Institutional Research Data Management Strategy

ACCOUNTABILITY	
Office of Accountability	Vice President Academic and Research
Approved By	
MODIFICATION HISTORY	
January 2023	Version 1 written and revised by library staff
February 2023	Version 2 revised in consultation with community stakeholders

Background and Purpose

As a postsecondary institution eligible to administer NSERC and SSHRC funds, The King's University is required to create an institutional research data management strategy. [1]

While The King's University is in the early stages of services, repositories, and necessary documentation for an institutional Research Data Management Strategy, it is committed to supporting the following strategy and helping researchers achieve good research data management practices.

The purpose of the Institutional Research Data Management (RDM) Strategy is to foster a culture and develop the capacity to support researchers in adopting responsible RDM practices, in part by following the FAIR Principles (findable, accessible, interoperable, and reusable) and CARE Principles for Indigenous Data Governance, with considerations for collective benefit, authority to control, responsibility, and ethics.

This strategy is a living document and will be reviewed and adapted in pace with the evolving needs and policies in terms of research data management. The support services described in this strategy will be provided to all research activities.

The University will use this document to develop and review services and policies. The roadmap portion of the document will be reviewed annually, and indicators of success will be developed.

Indigenous Data Sovereignty

The King's University, along with the Tri-Agency, affirms that Indigenous peoples and communities have the right to control data from and about them: "Data related to research by and with the First Nations, Métis, or Inuit whose traditional and ancestral territories are in Canada must be managed in accordance

[1] Government of Canada. (2021, March 15). *Tri-Agency Research Data Management Policy*. https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy

with data management principles developed and approved by these communities, and on the basis of free, prior and informed consent."[2]

Research by and with Indigenous researchers and communities will embody and exemplify Indigenous data management practices that support Indigenous data sovereignty.

Definitions

Research Data – Data that is used as primary sources to support technical or scientific enquiry, research, scholarship, or artistic activity, and that are used as evidence in the research process and/or are commonly accepted in the research community as necessary to validate research findings and results. All other digital and non-digital content have the potential of becoming research data. Research data may be experimental data, observational data, operational data, third party data, public sector data, monitoring data, processed data, or repurposed data.[3]

Research Data Management (RDM) – Data management refers to the storage, access, and preservation of data produced from a given investigation. Data management practices cover the entire lifecycle of the data, from planning the investigation to conducting it, and from backing up data as it is created and used to long-term preservation of data deliverables after the research investigation has concluded. Specific activities and issues that fall within the category of data management include file naming conventions; data quality control and quality assurance; data access; data documentation (including levels of uncertainty); metadata creation and controlled vocabularies; data storage, data archiving and preservation; data sharing and reuse; data integrity; data security; data privacy; data rights; and notebook protocols (lab or field).[4]

Research Data Management Plans[5] - DMPs are living documents that can be modified to accommodate changes throughout the course of a research project. The content and length of DMPs depend on the research project, but all DMPs should describe:

- how data will be collected, documented, formatted, protected and preserved;
- how existing datasets will be used and what new data will be created over the course of the research project;
- whether and how data will be shared; and
- where data will be deposited.

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[2] Government of Canada. (2021, March 15). *Tri-Agency Research Data Management Policy*. https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy

[3] Dalhousie RDM Advisory Committee. (2021). *Institutional Research Data Management Strategy (No. 7).* https://cdn.dal.ca/content/dam/dalhousie/pdf/library/ResearchDataManagement/Dalhousie%20Institutional%20RDM%20Strategy%20V7.pdf.

[4] Dalhousie RDM Advisory Committee. (2021). *Institutional Research Data Management Strategy (No. 7).* https://cdn.dal.ca/content/dam/dalhousie/pdf/library/ResearchDataManagement/Dalhousie%20Institutional%20RDM%20Strategy%20V7.pdf.

[5] Government of Canada, I. (2021, March 15). *Tri-Agency Research Data Management Policy. Innovation, Science and Economic Development Canada.* https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy

DMPs also indicate who is responsible for managing the project's data, describe the succession plans in place should that person leave the research team, and identify the data-related roles and responsibilities of other team members where appropriate. Finally, DMPs outline ethical, legal and commercial constraints the data are subject to, and methodological considerations that support or preclude data sharing.

Importance of Research Data and Research Data Management

Research data is a significant asset in pursuing academic excellence and is defined by the Tri-Agencies as, "data that are used as primary sources to support technical or scientific enquiry, research, scholarship, or creative practice, and that are used as evidence in the research process and/or are commonly accepted in the research community as necessary to validate research findings and results. Research data may be experimental data, observational data, operational data, third-party data, public sector data, monitoring data, processed data, or repurposed data."[6]

RDM is essential because it allows researchers to securely preserve and use their research data throughout their research projects, reuse it throughout their careers, collaborate with other researchers, and, when appropriate, share it to allow future research and the growth of knowledge. RDM increases research visibility, facilitates collaboration, protects intellectual property, enables the reuse and verification of research results, and supports a culture of reproducibility.

Good RDM practices makes research better and accelerates the expansion of knowledge.

The King's University is committed to supporting our research communities in navigating the many complex factors involved with RDM and creating an institutional strategy that supports RDM.

Oversight and Review

The initial draft of the strategy was written by Rebekah Prette and Sarah Den Boer, with feedback and consultation with faculty and staff. The strategy will continue to be revised yearly by the Research Data Management Committee in consultation with the King's community.

Oversight of this strategy resides with the Research Data Management Committee; the chair of this committee is Sarah Den Boer. The Research Data Management Committee is being formed but will be comprised of representatives from areas most affiliated with the oversight and maintenance of research data management. The membership shall consist of representatives from the following areas:

- Research Committee
- General Faculty Council
- Research Ethics Board
- Information Technology Services
- Records Management
- Library Services

[6] Government of Canada. (2021, March 15). *Tri-Agency Research Data Management Policy. Innovation, Science and Economic Development Canada.* https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy

The Vice President Academic and Research will receive updates on the work and progress of the committee and will have final approval for any final reports or strategies before implementation.

Any questions about this strategy can be directed to Sarah Den Boer at Sarah.DenBoer@kingsu.ca.

Road Map

Stage 1

1.1 Institutional Readiness

Objective	Task	Resources Required	Timeline
Form an RDM Advisory Committee	Form an RDM Advisory Committee with stakeholders, including faculty, IT staff, and library staff.	People are required to meet to develop the strategy and plans moving forward	1 – 3 months
Conduct an inventory of institutional data assets and data management practices on campus and include aspects missing in the next version of this strategy	Use the following models to help assess institutional readiness for RDM: • the RDM Maturity Assessment Model in Canada (MAMIC) • The Research Infrastructure Self-Evaluation Framework • SPARC model	People are required to fill out the charts, create surveys and analyze survey data Financial resources may be required to address gaps	6 months – 1 year
	Identify existing RDM supports and services: ■ Data storage ■ Data deposit ■ Long-term preservation storage ■ Data access and sharing ■ Data retention ■ Data and metadata quality and standards ■ Privacy, ethical, and intellectual property considerations ■ Sensitive data considerations ■ Indigenous data sovereignty considerations		
	Determine if there are faculty practicing RDM strategies who can help promote RDM with other faculty		
	Undertake a survey of current data management practices on campus by researchers including approximate volume and variety of data		

1.2 RDM Tools

Adopt Portage's DMP Assistant tool	Adopt Portage's DMP Assistant tool to assist with the creation of data management plans.	Financial resources will be required	6 months- 1 year

Join RDM organizations	Explore joining repositories like Borealis Dataverse Repository service and/or FRDR	Financial resources will be required	6 months- 1 year

1.3 RDM Awareness

Develop awareness plan, materials, and resources	Create a subject guide with videos on RDM best practices and any other relevant resources	People are required to continue to develop training materials Financial resources may be required to hire and/or train in the areas of metadata and data anonymization	6 months- 1 year

Stage Two

Based on an assessment of completed objectives in Stage One of the institution's current state of RDM readiness, the RDM Advisory Committee will work to address gaps discovered and develop a plan to address them. This may include:

- Staffing levels
- Sources and sustainability of funding
- Training for researchers and staff
- Raising awareness and increasing adoption of RDM practices
- Intersections with other relevant strategies and/or policies
- Addressing growing data storage needs and changing technologies
- Long-term preservation management
- Needs of important internal and external stakeholders, including First Nations, Inuit and Métis stakeholders
- Ensuring that data are managed ethically and securely

Stage Three

Objective	Task	Resources Required	Timeline
Institutional policies, guidelines and/or procedures	Develop specific policies related to RDM such as data repository, data quality and standards, data retention, long-term data preservation, support for Open Research Practices Possibly re-write other policies to include language about RDM	People are required to develop policies (i.e., data collection, long term data preservation, etc.)	3-5 years

Formalize RDM Practices

The Tri-Agency RDM Policy is not an open data policy. However, it does require formalized RDM practices, as do other funding agencies, publishers, and some Research Ethics applications While currently only a strategy is required, over the next several years, RDM practices and policies will be formalized through the development of institutional policies and procedures that provide guidance on the ethical, legal, contractual, and cultural issues surrounding research data management.

Acknowledgements

Aspects of this strategy are borrowed from Dalhousie University[7], McGill,[8] and University of Calgary's Research Data Management Strategies.[9] Further, content was used from the "Institutional Research Data Management Strategy Development Template."[10] Thank you to Concordia and the Alberta Research-Data Management Information Network for support and resources.

[7]Dalhousie RDM Advisory Committee. (2021). *Institutional Research Data Management Strategy (No. 7).* https://cdn.dal.ca/content/dam/dalhousie/pdf/library/ResearchDataManagement/Dalhousie%20Institutional%20RDM%20Strategy%20V7.pdf.

[8] McGill. (n.d.). *McGill RDM Strategy v3.0.* https://www.mcgill.ca/drs/strategy/strategy-draft

[9] RDM Strategy Development Committee. (2022). *DRAFT: University of Calgary Research Data Management Strategy*.https://research.ucalgary.ca/sites/default/files/RSO%20Docs/RDM/20220914_UCalgary_Draft_RDM_Strategy.pdf

[10] Digital Research Alliance of Canada. (2021). *Institutional Research Data Management Strategy Development Template*. https://doi.org/10.5281/zenodo.5745906