



The IMLS-funded MAP pilot, organized by the California Digital Library and the Association of Research Libraries, explored how machine-actionable data management plans (maDMPs) could streamline infrastructure, coordination, automation, and research data stewardship.

Deepening Understanding of Institutional Processes



INTRODUCTION

The Pennsylvania State University (PSU) explored how leveraging information within maDMPs could improve communication across campus units and strengthen institutional research data workflows. The project aimed to surface broad challenges in data stewardship and to identify opportunities for collaboration and coordination across departments.



SOCIAL INTEROPERABILITY

A two-day cross-departmental workshop was held to share processes, create a stronger network among stakeholders, and explore how maDMPs could enhance communication, streamline workflows, and support scalable infrastructure. One of the key lessons was that technical integrations must be preceded by strong cross-campus relationships.

Understanding the distinct roles, workflows, and challenges of each unit was seen as critical to ensuring successful implementation.

Key institutional needs identified through the workshop included:

- Continued dialogue across units to support engagement and information sharing
- Improved cross-unit collaboration, including shared access to proposal and award information and the creation of a research data advisory committee
- Enhanced IT support to integrate maDMPs into research administration systems
- A university-wide data stewardship strategy to support long-term adoption



Figure 1: Photographs of charts and mapping from PSU's workshop.



PROCESS IMPROVEMENT

To explore the technical potential of maDMPs, PSU began to develop a prototype notification system using the DMP Tool API. The system aimed to trigger alerts for human subjects research, storage requirements, and institutional repository usage. However, they were limited by the DMP Tool's API functionality at the time, including a lack of access to unpublished DMPs.



FUTURE PLANS

PSU plans to explore AI and text mining methods to extract key information from DMP narratives. They also intend to strengthen their campus wide research data stewardship strategy, building on connections and lessons learned through this project.



STRATEGIC RECOMMENDATIONS FOR OTHER INSTITUTIONS

For institutions looking to undertake similar initiatives, PSU recommends:

1. Begin with stakeholder engagement to ensure alignment on goals before diving into technical development.
2. Develop a small-scale prototype to test feasibility and resolve any challenges early.
3. Foster collaboration and shared understanding across campus units to ensure a smooth transition to future technical implementations.



TEAM

The Penn State MAP Pilot project team created a feedback loop between campus units managing research data and the tool developers at CDL. The team included:

Briana Wham, Director of Research Data Stewardship

Courtney Karmelita, Chief of Staff, The Office for Research Protections / Executive Director, Ethical Research and Outreach / Research Integrity Officer

John Hanold, Associate Vice President for Research / Director of Research Administration Services

Michael Stedelin, Senior Director for Strategic Optimization and IT Solutions

Paulina Kryz, Data Modeling Analyst, Office of Research Information Systems

Sarah Matthews, Research Integrity and Quality Coordinator