

Research Data Management and Sharing Support for UNC Investigators

Jonathan Crabtree, PhD · Director RDMC

February 23rd, 2024



RESEARCH

Data Management Core



Research Data Management Defined



Research Data Management and Sharing Mandates



About the Research Data Management Core (RDMC)



Data Management and Sharing Planning Support



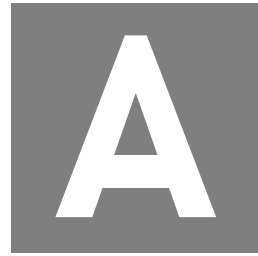
” Data management is the process of validating, organizing, protecting, maintaining, and processing scientific data to ensure the accessibility, reliability, and quality of the data for its users.

<https://sharing.nih.gov/data-management-and-sharing-policy/data-management>



FINDABLE

(Meta)data are described with rich metadata and assigned a unique and persistent identifier



ACCESSIBLE

(Meta)data are openly accessible, with authorization and authentication as needed



INTEROPERABLE

(Meta)data use a shared standardized language to enable linking and use across systems



REUSABLE

(Meta)data are well-described to allow for understanding and appropriate re-use

Wilkinson, M. D., Dumontier, M., Aalbersberg, Ij. J., Appleton, G., Axton, M., Baak, A., Blomberg, N., Boiten, J.-W., da Silva Santos, L. B., Bourne, P. E., Bouwman, J., Brookes, A. J., Clark, T., Crosas, M., Dillo, I., Dumon, O., Edmunds, S., Evelo, C. T., Finkers, R., ... Mons, B. (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data*, 3, 160018. <https://doi.org/10.1038/sdata.2016.18>

The National Institutes of Health (NIH) **Policy for Data Management and Sharing** reinforces NIH's longstanding commitment to **making the results and outputs of NIH-funded research available to the public** through effective and efficient data management and data sharing practices. **Data sharing** enables researchers to rigorously test the validity of research findings, strengthen analyses through combined datasets, reuse hard-to-generate data, and explore new frontiers of discovery. In addition, NIH emphasizes the importance of **good data management practices**, which provide the foundation for effective data sharing and improve the reproducibility and reliability of research findings. NIH encourages data management and data sharing practices consistent with the **FAIR data principles**.

Final NIH Policy for Data Management and Sharing

Notice Number:

NOT-OD-21-013

Key Dates

Release Date:

Effective Date:

October 29, 2020

January 25, 2023

Related Announcements

[NOT-OD-23-185](#) - Prior Approval Requests for Revisions to an Approved Data Management and Sharing (DMS) Plan Must be Submitted Using the Prior Approval Module

[NOT-OD-23-053](#) - Reminder: NIH Policy for Data Management and Sharing effective on January 25, 2023.

[NOT-OD-23-012](#) - Reminder: FORMS-H Grant Application Forms & Instructions Must be Used for Due Dates On or After January 25, 2023 - New Grant Application Instructions Now Available

[NOT-CA-23-007](#) - Request for Information (RFI): Soliciting Input on the Use and Reuse of Cancer Metabolomics Data

[NOT-OD-22-214](#) - Supplemental Information to the NIH Policy for Data Management and Sharing: Responsible Management and Sharing of American Indian/Alaska Native Participant Data.

[NOT-OD-22-213](#) - Supplemental Information to the NIH Policy for Data Management and Sharing: Protecting Privacy When Sharing Human Research Participant Data.

[NOT-OD-22-189](#) - Implementation Details for the NIH Data Management and Sharing Policy

[NOT-OD-22-104](#) Notice of Extension of the Public Comment Period for NOT-OD-22-064 DRAFT Supplemental Information to the NIH Policy for Data Management and Sharing: Responsible Management and Sharing of American Indian/Alaska Native Participant Data

Issued by

Office of The Director, National Institutes of Health (OD)

Purpose

Summary

The National Institutes of Health (NIH) is issuing this final NIH Policy for Data Management and Sharing (DMS Policy) to promote the management and sharing of scientific data generated from NIH-funded or conducted research. This Policy establishes the requirements of submission of Data Management and Sharing Plans (hereinafter Plans) and compliance with NIH Institute, Center, or Office (ICO)-approved Plans. It also emphasizes the importance of good data management practices and establishes the expectation for maximizing the appropriate sharing of scientific data generated from NIH-funded or conducted research, with justified limitations or exceptions. This Policy applies to research funded or conducted by NIH that results in the generation of scientific data.

1

Planning and budgeting for data management and sharing

2

Submission and review of data management and sharing plans

3

Implementing data management and sharing plans


<https://sharing.nih.gov/>



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

August 25, 2022

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Dr. Alondra Nelson 
Deputy Assistant to the President and Deputy Director for Science and Society
Performing the Duties of Director
Office of Science and Technology Policy (OSTP)

SUBJECT: Ensuring Free, Immediate, and Equitable Access to Federally Funded Research

This memorandum provides policy guidance to federal agencies with research and development expenditures on updating their public access policies. In accordance with this memorandum, OSTP recommends that federal agencies, to the extent consistent with applicable law:

1. Update their public access policies as soon as possible, and no later than December 31st, 2025, to make publications and their supporting data resulting from federally funded research publicly accessible without an embargo on their free and public release;
2. Establish transparent procedures that ensure scientific and research integrity is maintained in public access policies; and,
3. Coordinate with OSTP to ensure equitable delivery of federally funded research results and data.

1. Background and Policy Principles

Since February 2013, federal public access policy has been guided by the *Increasing Access to the Results of Federally Funded Research* report. The White House Office of Science and Technology Policy (OSTP) directed all federal departments and agencies (agencies) with research and development expenditures to develop a plan to support the results of federally funded research, with specific focus on open access and digital data resulting from such research.



Scientific data underlying peer-reviewed scholarly publications resulting from federally funded research should be made freely available and publicly accessible by default at the time of publication, unless subject to limitations...and should be **subject to federal agency guidelines for researcher responsibilities regarding data management and sharing plans...**

<https://www.whitehouse.gov/wp-content/uploads/2022/08/08-2022-OSTP-Public-Access-Memo.pdf>







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Data Management Core

The Research Data Management Core coordinates stewardship of research data produced at the University of North Carolina at Chapel Hill.



Infrastructure



Policy



Consultation



Training



RESEARCH

Data Management Core



Infrastructure

- Establishing a campus-wide data support ecosystem that coordinates, integrates, and federates existing and new resources
- Hosting and maintaining UNC Dataverse for long-term data archiving and preservation
- Developing new technologies to address gaps in existing resources



Policy



Consultation



Training



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Data Management Core



Infrastructure



Policy

- Establishing a pipeline for pre-award data management and sharing plan review and audit
- Developing a tracking mechanism for data management and sharing plan implementation
- Monitoring data management and sharing policy updates and new policies



Consultation



Training



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Data Management Core



Infrastructure



Policy



Consultation

- Developing, reviewing, and implementing data management and sharing plans
- Identifying policy-compliant trustworthy data repositories for preservation and sharing
- Referring investigators to research data management support units and experts at UNC and beyond



Training



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Data Management Core



Infrastructure



Policy



Consultation



Training

- Research data management and sharing standards and best practices
- Data management and sharing policy requirements for compliance
- Use of research data management and sharing support platforms and systems



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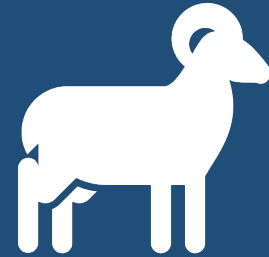
Carefully review the policy, NOFO, and any other relevant policy guidance



Use DMPTool to draft the data management and sharing plan



Request a DMSP review from RDMC ahead of the grant submission deadline



Provide data management and sharing information in the RAMSeS IPF

NIH-funded Study 2024

Project Details Collaborators Write Plan Research outputs Finalize Download

This plan is based on the "NIH-Default DMSP" template provided by National Institutes of Health (nih.gov) - (ver: 9, pub: 2023-07-06).
expand all | collapse all 1/12

+ Data Type (0 / 3)

Briefly describe the scientific data to be managed, preserved, and shared.

Types and amount of scientific data expected to be generated in the project:
marize the types and estimated amount of scientific data expected to be rated in the project.

be data in general terms that address the type and amount/size of scientific data ted to be collected and used in the project (e.g., 256-channel EEG data and fMRI images from ~50 research participants). Descriptions may indicate the data modality (e.g., imaging, genomic, mobile, survey), level of aggregation (e.g., individual, aggregated, summarized), and/or the degree of data processing that has occurred (i.e., how raw or processed the data will be)

B I 12pt

Press Alt 0 or Option 0 for help using the rich text editor with keyboard only.

Save

Example answer

DMPTool fill-in-the-blank prompt

This project will produce _____ [Data type, e.g., imaging, sequencing, experimental measurements] data generated/obtained from _____ [Data modality, e.g., instrument, method, survey, experiment, data source]. Data will be collected from ___ [number] of research participants/specimens/experiments, generating ___ [number] datasets totaling approximately ___ [count of data] in size. The following data files will be used or produced in the course of the project: _____ [list input data files, intermediate files, and final, post-processed files]. Raw data will be transformed by ___ [analysis, method], and the subsequent processed dataset used for statistical analysis. To protect research participant identities, _____ [e.g., individual, aggregated, summarized] data will be made available for sharing.

If working with human subjects, consider adding: Data collection will be performed at clinical sites in the ___ [location] area(s) with ___ [population(s) being studied; i.e., T2 diabetes].

Sample answer from DMPTool: Basic sciences data

In this proposed project, data will be generated via the following methods: cell culture, light microscopy, confocal microscopy, real-time quantitative polymerase chain reaction (PCR), and stereological counting techniques. This data will be collected from a minimum of 3 independent experiments, with each independent experiment consisting of 3 groups. Wild-type (Rest+/-), heterozygous (Rest+/-), and homozygous (Rest-/-) from both embryonic stem (ES) cells and the corresponding neural stem/progenitor (NS/P) cells. The total size of the data collected is projected to be 300 GB.

We expect to generate the following data file types and formats during this project: Carl Zeiss microscopic image file (.CZI), images (.TIFF), tabular (.CSV), and Affymetrix GeneChip files (.CEL).

Raw data files will be analyzed to generate CSV files containing counts of cell type, total number of stem cells, and to enable statistical analysis.

+ Related Tools, Software and/or Code (0 / 1) +

Standards (0 / 1) +

Preservation, Access, and Associated Timelines (0 / 3) +

+ Access, Distribution, or Reuse Considerations (0 / 3) +

+ Oversight of Data Management and Sharing (0 / 1) +

DMSP section prompt and explanation

Example fill-in-the-blank language

Template based on funder requirements

Funder and other additional guidance



https://dmptool.org

DMP Review and Help

Welcome! Please select a service below for help.

Contact us about

Data Management and Sharing

What can we help you with?



Data Management Plan Review

Request UNC Research Data Management Core review of a data management plan created in DMPTool.

Raise this request on behalf of*

Enter name or email...

Summary*



Use this form to request a review of your plan, the Research Data Management Core (RDMC) will review your plan in DMPTool (<https://dmptool.org>) so that we may make comments and edit suggestions directly.

Comparison of DMSP with funder policy and guidelines

Evaluation of content for adherence to policy guidelines

Suggestions for improvement

Referrals to service providers

Assessment of feasibility of DMSP implementation

<https://researchdata.unc.edu/guidance/preaward/review/>

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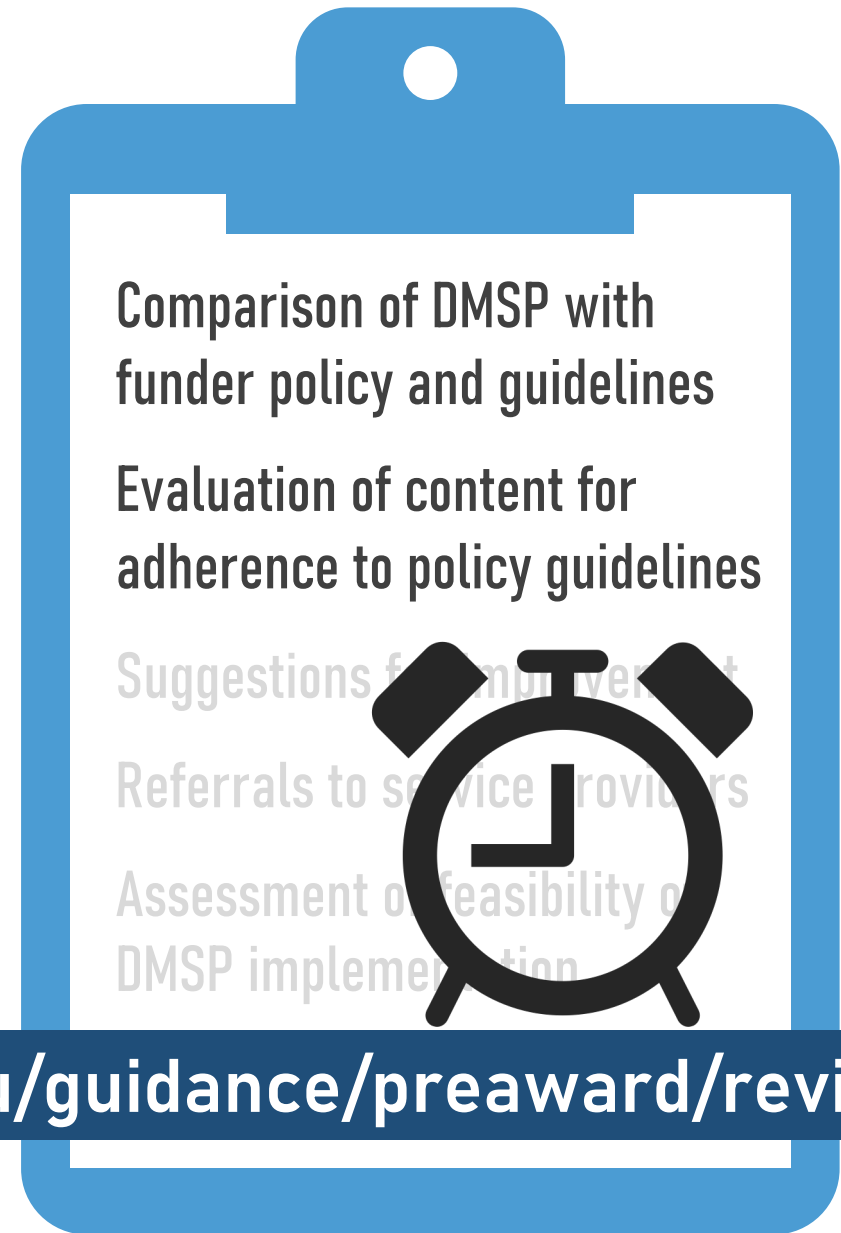
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<https://researchdata.unc.edu/guidance/preaward/review/>

>> Data Management and Sharing

Information and assistance are available via [Research Data Management Core](#) website.

* Indicates Required Fields

* Have you submitted a Data Management and Sharing Plan to the Research Data Management Core (RDMC) for review?

Yes No

* Enter the URL for the DMSP in DMPTool (example URL: <https://dmptool.org/plans/999999>).

Character Count 0 / 300

* Will managing and sharing project data require dedicated personnel, specialized equipment, and/or other services that are not covered by the [RDMC service fee](#)?

Yes No

* Will your data include any of the following? Select all that apply:

- Personally identifiable information (PII) or protected health information (PHI)
- American Indian/Alaska Native participant data
- Proprietary/copyrighted data
- Genomic data
- Large volume data (>2 TB)
- Any other data that present ethical, legal, or technical issues that may limit your ability to share the data
- My data will not include any of the above

* Enter the name(s) of the repository selections for preserving and sharing project data.

Character Count 0 / 300

* Will the project require any special provisions for data management and sharing that are not currently available at UNC-CH?

Yes No

Save

Reset



Establish a mechanism for DMSP review, audit, and implementation



Ensure the availability of resources to support implementation of DMSPs



Track and catalog research outputs produced by UNC investigators



RESEARCH
Data Management Core

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Tools ▾

News

Need Help?



RESEARCH
Data Management Core

<https://researchdata.unc.edu/>

UNC Research Data Management Core

The Research Data Management Core (RDMC) provides UNC researchers with the necessary tools, knowledge, and support to manage and share their research data in compliance with funding agency mandates and data sharing policies effectively and efficiently.



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<https://researchdata.unc.edu/>



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