BACKGROUND

In March 2021, the Tri-Agency released its [Research Data Management (RDM) Policy](#). The Policy requires institutions to develop a robust research data management infrastructure in-line with best practices, such as:

> - the [Findable, Accessible, Interoperable, and Reusable (FAIR)](#) guiding principles;

> - Collective Benefit, Authority to Control, Responsibility, and Ethics (CARE) Principles for Indigenous Data Management;

> - [Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans – TCPS 2 (2018)](#), and other best practices.

The Policy states: "The Agencies believe that research data collected through the use of public funds should be responsibly and securely managed and be, where ethical, legal and commercial obligations allow, available for reuse by others."

Brandon University encourages all researchers to incorporate RDM practices into their programs of research. The Policy is a three-pronged approach to RDM that requires institutions to implement:

> **"Research data... should be responsibly and securely managed and be...available for reuse by others."**

1. an institutional RDM strategy;
2. data management plans for research projects; and
3. data deposit options.

Representatives from the Office of Research Services, John E. Robbins Library, and Information Technology (IT) Services conducted a preliminary assessment of institutional services and data management capacity assets using the [RDM Maturity Assessment Model in Canada](#) [(MAMIC)](#) adapted from the [Digital Research Alliance of Canada.](#)
Following the assessment, the Library formed a Working Group represented by members of the Brandon University Research Ethics Committee (BUREC), Office of Research Services (ORS), John E. Robbins Library, IT Services, Indigenous People's Centre, and Faculty Members to assess institutional RDM. The Brandon University Research Data Management Strategy is the result of the assessment and is in-line with [Portage](#) [Network Institutional Research Data Management Template.](#)

AWARENESS

Brandon University is a small undergraduate university with close networks among service areas, Faculty, the Office of Research Services, and teams. Many examples of collaborative work in data management already exist:

> The Scholarly Communications Library Services and the John E. Robbins Library Digital Asset Management Committee created a Data Services Guide and established secured access to an instance of Dataverse.

> The Systems Librarian provides ongoing support with Statistics Canada Data and IT Services assists with data storage and data backup.

The Committee seeks to improve awareness of these services through the Brandon University Research Ethics Committee (BU-REC); the Office of Research Services; and by establishing resources to support researchers, such as a Getting Started with Research Data Pathfinder.

Finally, the Committee recommends:

1. enhanced training in data management for researchers; and
2. ensuring that Data Services and the Getting Started with Research Data Pathfinder are successfully promoted to researchers.

Members of the Library, Office of Research Services, and Information Technology participated in Putting the Tri-Agency Policy into Practice Workshops offered by Portage, Digital Research Alliance of Canada meetings, and Dataverse North meetings, and will con-tinue to participate in Tri-Agency consultations offered. Brandon University uses these opportunities to advocate for important sup-ports for smaller institutions, including data services. RDM devel-opments are communicated to the campus community by the Office of Research Services and Scholarly Communications Library Services.
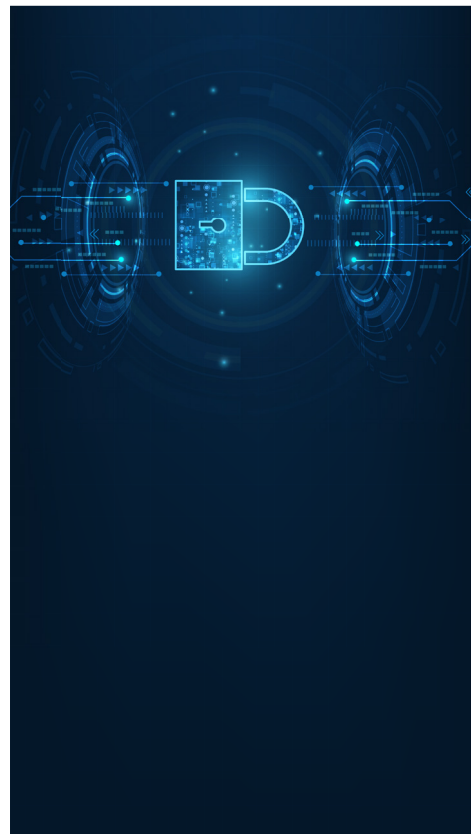
INSTITUTIONAL READINESS

Brandon University is in the early stages of creating the services, repositories, and necessary documentation for an institutional Data Management Strategy. The University has started assessing policies, processes, and resources to ensure it meets the requirements set forth by the Tri-Agency Research Data Management Policy. Institutional policy work is the responsibility of the Brandon University Senate and its Research Ethics Com-mittee. Procedural documentation largely falls under the domain of the Office of Research Services, Library,

and IT Services. Assessment of the resources necessary to effectively support research data management obligations will fall under the purview of relevant areas and University Administration. This work will be ongoing.

The recent introduction of Data Services in the Library and enhanced RDM guidance provided by IT Services means the University will increasingly provide robust supports:

> Library staff with expertise in data management planning, metadata, and systems are poised to support Faculty with data management planning, data licensing, data description, centralized data storage (for non-sensitive data), data preservation, data location, training, and data citation, and training in data management. The Library already leverages resources and work occurring at Scholars Portal (Dataverse), the Digital Research Alliance of Canada, formerly known as the New Digital Research Infrastructure Organization (NDRIO), Compute Canada (Federated Research Data Repository), Portage Network (DMP Assistant, DMP Templates and Portage Training Materials) and Re3Data (for locating repositories and data).

> Data storage and backup will largely be under the purview of IT Services. IT Services currently provides support to identify and select data capture and storage solutions during the active phase of research. Information on these services, together with Data Services in the Library, will be found in the Getting Started with Research Data Pathfinder.

The Brandon University Research Data Management Strategy Working Group has identified a need for:

1. ongoing training;
2. ongoing assessment of existing services/supports and resources; and
3. consultations with key stakeholders within the institution and Indigenous communities, as both are involved with managing research data according to the FAIR Guiding Principles and the CARE Principles for Indigenous Data Management.

In particular, the Working Group has assigned importance to understanding current practices around usage of Indigenous Data with an eye to enhancing:

1. awareness of Indigenous data sovereignty; and
2. Indigenous data governance frameworks referenced by OCAP Principles. Training will be offered by various stakeholders in the Library, ORS, BUREC, Indigenous community members, and interested Faculty members.

There is a need to finalize recommended procedures for data preservation for both active data and data retained in repositories for long-term storage. Preservation services are available through the Federated Research Data Repository, and the institution's instance of Dataverse will obtain preservation features in the future. Preservation methods for sensitive data in hosted University servers requires investigation, and the Library's Digital Assets Committee will assess the practicality of purchasing systems such as Archivematica or Archive-IT to achieve this goal.

FORMALIZE RDM PRACTICES

The Library Data Services provides information on best practices for locating, sharing, licensing, and citing data, as well as data deposit and active data storage being formalized by IT Services. There is a need to formalize practices through the development of institutional policies and procedures that provide guidance on the ethical, legal, contractual, and cultural issues surrounding research data management. Relevant policies may include and are not limited to:

> A required Data Deposit for institutional researchers with recommendations around repository selection, data sovereignty, and considerations for local versus cloud hosting (Senate);

> Support for Open Research Practices that facilitate reproducibility, knowledge advancement, and institutional visibility (Senate, BUREC);

> An Indigenous Research Data Policy that reflects CARE and OCAP Principles (Senate, BUREC);

> A Data Retention Policy (Senate, BUREC); and

> Data Preservation Procedures, in line with Data Retention Policy (Library, IT Services).

RDM practices need to be formalized through the integration of supports and incorporation into the workflow of researchers and service areas/administrative supports. To accomplish the former, the Library and Office of Research Services are investigating:

1. the identification of Data Mentors or Data Champions;
2. the use of RDM Training and Certification practices; and
3. working with BUREC to potentially require RDM training for grant applications. Service area workflows will be addressed by the Library, IT Services, and ORS.

RDM Roadmap

ACTIVITY	AREAS OF RESPONSIBILITY
1. Assist with research data management planning	Library Data Services ORS Portage DMP Assistant
2. Host storage and back-up or research data	IT Services

In Progress

ACTIVITY	AREAS OF RESPONSIBILITY
3. Assist researchers with best practices, long-term data storage, data licensing, data archiving, and metadata options: > Simplify the location of assistance > Create Data Services Pathfinder > Locate relevant data services/contacts information in identified University sites	Library Data Services BUREC ORS IT Services Communications Office Faculty/School Websites
4. Together with relevant stakeholders, identify and create needed policies and procedures for: > Managing Indigenous data > BU Data Deposit > Institutional RDM > Institutional Data Archiving	Senate ORS BUREC Faculty Indigenous People's Center Indigenous Services Librarian Library University Archives IT Services

2-3 Years

ACTIVITY	AREAS OF RESPONSIBILITY
5. Assess and implement data archiving for data held outside of Dataverse and Portage	IT Services University Library University Archives
6. Identify needed processes and applicable financial supports for RDM: > Digital object identifiers > ORC IDs > Membership in organizations supporting Digital Research Infrastructures in Canada (e.g. Digital Research Alliance, COPPUL, Scholar's Portal, etc.)	Library Administration ORS

3-5 Years

ACTIVITY	AREAS OF RESPONSIBILITY
7. Provide training in digital research initiatives such as: > Reproducible research/Open Science > Digital Humanities and data	Scholarly Communications Library Services Interested Faculty members IT Services, etc.
8. Secure funding as required for: > Advanced training > Faculty research collection	IT Services Library Data Services