

# NIH Data Management & Sharing Plans

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# Goals

- Introduce the NIH Data Management and Sharing Plan Policy and Requirements
- Briefly describe what we're doing at CSU to support the new policy
- Share resources available through NIH and elsewhere
- Discuss questions and approaches to support

# NIH Policy on Data Management and Sharing

**Effective January 25, 2023**

Under the DMS policy, NIH expects that investigators and institutions:

- Plan and budget for the managing and sharing of data
- Submit a DMS plan for review when applying for funding
- Comply with the approved DMS plan

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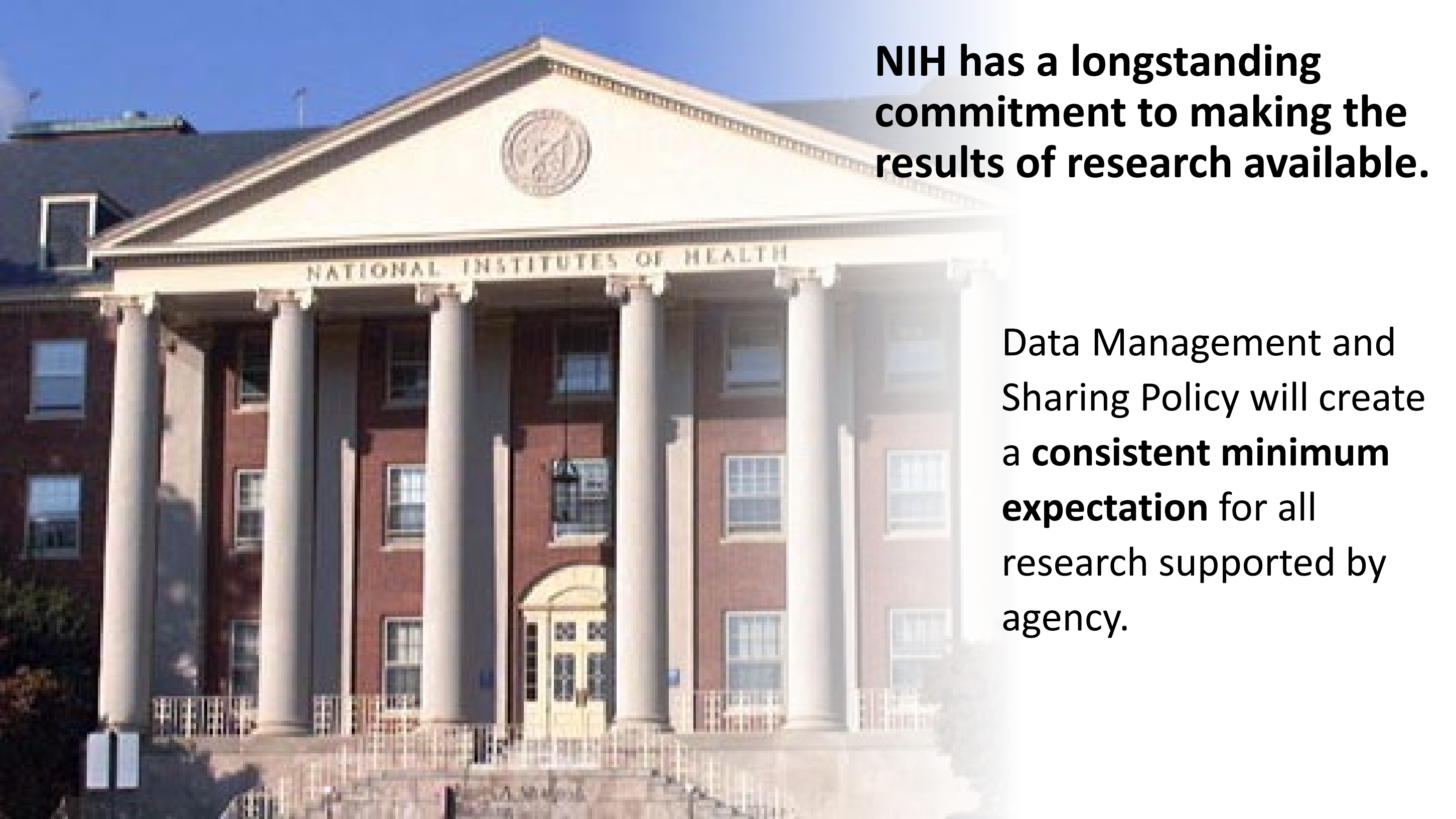
# Implementing the NIH Data Management and Sharing (DMS) Policy

October 2022



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# **POLICY APPLICABILITY**



NIH has a longstanding  
commitment to making the  
results of research available.

Data Management and  
Sharing Policy will create  
a **consistent minimum  
expectation** for all  
research supported by  
agency.

# Policy Effective Dates

**The DMS Policy applies to all NIH funding mechanisms**

<b>Extramural</b>	<u>Competing</u> applications submitted for Jan 25, 2023, and subsequent receipt dates
<b>Contracts</b>	Proposals submitted on or after Jan 25, 2023
<b>Intramural</b>	Projects conducted on or after Jan 25, 2023
<b>Other funding agreements (e.g., Other Transactions)</b>	Executed on or after Jan 25, 2023, unless otherwise stipulated by NIH

# Scope of DMS Policy

Applies to all research, funded or conducted in whole or in part by NIH, that results in the generation of "**scientific data**".

"**Scientific data**" is defined as:

"the recorded factual material 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."



# Potential Examples of Scientific Data

Scientific data will vary depending on the project and the context.

**Scientific data might include:**

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Single-cell RNA sequencing (scRNA-seq) of T lymphocytes or other immune cells in a study of HIV/AIDS

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Electrophysiological recordings and fMRI images in a study of a rodent model of PTSD

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Step activity from a wearable device in a study of cardiovascular health

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# Exclusions from the DMS Policy

## Scientific data do not include:

- Data **not** necessary for or of sufficient quality to validate and replicate research findings,
- Laboratory notebooks,
- Preliminary analyses,
- Completed case report forms,
- Drafts of scientific papers,
- Plans for future research,
- Peer reviews,
- Communications with colleagues, or
- Physical objects, (e.g., laboratory specimens)

# Activities Subject to the DMS Policy

## APPLIES TO...

**All research generating scientific data**, including but not limited to:

- Research Projects
- Certain Career Development Awards (Ks)
- Small Business SBIR/STTR
- Research Centers

## DOES NOT APPLY TO...

**Research projects not generating scientific data or non-research projects**, including but not limited to:

- Training (Ts)
- Fellowships (Fs)
- Construction (C06)
- Conference Grants (R13)
- Resources (Gs)
- Research-Related Infrastructure Programs (e.g., S06)

See [Research Covered Under the Data Management & Sharing Policy](#)

# Policy Requirements

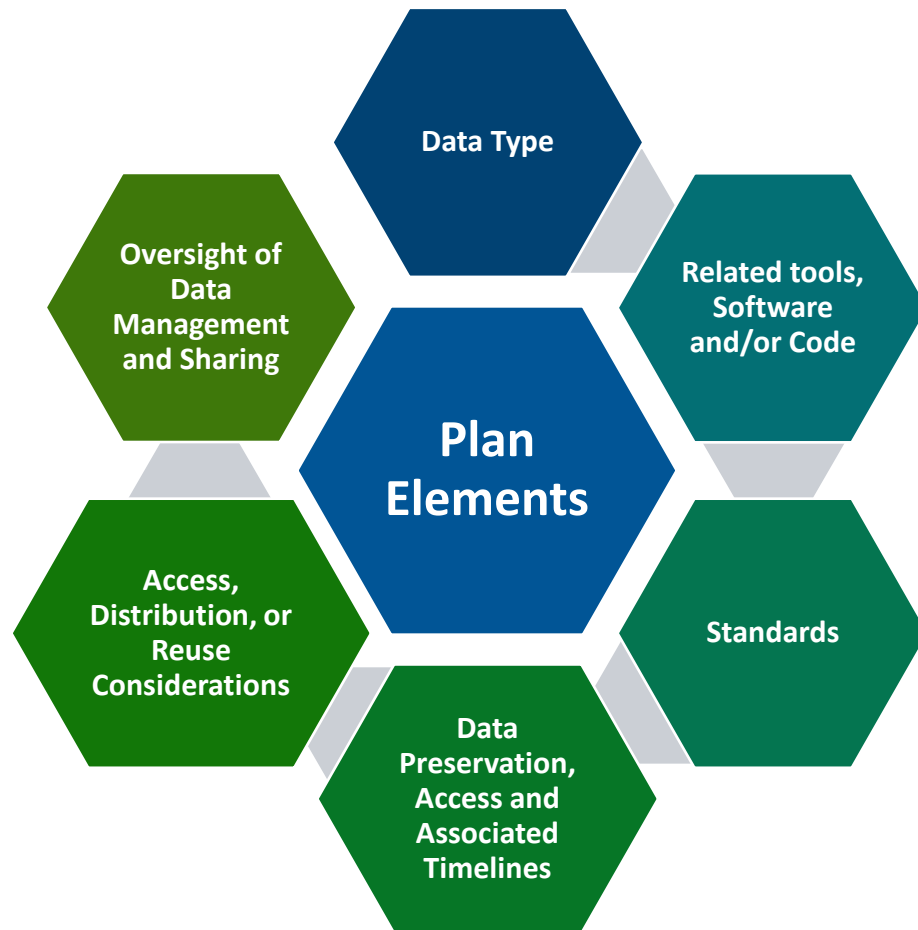
**Submission** of Data Management & Sharing Plan with all applications for funding beginning January 25, 2023

**Compliance** with the Data Management and Sharing Plan approved by the funding NIH Institute, Center, or Office

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# PLANNING & BUDGETING

# Elements of a DMS Plan



- **Data type**
  - Identifying data to be preserved and shared
- **Related tools, software, code**
  - Tools and software needed to access and manipulate data
- **Standards**
  - Standards to be applied to scientific data and metadata
- **Data preservation, access, timelines**
  - Repository to be used, persistent unique identifier, and when/ how long data will be available
- **Access, distribution, reuse considerations**
  - Description of factors for data access, distribution, or reuse
- **Oversight of data management and sharing**
  - Plan compliance will be monitored/ managed and by whom

See [Writing a Data Management & Sharing Plan](#) for details

# Format of a DMS Plan

- ✓ Plan recommended not to exceed 2 pages in length
- ✓ Optional format page will be available

DATA MANAGEMENT AND SHARING PLAN
<p>If any of the proposed research in the application involves the generation of scientific data, this application is subject to the NIH Policy for Data Management and Sharing and requires submission of a Data Management and Sharing Plan. If the proposed research in the application will generate large-scale genomic data, the Genomic Data Sharing Policy also applies and should be addressed in this Plan. Refer to the detailed instructions in the application guide for developing this plan as well as to additional guidance on <a href="https://www.nih.gov/genomic-data-sharing">sharing.nih.gov</a>. The Plan is recommended not to exceed two pages. Text in italics should be deleted.</p>
<b>Element 1: Data Type</b>
<b>A. Types and amount of scientific data expected to be generated in the project:</b> <i>Summarize the types and estimated amount of scientific data expected to be generated in the project,</i>
<b>B. Scientific data that will be preserved and shared, and the rationale for doing so:</b> <i>Describe which scientific data from the project will be preserved and shared and provide the rationale for this decision.</i>
<b>C. Metadata, other relevant data, and associated documentation:</b> <i>Briefly list the metadata, other relevant data, and any associated documentation (e.g., study protocols and data collection instruments) that will be made accessible to facilitate interpretation of the scientific data.</i>
<b>Element 2: Related Tools, Software and/or Code:</b> <i>State whether specialized tools, software, and/or code are needed to access or manipulate shared scientific data, and if so, provide the name(s) of the needed tool(s) and software and specify how they</i>

[DMS Plan Format Page](#)

# DMS Plan Assessment



- **NIH Program staff:**
  - Ensure [Elements of a DMS Plan](#) have been adequately addressed and assess the reasonableness of those responses
  - Applications will only be funded when Plan is complete and acceptable
- **Peer reviewers:**
  - Consider if budget is reasonable

See [Writing a Data Management & Sharing Plan](#)

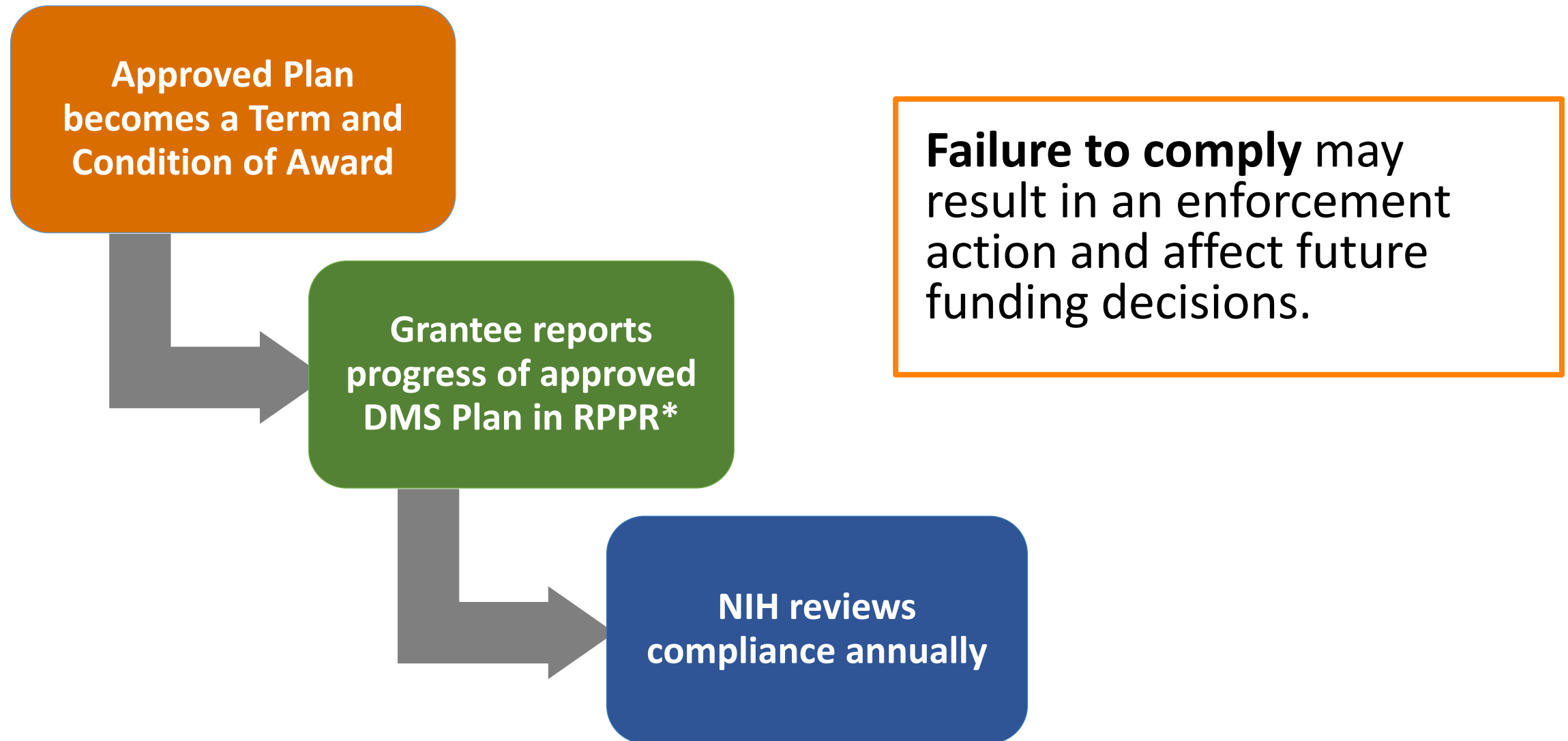


# Resolving Plan Issues Before Award

- DMS Plan must be approved prior to award
- If additional details needed, communicate with NIH staff to resolve issues with DMS Plan
  - Will occur through standard Just-In-Time (JIT) process
  - Provide additional information and potentially a revised DMS Plan

See [Writing a Data Management & Sharing Plan](#)

# Monitoring Compliance



\***RPPR:** Research Performance Progress Report (RPPR) - Annual, Interim, and Final

# Data Management and Sharing Costs

## ALLOWABLE COSTS:

- Curating data/developing supporting documentation
- Preserving/sharing data through repositories
- Local data management considerations
- **IMPORTANT:** Must be incurred during the performance period

## UNALLOWABLE COSTS:

- Infrastructure costs typically included in indirect costs
- Costs associated with the routine conduct of research (e.g., costs of gaining access to research data)

See [Budgeting for Data Management & Sharing](#) for details

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# SHARING SCIENTIFIC DATA

# Finding and Selecting a Repository

Established repositories encouraged

NIH ICs may designate specific data repository(ies)

Recommend using a data-type or discipline-specific repository if available

Other suitable options include:

- Institutional repositories
- PubMed Central (small datasets only)
- Generalist repositories

See [Selecting a Data Repository](#) for details

# Finding and Selecting a Repository: NIH & Other Resources

## NIH-Supported Repositories

Filterable list of 70+ [NIH Repositories](#)

Institute or Center	Repository Name	Repository Description
NCI		Keyword Filter
NCI	<a href="#">Cancer Nanotechnology Laboratory (caNanoLab)</a>	caNanoLab is a data sharing portal designed to facilitate sharing in the biomedical nanotechnology research community. It expedite and validate the use of nanotechnology in research. caNanoLab provides support for the annotation of nanotechnology characterizations resulting from physico-chemical, in vitro assays and the sharing of these characterizations and data.

## Other Repository Resources

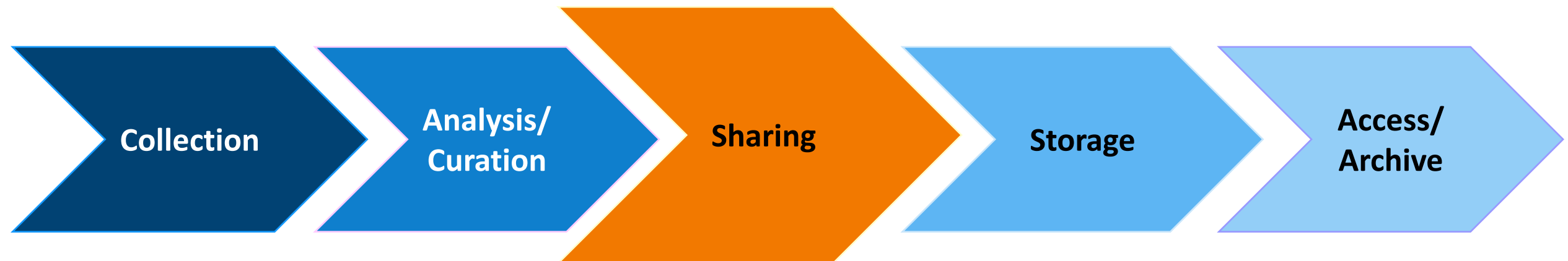
- [Generalist repositories](#)
- [Nature's Data Repository Guidance](#)
- [Registry of Research Data Repositories](#)

See [Repositories for Sharing Scientific Data](#)

# When should I share my data?

**As soon as possible!**

No later than the time of a **publication of findings** in a peer-reviewed journal OR at the **end of the award**, whichever comes first



# Limitations on Sharing

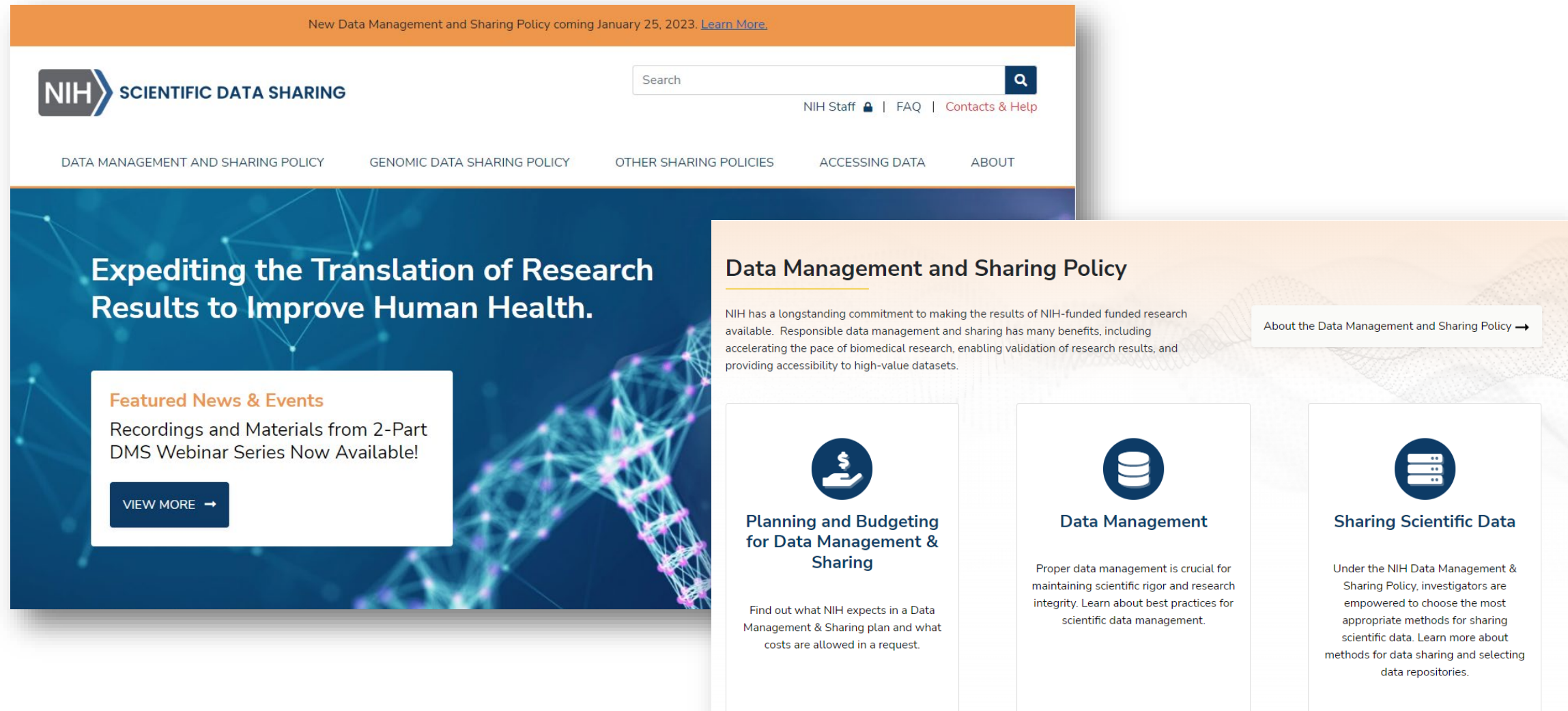
**DMS Plans should maximize appropriate sharing**

**Justifiable ethical, legal, and technical factors for limiting sharing include:**

- Informed consent will not permit or limits scope of sharing or use
- Privacy or safety of research participants would be compromised and available protections insufficient
- Explicit federal, state, local, or Tribal law, regulation, or policy prohibits disclosure
- Restrictions imposed by existing or anticipated agreements with other parties

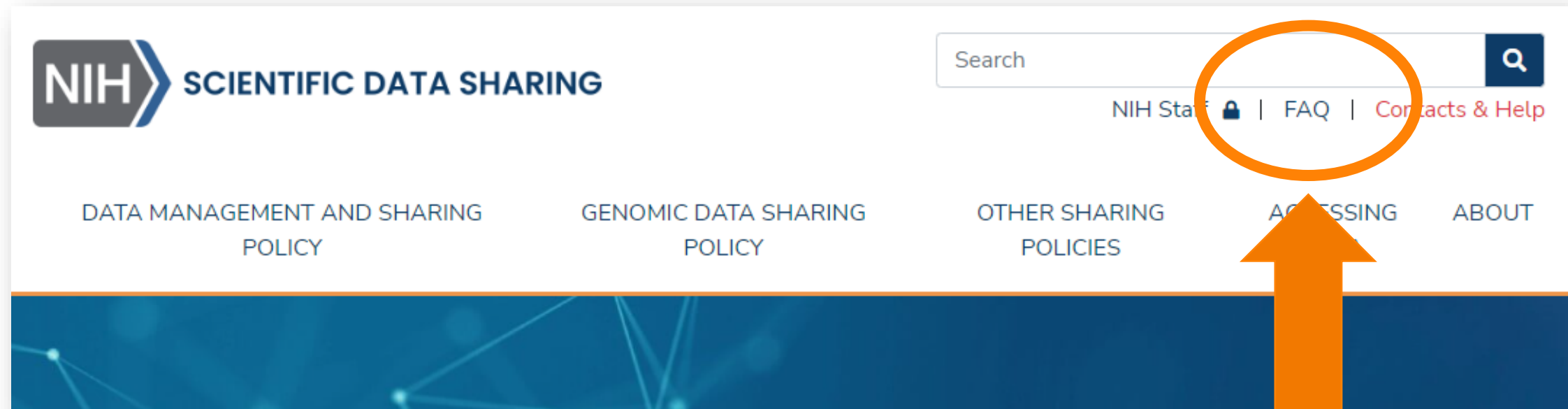


# Scientific Data Sharing Website



[Sharing Website](#)

# Frequently Asked Questions



[FAQs](#)

# Featured Webinars

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- [Implementing the New NIH Data Management and Sharing Policy: 2-part Series](#)
- [NNLM Data Management and Sharing Series](#)
- [Data Curation Network Series](#)
- [GREI Collaborative Series: Generalist Repositories](#)
- [FASEB DataWorks! Salons](#)



# Additional Resources



## 12 Days of Data Management and Sharing Tips & Resources

By NIH Staff

Posted November 29, 2022

2 Comments

f Share

Tweet

Share

As we get closer to the January 25, 2023 effective date of the new NIH Data Management and Sharing (DMS) Policy, here are 12 tips and resources we would like to gift you – but you might have to supply your own partridge in a pear tree 🐦

- **1-page flyer** on the who, what, where, and when of the DMS Policy
- **2-part webinar series** on understanding the DMS Policy and digging deeper into what's required
- **3 key steps** to implement the DMS Policy
- **4 sample DMS Plans** to assist as you develop a plan for your research, and an **optional format page**
- **5 minutes** is all it takes to determine what sharing policies apply to your research with this **decision tool**
- **6 elements** recommended for a robust DMS Plan, a key component for your funding application
- **7 examples of allowable costs** for data management and sharing
- **8+ slides** in our Implementing the DMS Policy slide deck
- **Fewer than 9 key differences** between the 2003 data sharing policy vs. the new DMS policy, illustrated on the policy comparison table
- **10 activities** that generally do and do not generate scientific data, including a **complete list of activity codes** generally subject to the DMS Policy
- **11+ FAQs** to address your questions, and **who to contact** for more information
- **Dozens of NIH-supported data repositories** and resources to help you **find** an appropriate repository for your research

May your days be merry and bright, and may all your submissions go right ❄️

Data sharing

<https://nexus.od.nih.gov/all/2022/11/29/12-days-of-data-management-and-sharing-tips-resources/>

# Additional Resources

- NIH webinars and slide decks: <https://sharing.nih.gov/about/learning>
- Librarian Working Group on NIH DMSP Guidance: <https://osf.io/uadxr/>
- NNLM Toolkit: <https://www.nlm.gov/guides/nnlm-toolkit-nih-data-management-and-sharing-policy>
- COGR NIH Data Management and Sharing Policy Resource Page: <https://www.cogr.edu/nih-data-management-and-sharing>
- Institutional Strategies for the NIH Data Management and Sharing Policy: Infrastructure, Policies, and Services (October 2022, jointly published with the Association of American Medical Colleges and Association of Academic Health Sciences Libraries): <https://www.aamc.org/media/62881/download?attachment>
- DMPTool.org templates: [https://dmptool.org/public\\_templates?page=1&search=NIH](https://dmptool.org/public_templates?page=1&search=NIH)



# NIH DMSP Policy at CSU

- Colorado State University:
  - Public land grant R1 university
  - > 30,000 students
  - ~2000 faculty
  - ~200 NIH grant proposals over the last 2 years (<10% total proposals)



Image from: <https://source.colostate.edu/enrollment-holds-steady-at-colorado-state-university-as-students-persist-despite-covid-era-challenges/>



# The Bigger Picture

Research Integrity and Open Scholarship

# DMSPP part of the bigger picture

- NSF and other sponsors (federal and private) have signaled that they will also require/expand DMS Plans
- Office of Science and Technology Policy (OSTP) 'Nelson Memo', Aug 25, 2022
  - Ensuring Free, Immediate, and Equitable Access to Federally Funded Research
  - Expands 2013 memo
  - 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.



# Support and Compliance

- Working group
  - Recommended by General Counsel, charged by the Office of Research
  - Membership: Office of Research, Libraries, Division of IT, General Counsel, Tech Transfer
  - Met from Nov 2022 – May 2023
  - Organized communications about the requirement, information sessions
  - Next steps: advocating for a broader Open and Secure Scholarship working group
- CSU Membership in the [Higher Education Leadership Initiative for Open Scholarship](#)
  - 93 Institutions
    - Best Practices
    - Infrastructure
    - Retention, Promotion & Tenure Policy Reform
    - Cross-Sector Alignment

# Resources at CSU

- **Libraries:** <https://lib.colostate.edu/services/data-management/data-management-plans/>
  - Training and consultations on DMSP development and implementation
  - Data sharing support (e.g. through Dryad)
- **Division of IT:**
  - Research computing & cyberinfrastructure: <https://it.colostate.edu/research-computing-and-cyberinfrastructure/>
  - Data security: <https://it.colostate.edu/research-computing-and-cyberinfrastructure/security-compliance/>
- **OSP (Office of Sponsored Programs):**
  - Reviews grant proposals for the inclusion of DMSPs
  - May provide examples of successful data management plans
- **OVPR (Office of the Vice President for Research):**
  - Consent form language that addresses data sharing – IRB
  - Education/training
- **General Counsel:**
  - Advising on legal questions
- **CSU STRATA:**
  - Advising on technology transfer and IP