



Research &
Innovation
Advancement

Institutional Research Data Management Strategy

Version 2023

Sponsor:
Vice-President
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Innovation

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Background

The Tri-Agency Research Data Management Policy¹ (Policy) was launched in March, 2021 to provide new guidance to institutions and researchers on the collection, storage and sharing of research data². The Policy builds on three previous statements: the 2016 Statement of Principles on Digital Data Management³, the 2017 CIHR Health and Health-Related Data

¹ <https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy>

² "Research data are 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. What is considered relevant research data is often highly contextual and determining what sounds as such should be guided by disciplinary norms." Accessed online at: <https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy-frequently-asked-questions>

³ https://www.science.gc.ca/eic/site/063.nsf/eng/h_83F7624E.html

Framework and Action Plan⁴, and the 2018 Tri-Agency Open Access Policy on Publications⁵. Together, the statements promote excellence, accessibility, and impact of Canadian research data ‘through the guiding principles of collective digital culture, access to data-related resources and skills, and enabling data access, linkage, use and reuse across Canada.’

The Policy was developed to ensure that research carried out using public funds is conducted according to the highest international and disciplinary standards and that the data produced by publicly funded research is responsibly managed and available for reuse wherever possible. To this end, the Policy includes a new institutional requirement: ‘Each postsecondary institution and research hospital eligible to administer CIHR, NSERC or SSHRC funds is required to create an institutional Research Data Management (RDM) strategy and notify the agencies when it has been completed. The Policy also mandates that institutional strategies be developed according to the FAIR principles (data should be Findable, Accessible, Interoperable, and Reusable). The strategies are to promote the importance of research data and its management and to provide researchers with the knowledge and tools to enact best data management practices. In addition, the strategies are to recognize that data created by and with First Nations, Métis, and Inuit communities, collectives and organizations are to be developed according to CARE principles for Indigenous Data Governance⁶ (Collective benefit, Authority to control, Responsibility and Ethics). The IWK Health Centre’s RDM strategy was developed to comply with this new requirement.

Along with institutional RDM strategies, Data Management Plans and Data Deposit are core requirements of the Policy. Data Management Plans ‘describe how data are: collected, formatted, preserved, shared, how existing datasets will be used, and what new data will be created.’ They also describe the responsibilities of each member of the research team in relation to the data and how these responsibilities will be transferred if there are membership changes.

⁴ <https://cihr-irsc.gc.ca/e/50182.html>

⁵ <https://cihr-irsc.gc.ca/e/32005.html>

⁶ <https://www.gida-global.org/care>

Data Deposit 'refers to when the research data collected as part of a research project are transferred to a research data repository.' The Policy state that data resulting from agency funding should be deposited into a digital repository along with metadata and code that produced results published from agency-supported research. The Tri- Agencies recognize that data sharing requires a context-based approach, and this is not an open data policy.

Researchers should 'consider whether ethical, legal or commercial obligations prohibit sharing or preserving data.' For research conducted by and with First Nations, Métis, and Inuit, they will guide and determine how data are to be collected, used, and preserved, and have the right to repatriate the data. These circumstances could result in exceptions to the data deposit requirements.

In October 2022, Research & Innovation Advancement (RIA) drafted an institutional RDM strategy. The strategy is adapted from Portage's Institutional Research Data Management Strategy Guidance Document⁷ and from the Scholarly Publishing and Academic Resources Coalition (SPARC) Europe RDM evaluation tool⁸. The strategy is a plan of action to promote a culture of excellence in collecting, storing, and sharing research data, and to build institutional capacity to support researchers in implementing RDM best practices concerning data management plans and data deposit.

Definitions

RIA: Research & Innovation Advancement

DMP: Data Management Plan

Research Data: Data that are used as primary sources through scientific inquiry to validate findings. They may be human or non-human and they are gathered through a variety of methods (e.g., randomized trials, observation, surveys, administrative) and they are increasingly collected through digital means or digitized subsequent to collection. Examples of

⁷ <https://alliancecan.ca/en/services/research-data-management/learning-and-training/training-resources>

⁸ <https://sparceurope.org/evaluate-your-rdm-offering/>

research data include, but are not limited to: Health Research Data, Health System Data, Population Health Data, Health-Related Data, Consumer Data and Social Science Data.

Research Data Management (RDM): Procedures for the documentation, storage, access, and preservation of research data.

Tri-Agency: The Tri-Agency is composed of three federal funding agencies; Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council (SSHRC).

Strategy

1. Raise Awareness

Institutional strategies should include plans to promote RDM to different stakeholders including staff, students, and researchers. Outreach and guidance should be developed to meet the needs of each interest group.

1.1 Identify stakeholder communities

In October 2022, representatives from RIA began compiling information and resources to draft their Institutional RDM Strategy. Members of the Research Ethics Board were consulted and provided information about the current state of data management. Partner organizations concurrently developing RDM strategies were identified. RIA will work with these partners to align our RDM processes and to coordinate our efforts to use our combined resources most effectively.

1.2 Develop outreach strategies tailored to the needs of each community

RIA will compile resources for researchers to learn about DMP and Data Deposit repositories on its website.

1.3 Communication and outreach

The Institutional RDM Strategy will be communicated to researchers through multiple means. There will be an announcement on the weekly newsletter, and notices will be sent to research

teams when applying to a Tri-Agency competition outlining the new requirements along with information and resources to bring their teams into compliance with the Policy.

1.4 Participate in Tri-Agency consultations

A representative from RIA attended several presentations and workshop discussions describing the challenges, opportunities and the process of drafting and implementing an institutional RDM. These workshops also provided several resources for staff and researchers to understand the purpose and importance of research DMPs, and Data Deposit.

2. Assess Institutional Readiness

Building institutional capacity to develop a culture of excellence in data management is one of the main goals of developing the RDM strategy. The RIA DMP team began an assessment of the current state of resources and practices surrounding research data documentation and storage.

2.1 Undertake a survey of institutional data assets and data management practices

In November 2022 RIA conducted a survey on data storage practices. Survey results indicate that researchers at the IWK currently store their research materials in a variety of physical and digital spaces. The survey demonstrated a movement towards digital data storage forms but that several barriers exist to digitization. These barriers will be assessed and mitigated where possible.

2.2 Data management plans

RIA has compiled resources for researchers to build their DMPs. The resources will be made available on the IWK website. Resources include The Digital Research Alliance of Canada Data Management Plan Assistant⁹ and a link to several more Alliance DMP Training Resources¹⁰

⁹ <https://alliancecan.ca/en/services/research-data-management/dmp-assistant>

¹⁰ <https://alliancecan.ca/en/services/research-data-management/learning-and-training/training-resources#heading-institutional-strategies-guidance>

including Repository Options in Canada: A Portage Guide¹¹. Individual consultations will also be made available for researchers.

2.3 Institutional support and training

Institutional resources for data management include the IWK Information Technology (IT)¹² for secure data storage and transfer, REDCap Resources¹³ and resources compiled by RIA.

2.4 Institutional policies guidelines/procedures

Currently, the IWK Research Ethics Board has data management requirements that are related to RDM. The REB requires researchers to describe the measures they will take to protect personal health information. This includes (but is not limited to) the type of data to be collected, how the data will be used, any possibility of data linkage that might allow for identification, how long the data will be retained and how it will be destroyed.

3. Formalize RDM practices

The IWK Health Centre currently has several requirements in place for managing privacy, confidentiality, secure transfer, and storage of research data and personal health data. RIA will develop protocols to formalize data management practices to bring them into compliance with FAIR principles. The protocols will include institutionally specific research data management templates and data sharing protocols that respect the sensitivity of personal health information, commercial partnerships, and other considerations.

¹¹ <https://zenodo.org/record/3966349#.Y4i61H3MKUk>

¹² <https://pulse.iwk.nshealth.ca/subsites/page/view/?id=90>

¹³ <https://iwkhealth.ca/research/support-researchers/redcap>

Approved by:

A handwritten signature in black ink, appearing to read 'Fm', enclosed within a thin black rectangular border.

Signature, Frank MacMaster, PhD
VP Research & Innovation

26 September 2023

Date