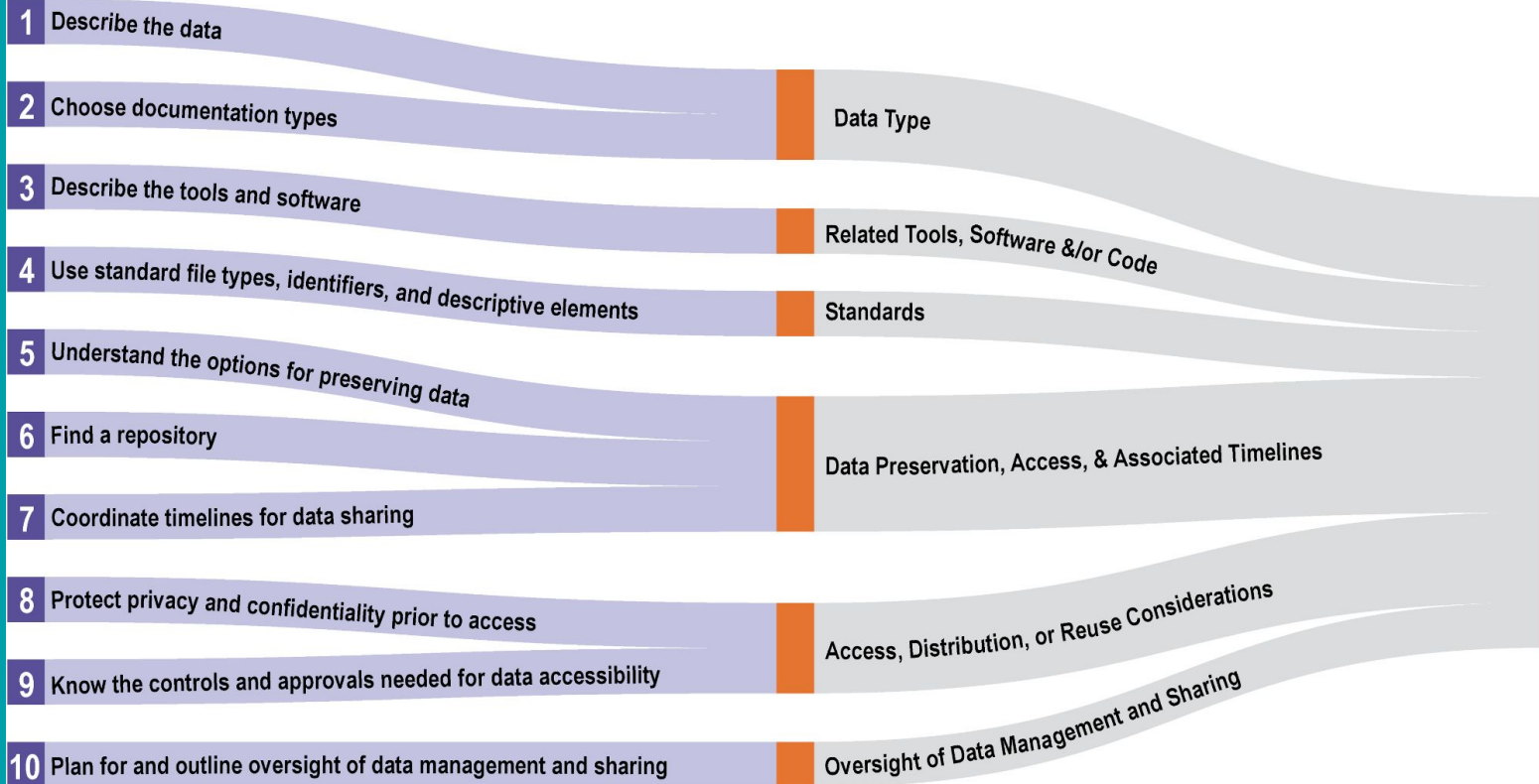
# NIH: Elements of a DMS Plan



- **Data type(s)**
- **Data standards**
- **Related tools, software, code**
- **Data preservation, access, and associated timeline**
- **Access, distribution, reuse considerations**
- **Oversight of DMS**

## 10 Simple Rules for Maximizing the Recommendations of the NIH Data Management and Sharing Plan

## Elements of a NIH Data Management and Sharing Plan



# NIH: When & What to Share

- **Timeliness** in data sharing <sup>8</sup>
  - At time of associated publication
    - OR:
  - End of grant (“performance period”)
    - Whichever is *first*
- Covers **all scientific data** generated in grant <sup>9</sup>
  - *“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”:** 8
  - 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*)



The image is a screenshot of a webpage titled "NIH SCIENTIFIC DATA SHARING". The main heading is "Are you Ready for NIH's Data Management and Sharing (DMS) Policy?". Below this, a sub-heading reads "NIH has issued the DMS Policy (effective for due dates on/after January 25, 2023) to promote the sharing of scientific data. See [sharing.nih.gov](https://sharing.nih.gov) for details and instructions." The page is divided into three main sections: "Planning & Budgeting for Data Management and Sharing", "Submission & Review of DMS Plans", and "Implementing DMS Plans". Each section contains specific instructions and bullet points for researchers.

**NIH SCIENTIFIC DATA SHARING**

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Learn more at <https://sharing.nih.gov>

# A Policy & A Memo



[open.science.gov](https://open.science.gov)

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.

2023

## **[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.

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



*Image via Unsplash*

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# Using tools and templates

- Use **DMPTool** (*see resources*)
- Review **sample plans** from NIH and others <sup>10</sup>
- 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*)



*Image via [Unsplash](#)*

# Protecting participants

- Outlining participant **consent** (and opt-out) for data sharing early on
- Planning for data **de-identification** 11



*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 <sup>12</sup>



[datadryad.org](http://datadryad.org)



[icpsr.umich.edu](http://icpsr.umich.edu)





CENTER FOR GLOBAL CLINICAL RESEARCH DATA

vivli.org



National Library of Medicine  
National Center for Biotechnology Information

Submission Portal

Submit to the world's largest public repository of biological and scientific information

submit.ncbi.nlm.nih.gov

### Repositories for Sharing Scientific Data

In general, NIH does not endorse or require sharing data in any particular repository, although some initiatives and funding opportunities will have individual requirements. Overall, NIH encourages researchers to select the repository that is most appropriate for their data type and discipline. See [Selecting a Data Repository](#).

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

Can't find a repository that suits your data? Here are several more resources:

- A listing of generalist repositories that accepts all data types
- Nature's Data Repository Guidance<sup>16</sup>
- The Registry of Research Data Repositories<sup>17</sup>

#### NIH-supported Scientific Data Repositories\*

Institute or Center	Repository Name	Repository Description
All		Keyword Filter
CIT, NINDS	<a href="#">Federal Interagency Traumatic Brain Injury Research (FITBIR) Informatics System</a>	The Federal Interagency Traumatic Brain Injury Research (FITBIR) was developed to share data across the entire TBI research field and to between laboratories, as well as interconnectivity with other informatics data, methodologies, and associated tools, rather than summaries of information, can accelerate research progress by allowing re-analysis, aggregation, integration, and rigorous comparison with other data. Community-wide sharing requires common data definitions and standards. Comprehensive and coherent informatics approaches.



osf.io

Additional repositories of note

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# Intentions & Future Directions

- NIH wants “investigators to benefit from ***first and continuing use*** but not from prolonged exclusive use” <sup>8</sup>
- **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

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1. National Institutes of Health (NIH). 2003 Data Sharing Policy — NOT-OD-03-032. <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-03-032.html>
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3. NIH. Request for Information on the NIH Plan to Enhance Public Access to the Results of NIH-Supported Research — NOT-OD-23-091. <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-23-091.html>
4. PLOS ONE. Data Availability. <https://journals.plos.org/plosone/s/data-availability>
5. National Institutes of Health (NIH). Data Management and Sharing (DMS) Policy Overview. <https://sharing.nih.gov/data-management-and-sharing-policy/about-data-management-and-sharing-policies/data-management-and-sharing-policy-overview>
6. NIH. Writing a Data Management & Sharing (DMS) Plan. Scientific Data Sharing. <https://sharing.nih.gov/data-management-and-sharing-policy/planning-and-budgeting-for-data-management-and-sharing/writing-a-data-management-and-sharing-plan>
7. Gonzales, S., Carson, M.B., & Holmes, K. (2022). Ten simple rules for maximizing the recommendations of the NIH data management and sharing plan. *PLOS Computational Biology* 18(8): e1010397. <https://doi.org/10.1371/journal.pcbi.1010397>

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10. NIH. Sample Plans. Scientific Data Sharing.  
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11. NIH. Protecting Participant Privacy When Sharing Scientific Data. Scientific Data Sharing.  
<https://sharing.nih.gov/data-management-and-sharing-policy/protecting-participant-privacy-when-sharing-scientific-data>
12. NIH. Selecting a Data Repository. Scientific Data Sharing.  
<https://sharing.nih.gov/data-management-and-sharing-policy/sharing-scientific-data/selecting-a-data-repository>



# Resources

# Library Resources



Manage  
Data Site



DMP Email  
Course



Other Trainings  
& Info

# Resources: NIH DMS Plan Preparation



*Main policy website*



Build your Data Management Plan

*Plan generator with templates*



*Resource compendium for data management*



*The "Google" of data repositories*



*The "Google" of data standards*

[Get more on  
OSP site](#)

[Get more on  
library site](#)

# Resources: NIH DMS Plan Budgeting



*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

# Q & A