A Data Management Plan (DMP or DMSP) details how data will be collected, processed, analyzed, described, preserved, and shared during the course of a research project. A data management plan that is associated with a research study must include comprehensive information about the data such as the types of data produced, the metadata standards used, the policies for access and sharing, and the plans for archiving and preserving data so that it is accessible over time.

Ensuring that Data Management and Sharing Plans (DMSPs) are well-prepared and compliant is an essential component for successful sponsored research proposals. To assist Principal Investigators (PIs), the Office of Sponsored Programs (OSP) offers targeted guidance throughout this Help Guide to Investigators for the development of the DMSP. The goal of this Guide is to provide guidance and resources to PIs that will enable them to create effective, compliant, thorough DMS Plans that will ensure their research data is safe, will be properly documented and appropriately available for use by other researchers in the future.

It is highly recommended that those applying for funding from US Federal agencies (ie DoD, DoEnergy, NASA, NIH, NIST, NOAA, NSF), use the DMPTool. The DMPTool is a free, open-source application that helps researchers to create data management plans, and it provides guidance for many of the Federal agencies' requirements, along with links to additional resources, services, and help. SBU is an 'affiliated institution' for the DMPTool which means that SBU users, using their "stonybrook.edu" email address, can create a personalized dashboard to see projects that they've created using this tool.

## **RESPONSIBILITIES AND HOW TO GET HELP**

The PI managing the project is fully responsible for preparing the Data Management and Sharing Plan, which includes:

- > assessing the sensitivity of the data throughout the project's lifecycle;
- > determining who has responsibility for various research data related activities;
- > identifying DMSP costs to be included in grant budgets;
- preparing IRB protocols and informed consent language for data sharing (if applicable);
- > determining storage solutions for active research data; and
- <u>selecting an appropriate repository</u> (or repositories) for making research data broadly available.

To assist PIs in that assessment, OSP advises that PIs:

Consult with the <u>University Libraries</u>. Librarians are available to review your data management and sharing plans, and provide consultations as needed (please send requests to <u>dataservices@stonybrook.edu</u>). Additionally, University Libraries offer

web-based resources including research guides on various aspects of research data management;

- Consult with the Research Computing, Informatics, and Innovation (RCI2) team under the leadership of <u>David Cyrille</u>, Assistant Vice President/Chief Research Information Officer, to ensure appropriate measures are in place to prevent unauthorized access to data. To request consultation, email SBMIT Research Services@stonybrookmedicine.edu.
- Consult with your <u>OSP Specialist</u> early in the development of your externally funded sponsored proposal to determine the specific data management and sharing plan requirements of the funding agency.
- Be aware of <u>external requirements</u> and limitations that may apply to the management of the data, either per IRB documentation, contractual/grant obligations, sponsor guidelines, or a regulatory mandate.

Note(s): Data management responsibilities extend beyond just the PI or researcher(s) who create or collect the data. Various parties involved in the research process (including collaborators) must play a role in ensuring good data stewardship throughout the life of the project. It is essential that roles and responsibilities of data management be clearly defined and assigned, rather than assumed

## Budgeting for Data Management & Sharing (DMS) Costs

Inclusion of DMS costs demonstrates to the Sponsor that an Investigator has given thought to how much time is needed to achieve all aspects of the proposed research, including those aspects related to data management and sharing. The majority of Federal Sponsors allow for DMS-related reasonable, allowable costs to be budgeted, such as:

- Salaries (% of time/effort) for personnel involved in data management and sharing are typically allowable, provided they are directly related to the grant's objectives. This includes data managers, scientists, and training costs for these personnel.
- Costs for purchasing or licensing software for data storage, management, and analysis (e.g., databases, statistical software).
- Data curation costs are expenses associated with preparing data into a form that others can use.
- Preparing metadata to foster discoverability, interpretation, and reuse
- Local data management considerations, such as unique and specialized information infrastructure necessary to provide local management and preservation (for example, before deposit into an established repository).
- Preserving and sharing data through established repositories, such as data deposit fees

Identifying data management and sharing costs effectively requires a thorough understanding of your research project's needs and the specific requirements of your funding agency. <u>OSP</u>

<u>Specialists</u> are available to assist PIs in interpreting and navigating Sponsor/Funding Opportunity requirements.

## **RECOMMENDED DMSP PREPARATION GUIDANCE DURING THE GRANT LIFE-CYCLE**

#### At Proposal Stage

- Determine if the Sponsor/Funding Opportunity require the submission of a DMSP at time of proposal submission (ie <u>NIH</u>, <u>NSF</u>, <u>DoEnergy</u>)
- Check the specific guidelines and requirements of your funding agency (e.g., <u>NIH</u>, <u>NSF</u>):
  - To determine content/essential elements/required headings/key components to include;
  - For requirements or recommendations regarding the DMSP length;
  - To ensure all identified costs are allowable and appropriately justified;
- Faculty are encouraged to use the <u>DMP Tool</u> to draft their Plans. The DMPTool provides a click-through wizard for creating a DMP that complies with many funder requirements. It also has direct links to funder websites, help text for answering questions, and data management best practices resources. The DMPTool allows PIs to add collaborator(s) to their plan as co-owner(s), or grant editor or read only permissions. They can do this on the "Collaborators" tab for their plan. Enter an email address in the field to "Invite collaborators," select the desired level of permissions, and click "Submit" to send an email invitation.
- Consult with appropriate campus units such as the <u>University Libraries</u> or the Research Computing, Informatics, and Innovation (RCI2) team. They will strive to provide the needed support and guidance when contacted with advance notification. See Tips for Successful Submission for recommended timelines. Note that comprehensive support for the development of your DMSP will most likely **not** be available from these areas if given less than 5 business days notification.
- Finalize the DMSP in the Sponsor specific format and upload/attach where directed in the Proposal Application (ie NIH ASSIST/Research Plan Tab; NSF Research.gov)

## At Just-in-Time (JIT)/Pre-Award Negotiation

- Sponsors often request time-sensitive information from applicants for awards that are likely to be funded.
- PIs will be notified via email when JIT/Pre-Award Negotiation is needed. Upon receipt of such correspondence, PIs <u>MUST</u> inform their <u>OSP Specialist</u>. The OSP Specialist will provide comprehensive Sponsor specific guidance as well as the Institutional policies/procedures applicable to the specific request (i.e. if the request includes HS, coordination with the Office of Research Compliance).
- The OVPR's data management and sharing plan compliance system involves coordination with the Office of Research Computing, Informatics, & Innovation (RCI2). The Assistant Vice President/Chief Research Information Officer (or a designated team member) will conduct institutional compliance reviews of the PI's DMSP at key stages, including Just-in-Time (JIT) and during the Progress Report if changes to the existing

DMSP are proposed. If suggested edits to ensure institutional compliance are identified, the PI will be contacted by a team member of RCI2.

• Once the plan is finalized, the PI will coordinate submission of the DMSP to the Sponsor with their OSP Specialist.

#### Life of Award

- Manage and share data as described in the approved DMS Plan.
- Provide updates on data management and sharing activities in progress reports (frequency of which determined by terms and conditions of award).
- If plans change over the course of the project, work proactively with your <u>OSP Specialist</u> to obtain Sponsor prior approval of modifications.
  - When PIs determine that they need to update/modify their DMS Plan, these should be submitted to OSP via myResearch Awards as a formal request to the sponsor (e.g. NIH) for changing their plan.

## End of Award/Publication

- Review the Terms and Conditions of your award to determine if there are time restrictions for publication of Data.
  - For example, NIH encourages scientific data to be shared as soon as possible, and no later than the time of an associated publication or end of the performance period, whichever comes first. NIH also encourages researchers to make scientific data available for as long as they anticipate it being useful for the larger research community, institutions, and/or the broader public.

#### How Long to Share/Maintain Data

 At a minimum, 3 years following the closeout of a grant or contract agreement. Contracts may specify different time periods. PIs should contact the Research Computing, Informatics, and Innovation (RCI2) team to confirm storage capabilities and length of time.

## **OTHER GENERAL GUIDELINES**

# VISIT THE DATA MANAGEMENT AND SHARING PLAN OSP SPONSOR INFO WEBPAGE FOR HELPFUL TIPS AND RESOURCES.

#### SPONSOR SPECIFIC RESOURCES

- → NIH
  - Data Management & Sharing Policy Overview
  - Data Management and Sharing Plan Samples
  - <u>NIH Institute and Center Data Sharing Policies</u> Be certain to check the main website of the Institute/Center for the most recent changes/updates.
- → NSF
  - ◆ PAPPG 24-1 <u>Data Management and Sharing Plan</u> Guidance
  - Preparing Your Data Management and Sharing Plan
- → Department of Energy

- Suggested Elements for an EERE Data Management Plan
- DOE Requirements and Guidance for Digital Research Data Management
- → Department of Defense
  - <u>Data Management Plan Template</u> (check Notice of Funding Opportunity prior to use)
- → NASA
  - ROSES Open Science and Data Management Plan
- → NOAA
  - Data Sharing Directive for NOAA Grants, Cooperative Agreements, and Contracts