

Researcher and Institutional Impact of Data Management and Sharing Policies

Jake Carlson - Associate University Librarian for Research, Collections and Outreach, University at Buffalo
jakecarl@buffalo.edu

Joel Herndon - Director of the Center for Data and Visualization Sciences, Duke University
joel.herndon@duke.edu

Jonathan Petters - Associate Director, Data Management & Curation Services, Virginia Tech
jpetters@vt.edu

NSF: Multi-institutional Study

Realities of Academic Data Sharing

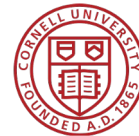
research has been generously funded by NSF EAGER grant #2135874: Completing the Lifecycle: Developing Evidence Based Models of Research Data Sharing

ASSOCIATION
OF RESEARCH
LIBRARIES

DATA
CURATION
NETWORK



UNIVERSITY OF MINNESOTA



Cornell University

NIH DS Policy

- Awards \geq \$500k/year
- Final research data
- Flexible
- Direct costs

2003

New NIH DMS Policy

- All awards with data
- All research data
- Storage and DMP reqs
- Line item costs

2023

2013

OSTP Holdren Memo

- Agencies with R&D budgets \geq \$100 million
- 12 month embargo
- Appropriate costs

RADS Study

2024-2025

OSTP Nelson Memo

- All agencies with extra R&D budgets
- No embargo
- Specified publication & DMS costs

Research Questions

1. How do institutions support research data management?
2. How do researchers prepare and share research data?
3. What is the institutional cost to implement mandated public access to research data policies?

Considerations

Creating a framework for institutional comparisons

Service Categories

Libraries

- Campus Libraries
- Archives

IT

- Core IT
- Dept. IT

Research

- OVPR
- OR
- IP

Centers

- Institutes
- Centers

Considerations

Creating a framework for institutional comparisons

Creating a common set of data sharing activities

Considerations

Creating a framework for institutional comparisons

Creating a common set of data sharing activities

Creating a model for estimating data sharing costs

Survey Representation

Administrators

- Data sharing leadership
- Mixed methods approach
 - Online survey
 - Structured interviews
- 50% response rate (69/138)

Researchers

- Funded research (2013-22)
 - NIH, NSF, DOE
- Subject Areas
 - Biomedical sciences
 - Environmental science
 - Materials science
 - Physics
 - Psychology
- Mixed methods approach
- 8.4% response rate
(255/3467)

Results

27 Data Management and Sharing Activities Through Five Phases of Research

1. Planning, Design, and Start Up of Projects
2. Data Collection, Storage, and Management
3. Making Data Broadly Available
4. Data Retention, Including Preservation, Archive, and Long-Term Access
5. Project Closeout and Compliance

Data Management and Sharing Activities ([LINK](#))

Researchers Reported

Activities They Did:

- In the Research
Lab/Research Team
- With Institutional
Assistance
- With External
Assistance
- Not Do

Administrators

Reported Support for
Activities Within:

- Office of Research
- Research
Institutes/Centers
- Libraries
- IT Offices

Researcher/ Research Team - Top 5 Activities done by (% of respondents)

Making decisions about what data to share or host	91.8%
Preparing data for sharing	91.4%
Creating quality control mechanisms or procedures	90.4%
Developing documentation of data	90.3%
Monitoring integrity of preserved data	90.0%

Institutional Assistance

Top 5 Activities done with
with
(% of respondents)

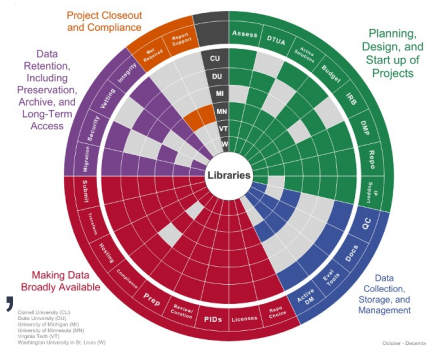
Developing Materials Transfer and/or Data Use Agreements	64.4%
Ensuring data security when appropriate (e.g., PHI/HIPAA)	39.5%
Determining intellectual property and copyright considerations	29.9%
Evaluating data security needs	25.7%
Preparing IRB protocols and informed consent for data sharing	25.4%

Research Libraries provide support for public access to research data in the following phases:

- Planning, Design, and Start Up of Projects
- Making Data Broadly Available
- Data Retention, Including Preservation, Archive, and Long-Term Access

Developing support for Data Collection, Storage, and Management

Less support provided in Project Closeout and Compliance



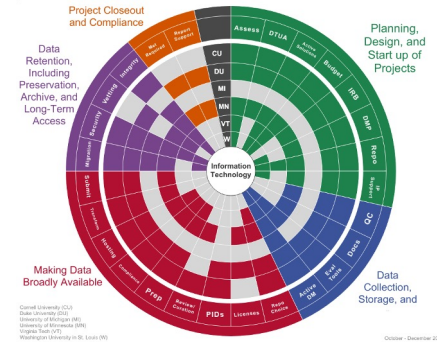
Libraries – Services & Infrastructure for Public Access to Research Data ([LINK](#))

IT Offices provide support for public access to research data across all phases

- Planning, Design, and Start Up of Projects
- Data Collection, Storage, and Management
- Making Data Broadly Available
- Data Retention, Including Preservation, Archive, and Long-Term Access

Less support provided in

- Project Closeout and Compliance



Information Technology Offices – Services & Infrastructure for Public Access to Research Data ([LINK](#))

Takeaways

Researchers are still adjusting to requirements

- Overall, researchers are doing the majority of data sharing activities on their own
- Researchers have always had to manage their data, the shift comes from having to prepare it for others to find, access, interoperate and reuse
- Researchers do need help in understanding what is required and connecting to services

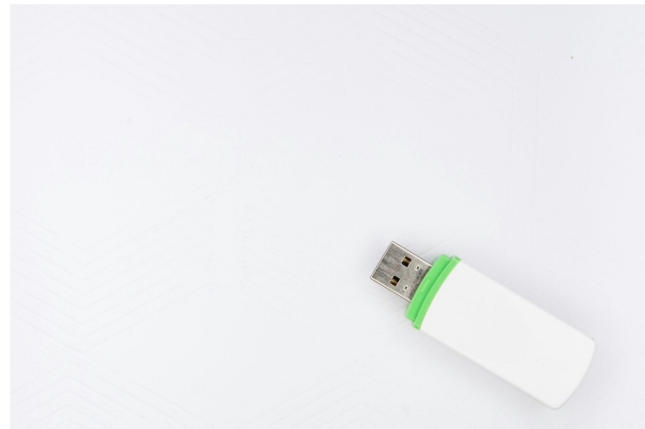


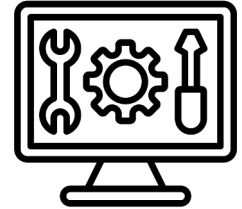
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Administration / Service Units are also still adjusting

- Many of the services / support provided by the institution are compliance based, focused on minimizing risk, and center the needs of the institution.
- Library services are generally focused on the needs of the researcher, but researchers still perform many of the activities offered by libraries solely by themselves.
 - They may not know about our services
 - They may not believe that we have the necessary depth of expertise
 - We may not have the capacity
 - We may have empowered researchers to be self-sufficient.

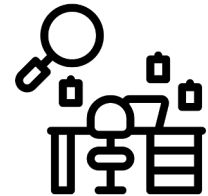
Opportunities for Underutilized / Underdeveloped Services

- For IT Departments
 - Data security services
 - Creating quality control mechanisms or procedures for infrastructure
- For Central Research Offices
 - Ensuring funding agency requirements for data sharing have been met



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Opportunities for Underutilized / Underdeveloped Services

- For Research Institutes & Specialized Centers
 - May not be available to provide outside services
 - May serve as models for providing support services
- For Libraries
 - Assistance with making decisions on which data to share
 - Selecting or applying licenses for reuse
 - Adopting PIDs



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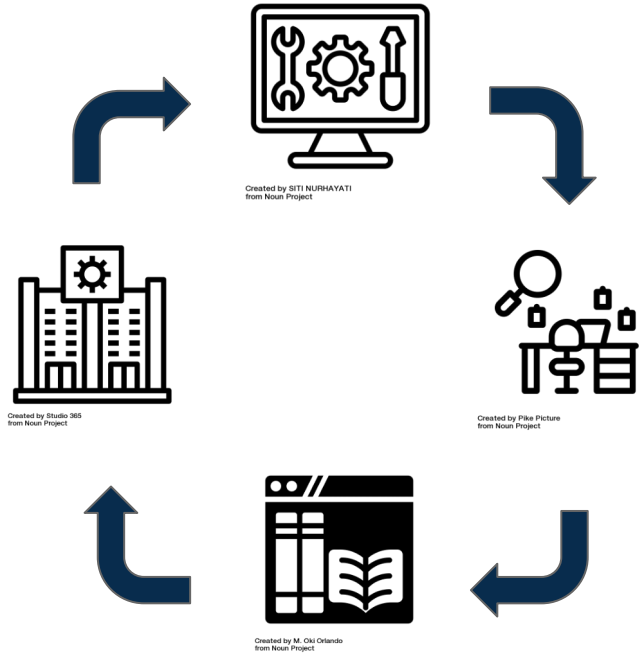


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Opportunities for Cross Campus Collaboration

- Developing recommendations, policies and practices for deaccessioning / removing research data at the institution
- Identifying and budgeting for the costs of data management and sharing
- Training / Education



Models of Institutional Cooperation on Data

- Examples of Cooperative Institutional Initiatives
 - [Michigan's Research Data Stewardship Initiative](#)
 - [Duke's Research Data Initiative and Research Data Policy](#)
- Examples of Cooperative Institutional Service Models
 - [Cornell's Research Data Management Support Group](#)
 - [Minnesota's Institutional Cyberinfrastructure Group](#)



Duke



Case Study: University at Buffalo



- Institution Wide Working Group on Data Sharing
 - Storage and Support Infrastructure
 - Graduate Students
 - Data Repository & Services
 - Culminated in a proposal / request to the Provost
- Sponsored Program Services (SPS) Reorganization
 - Less centralization
 - Closer to academic departments
 - Training
- UB will be a part of RADS 2 funded by the IMLS



RADS Research Team

- Jake Carlson, University Libraries, University at Buffalo
- Joel Herndon, Duke University Libraries
- Alicia Hofelich Mohr, LATIS, University of Minnesota
- Lizhao Ge, George Washington University/Association of Research Libraries
- Lisa Johnston, Office of Data Management and Analytics Services, University Wisconsin, Madison
- Wendy Kozlowski, Cornell University Library
- Jennifer Moore, University Libraries, Washington University in St. Louis
- Jonathan Petters, University Libraries, Virginia Tech
- Cynthia Hudson Vitale (PI) & Shawna Taylor, Association of Research Libraries

Contact Cynthia Hudson Vitale with specific questions: cvitale@arl.org

RADS info & reports: <https://www.arl.org/realities-of-academic-data-sharing-rads-initiative/>