Supporting Public Access to Research Data at Iowa State University

Office of the Vice President for Research, University Library, Office of the Chief Information Officer
Iowa State University

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The importance of sharing scholarly findings with the public is a core principle at Iowa State University, both as a research university and a land grant institution. It is part of a long-standing tradition of open inquiry, which encourages debate and public scrutiny of research findings. Historically, public access to scholarly products involved researchers sharing research outcomes via publications, presentations, and discussions at scholarly workshops and conferences. Today, there is an increasing emphasis on ensuring publications and data from research projects are made publicly available whenever feasible and appropriate.

This trend has been growing over several years, manifested via advances in sharing of publications via PubMed and disciplinary preprint and data repositories. In addition, the growth of the internet has ushered in a new era of collaboration that is expanding beyond pubic access to scholarly products to include software and other kinds of services that facilitate collaboration and knowledge generation. As these changes have occurred, federal and nonprofit research sponsors have begun requiring researchers to make publications and data publicly available when risks related to confidentiality, proprietary information, or national security can be mitigated. Sponsors view public sharing as increasing the impact of their investments and promoting rigor and transparency in scholarly research. Researchers also stand to benefit from more extensive exposure through public access to their scholarly products in high quality venues.

Since 2012, ISU has supported open access to scholarly publications via the ISU Digital Repository and services provided by University Library staff. Campus workshops have spurred increasing participation, and ISU's repository enjoys one of the highest participation rates in the country. In addition, the Faculty Senate recently passed a resolution promoting public access to publications and the development of policies and guidelines to assist campus in embracing this practice.

Support for public sharing of research data is less well developed at Iowa State and in the broader research community. However, agencies, professional societies, publishers, and other organizations are working to create an ecosystem to provide guidance, workflow tools, repositories and other services to enable sharing of research data. To increase support for public access to data and other scholarly products, the Office of the Vice President for Research (OVPR), University Library, and Office of the Chief Information Officer (CIO) are beginning to develop infrastructure to support robust data sharing at ISU, beyond the current assistance provided for data management plans. For example, a team is implementing a pilot data repository service to store, share and manage research outputs, and developing guidance on using this service. In addition, we have invited the Center for Open Science to present a workshop on the Open Science Framework to support research workflows, as well as a lecture on how sharing scholarly products supports rigor and reproducibility in scholarship.

These efforts represent a start, but there is much more to be done to support researchers in producing data that can be shared, understood, and enable future reuse and public scrutiny. In particular, ISU needs to consider how it supports research practices that enable sharable data and documentation, revisions to institutional policies and guidelines, understanding of and compliance with sponsor requirements, and an information infrastructure that supports data sharing.

In order to guide future development, a Data Sharing Task Force is being established to provide guidance and develop a framework that will assist staff from CIO, University Library, and OVPR in implementing the services, systems, and policies necessary to support data sharing. The following describes the charge and initial activities of the task force.

Data Sharing Task Force

Sponsors: Vice President for Research (VPR), University Library Dean, Chief Information Officer (CIO)

Co-chairs: Associate VPR, Associate Dean of Library, Associate Director, Information Technology Services

Members:

- Faculty (from diverse fields): Agronomy/Genetics, English, Economics, Materials Science Engineering, Statistics
- Office of the CIO: Director of Information Systems (oversees research IT), Director of Data Security
- Office of Intellectual Property and Technology Transfer: Director
- Office of Research Ethics: Compliance Director, COI/Export Control Director
- Office of Sponsored Programs Administration: Associate Director (Awards)
- Office of the Vice President for Research: Associate VPR for Data-related initiatives, Associate VPR for Compliance and Security-related activities
- University Counsel: Research Counsel
- University Library: Associate Dean, ISU Repository staff member

Charge: The Data Sharing Task Force (DSTF) is charged with collectively considering the set of actions and guidance needed to support researchers and the institution in providing public access to research data. Preliminary discussions have identified several areas in the data life cycle that need to be discussed, all of which require the perspectives of multiple stakeholders in order to produce a system that encourages development of and access to quality data and that reduces burden to the degree possible for researchers and the institution. From the research process perspective, aspects that need to be addressed include proposal development to designing and conducting a study, evaluating the data products for sharing, and the actual dissemination of data and documentation. From a systems perspective, we need to consider support for quality research practices, polices related to data sharing and credit, awareness of and compliance with sponsor requirements, processes and workflows, and the information systems to support these processes and data sharing.

Deliverables:

There is an immediate need to support pilot data repository development, which serves as a testbed to understand various elements of the systems we are trying to create at ISU. The testbed will provide an initial focal point to begin discussions of what is required in providing public access to data, including a research data policy.

We anticipate discussions on specific areas to occur in smaller groups, with proposals being discussed by the full task force as groups develop them. Potential groups are outlined below.

In general, we anticipate staff on the task force to accomplish most of the work to create proposed approaches and report content. To reduce workload for faculty, they will largely serve as advisory and provide critiques to ensure appropriateness and impact of proposed policies, procedures and systems. However, some topics will be better expressed by faculty representatives, e.g., promoting a faculty culture around data sharing.

Task force meetings will likely occur every 2-4 weeks, depending on the plan developed in the initial meeting of the task force.

Based on these discussions and experiences during the pilot implementation of the data repository, the group will develop recommendations and a draft report on the next phase of activities.

Policy	Research data, repository	Research counsel, IT systems lead, IP lead, AVPR for research ethics
Compliance	Awareness and prevention, monitoring, noncompliance	Research ethics and sponsored programs staff
Research practice	Understanding requirements, rigor and reproducibility, workflow and documentation	Faculty
Systems and services	Systems (repository, master record, Kuali, workflow)	Library, IT security lead, AVPR for research ethics

Postscript

Over the following two years, the Data Sharing Task Force (DSTF) guided the development of Iowa State University DataShare repository and associated draft research data policies, workflows, training and other resources. Current information is available at https://instr.iastate.libguides.com/datashare. In 2020, a memo was developed by the DSTF that outlined the next phase of development to be done and the DSTF's work was considered complete.