



Town Hall: Building the Future of Research Data Management at Western

What is Research Data Management?

- The organization and maintenance of data through the research process
- Includes
 - Setting up plans and processes before starting data collection
 - Keeping track of, documenting, and backing up data during the research project
 - Archiving or publishing data after the project has completed
- If you collect or use data, you do RDM

Tri-Agency Data Management Policy

- Policy includes 3 requirements:
 - Institutions: Institutional Strategy
 - Researchers: Data Management Plans
 - Researchers: Data Deposit
- DMP requirements being rolled out gradually
 - some grants will require them, others may not

Institutional Strategy Requirement

- The main point of the strategy is to outline how the institution will enable researchers to deal with the other two aspects of the Tri-Agency policy, the requirements for data management plans and data deposit

Data Management Plans

- A DMP is just that – a plan for managing data.
- In grant applications, a DMP is a part of the research proposal package that demonstrates that the researcher has a sensible plan for managing their data.
- Data management plans are not arcane or complex - they primarily are concerned with the technicalities of what data you are going to collect, where you are going to put it, and how long you are going to keep it around for.

Data Management Plan:
Arcane funding requirement or
sensible research practice?

Yes.

Data deposit requirement

- “In cases where journal publications, pre-prints and other research outputs arise from agency-supported research, researchers may be required to deposit research data and code in an appropriate repository.”
- Goals:
 - Ensure proper use of public funds
 - Facilitate reproducibility of results
 - Facilitate data sharing
- Deposit needs to be addressed in the DMP – either how you will do it or why not
- Deposit is not the same as open sharing



Documentation

- Ideally, you should have sufficient documentation on your deposited data that a random stranger who is knowledgeable in your field would be able to
 - Follow and understand the steps you took to collect your data in the first place and the decisions you made along the way
 - Take your original data file and reproduce the changes you made to it to get your data into its final form
 - Run the analyses that produced your final publishable results (i.e. code can be a type of metadata)
- DMP needs to demonstrate that this has been considered

Data which supports publication

- A researcher may collect dozens of variables but write a paper that only makes direct use of a small subset of them. This subset is what is meant by “data which supports research outputs”
- You don’t have to share the full dataset when you’ve only analyzed a part of it

Tri-Agency on Data Sharing

- This is what the Policy says about data sharing:

Grant recipients are not required to share their data. However, the agencies expect researchers to provide appropriate access to the data *where ethical, cultural, legal and commercial requirements allow*, and in accordance with the FAIR principles and the standards of their disciplines.



Concerns

- Reasons data can't be shared may include ethical considerations, indigenous data sovereignty, data ownership, or intellectual property
- If you as a researcher think in good faith that there is a significant ethics, security or ownership issue that makes sharing inadvisable... **you are probably right**. It's your data, you know it best.
- Explain the reasoning in your Data Management Plan and outline how you will handle preservation of your data without sharing or explain why preservation is inadvisable.

Western's Response to the Policy



working group, development of draft strategy, future plans

Background: RDM at Western

- 2017: Western Libraries and Western Research established a RDM subcommittee
- Conducted survey of faculty RDM practices along with other institutions across Canada
- RDM committee issued [report](#) that identified specific needs: education on data management plans, software and hardware support for researchers, establishing a data sharing culture at Western, and providing venues for long term data storage
- To better support RDM a Research Data Management was hired in 2019. Committee evolved into the Research Data Infrastructures working group, responsible for developing RDM strategy and supports

Research Data Infrastructures Working Group

- Western Libraries:
 - Kristi Thompson, Research Data Management Librarian (Co-chair), Western Libraries
 - Elizabeth Hill, Data Librarian (Co-chair), Western Libraries
 - Robert Glushko, Associate Chief Librarian
- Western Research:
 - Erika Basile, Director, Research Ethics and Compliance, Western Research
 - Katie Big-Canoe, Indigenous Research Officer, contributed on Indigenous data considerations
 - Jacqueline Burkell, Associate Vice President Research, Western University
 - Lisa Cechetto, Executive Director
 - Natalie Wu, Director, Research Services
- WTS:
 - Mark Daley, Chief Digital Information Officer
 - Brent Fowles, Director of Cybersecurity and Business Services, Western Technology Services
- Colin Couchman, Chief Data Officer,
- Rupinder Mann, Program Manager of Research Informatics, Lawson Research Institute – Lawson liaison
- Janis Cardy, Associate Dean of Research, Faculty of Health Sciences, former member, managed testing of DMP template

Draft Strategy – general principles

- Living strategy - strategy will evolve as needs and circumstances evolve
- Strategy is in response to Tri-Agency requirements for funded research, but supports are developed for benefit of *all members of the Western community*, not just funded researchers
- Open communication – Strategy will live on a public web site which will also provide information about all aspects of RDM at Western.
- Strategy includes provision for further consultation with members of the Western community

Indigenous data considerations

- Data related to research by and with Indigenous peoples needs to be managed in a way that reflects their sovereignty and right to self-determination.
- We acknowledge our institutional responsibility to respect and protect Indigenous knowledge and data, and to build capacity for doing this work.
- We will work with our Indigenous partners to explore how we can best support indigenous Data Sovereignty as this living strategy evolves

Ethical and legal considerations

- Data from or about human subjects needs to be treated with respect and ethical and confidentiality considerations will generally override other RDM concerns in the case of a conflict.
- Western University's two Research Ethics Boards, advised as needed by the Research Data Management Librarian, will continue to oversee all aspects of ethics as they relate to research data.
- Western Research and WORLDiscoveries will advise on commercial obligations and any legal questions will be referred to the Office of the University Legal Counsel.

Oversight and Review

- Institutional Strategy is a living document and will be reviewed and updated on a regular basis as needs, practices, research infrastructure and tools and policies evolve.
- Current version is a draft and Strategy will not be considered complete until consultations with stakeholder groups have been done.
- Oversight of this strategy will ultimately rest with both the Vice-President (Research) and the Provost & Vice-President (Academic).

Community of Practice

- Form a Community of Practice on RDM at Western University
- The Community of Practice will provide a forum for sharing information on emerging RDM needs and practices and will advise on and help direct the development and deployment of RDM supports
- Open to researchers, faculty and staff from across Western. Members of the Research Data Infrastructures group will form the nucleus of the CoP and representatives from Western Libraries will provide leadership and coordination.

Training and consultation

- Western Libraries will continue to provide training and support for RDM through workshops and one-on-one consultation by appointment.
 - We assist with writing data into grants and have joined research teams to provide integrated support
- Many workshops are targeted at newer faculty and graduate students and introduce the basic principles of RDM, explain Tri-Agency policy requirements, and demonstrate tools and resources for RDM available at Western.
 - E.g. popular workshop on best practices for handling data in Excel
- Recordings of most workshops are online and we plan to develop improved, interactive online training modules

Support for data deposit and sharing

- Support for sharing and archiving non-sensitive data is offered through our institutional data archive [Borealis](#), hosted on Canadian servers at Scholar's Portal.
- Western Libraries will consult on and refer researchers to other options, which include Canada's Federated Research Data Repository (FRDR) as well as disciplinary options
- In consultation with Research Ethics, Western Libraries has approved a pilot project to provide local storage for sensitive data that needs to be archived without sharing
- Infrastructure and support for active data management will be implemented by Western Technology Services under the direction of the Chief Digital Officer.

DMP Assistant

- Platform for writing DMPS, based on code from the Digital Curation Centre tool, and uses the DMP Roadmap codebase developed by DCC and the University of California.
- In essence a form which asks the user questions about their data and how they will handle it and tries to guide them to “good” answers
- Allows administrators to develop custom templates to guide creation of a DMP, also provides a default template
- Developed with Canadian policy and funding requirements in mind

Western DMP simplified template

- User testing of default template at Western revealed issues:
 - Too much RDM / Library jargon
 - Don't know available options at Western and beyond
 - Annoyed at length of form and redundant questions
 - No guidance on what a “good” answer looks like, leading to overexplaining, which increases problem of length

Original question: storage location

How and where will your data be stored and backed up during your research project?

Guidance

Data may be stored using optical or magnetic media, which can be removable (e.g. DVD and USB drives), fixed (e.g. desktop or laptop hard drives), or networked

New question

How and where will your data be stored and backed up during your research project?

- Stored and backed up through OWL, Teams, OneDrive, WTS-provided network / mapped drives, or unit/departmental server
- Other Western-provided service e.g. institutional RedCAP (Please explain below)
- Stored through Compute Canada / Digital Research Alliance of Canada, SHARCNET, or other national or provincial service (please explain below)
- External shared service e.g. Dropbox, Google Drive (please specify)
- Local hard drive, disk or memory stick (please describe and explain how data will be kept secure)
- Other (please describe and explain how data will be kept secure)

Further customization

- Separate templates can be developed for specific fields, types of research etc. with default options and guidance which reflect best practices in those areas
- Other institutions have developed DMP templates for:
 - Advanced Research Computing
 - Systematic Reviews
 - History and the Humanities
 - Neuroimaging
 - ...
- Experts willing to advise us on developing additional templates are welcome to reach out!

**Read and comment on
Western's draft RDM Strategy:
<http://rdm.uwo.ca/>**