

College of the North Atlantic (CNA) Research Data Management Strategy

Background

In March 2021 the Canadian Tri-Agencies (NSERC, SSHRC and CIHR) formalized and released the Tri-Agency Research Data Management (RDM) Policy. The objective of this policy is to support Canadian research excellence by promoting sound data management and data stewardship practices. It applies to grant recipients and to institutions administering Tri-Agency funds.

One requirement outlined in the Tri-Agency Research Data Management Policy is that by March 1, 2023, each post-secondary institution and research hospital eligible to administer funds from the Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council (NSERC) or Social Sciences and Humanities Research Council (SSHRC) create and share, with the agencies and on its website, an institutional research data management (RDM) strategy that describes how the institution will provide its researchers with an environment that enables and supports RDM.

In accordance with this requirement, College of the North Atlantic (CNA) stakeholders began meeting in early 2022 to discuss the establishment of a RDM strategy for the institution and by August 2022 an initial stakeholders group was struck. College of the North Atlantic has adopted a long-range view of RDM and is currently focusing on activities from 2023-2028. This strategy will encompass a multitude of initiatives to assist the College not only bring awareness to the data management lifecycle but to the education and needs of the populations it serves within research. For this reason, the strategy is integrative and holistic in its inclusion of RDM for both Indigenous and non-Indigenous populations. Further, the strategy is considered a living document and will be revisited and revised as appropriate as future priority areas for RDM are identified by the College.

Importance of Research Data and Research Data Management

The Tri-Council Policy Statement (TCPS 2) defines “research” as “**an undertaking intended to extend knowledge through a disciplined inquiry and/or systematic investigation**” (Application of Article 2.1). Stemming from this definition, the term “research data” refers to data that is generated by scholarly or contractual inquiry. Research data is information that is collected to answer or validate a question or hypothesis. It *does not* refer to data that is gathered in an effort to improve institutional operations. Under the purview of the Tri-Agency, research data is seen as an output and its application is broad, encompassing several potential data assets. The following is not meant to be an exhaustive list, but is meant to provide the CNA research community with some context for understanding the variety of research data housed within an institution including:

- Data that is generated by equipment/computations/scanners and that can be analyzed.
- Information that has been collected or observed that answers or validates a research question.
- Stories that are told (images, recordings, artefacts, etc.) and are collected through the process of storytelling for the purpose of research.
- Raw research data that is not necessarily published but needs to be managed and/or organized.

- Qualitative and quantitative data points that are used to analyze and garner greater understanding of a function, process, or item, typically that will be published, or shared in a scholarly manner.

What is Research Data Management (RDM)?

Research data management (RDM) refers to the processes applied throughout the lifecycle of a research project to guide the collection, documentation, storage, sharing, and preservation of research data (Digital Research Alliance of Canada). RDM is important because it provides a range of benefits to researchers, faculty, students, and administrators including:

- increased competitiveness in granting applications
- increased accountability and safety measures
- increased accuracy and validity of data
- ensured long-term preservation of data when applicable
- ensured consistency in data depositing and sharing requirements
- enhanced clarity in guidelines
- increased credit and impact of the data.

Further, managing research data is an important aspect of the responsible conduct of research and long-term benefits indicate that institutions can save resources by ensuring data is complete, understandable, and secure.

Purpose

This RDM Strategy established by CNA promotes the management of research data and develops capacity to support researchers in adopting responsible RDM practices as required by the Tri-Agency. Further, the purpose of College of the North Atlantic's research data management (RDM) practice is to ensure that research data is collected and stored in a consistent manner and that RDM practices at CNA meet the Tri-Agency's research data management requirements. This practice is evolving to meet the unique requirements of research at CNA.

Research data management principles at College of the North Atlantic include:

- recognition that data is an important research output
- support for researchers to establish and maintain data management practices that are consistent with ethical, legal and commercial obligations, as well as Tri-Agency requirements including support in developing and using data management plans (DMPs)
- promotion of the importance of data management to researchers, staff and students
- provision of access to secure data storage platforms
- recognition that data created in the context of research by and with Indigenous communities, collectives and organizations will be managed according to principles developed and approved by those communities, collectives and organizations, and in partnership with them
- commitment to regular review and adaptation when appropriate to follow established best practices for institutional standards and DMPs.

Scope

The research data management strategy and the individual practices and procedures that comprise it apply to all researchers at College of the North Atlantic including all researchers collecting data and employees and students engaged with that data.

The College research data management strategy includes:

1. Requirement that all applied research project leaders (e.g., Primary Investigators) create and submit data management plans prior to starting a project.
2. Data management planning guidance.
3. Data management template. This template is published on the College of the North Atlantic's Office of Applied Research and Innovation web page. More templates and supporting documents are linked internally to the Office of Applied Research and Innovation Microsoft Teams folder, which can be made available to the CNA community.
4. Researcher access to secure physical and electronic data deposit infrastructure
5. Active knowledge sharing to ensure researchers and research stakeholders understand their obligations

CNA-Specific Considerations

The Office of Applied Research and Innovation, with participation from Newfoundland and Labrador Workforce Innovation Centre (NLWIC), the IT Department, Librarians, Privacy Officers, researchers and interns, hosted roundtable discussions aimed at engaging a variety of stakeholders from CNA to provide insight into the development of the RDM strategy. Several key considerations came out of the discussion including:

- The need for the RDM strategy to align with provincial legislation (e.g., ATIPP), including clarity with how various policies and legislation will interact with each other.
- The need for a dedicated storage space for all research data assets from the college
- The creation of standardized data storage processes (including file naming conventions)
- The importance of clearly delineating between activities that constitute research versus activities aimed at improving institutional operations.
- The importance of clearly delineating between publicly-funded research (e.g., Tri-Council, NRC) and privately-funded research (e.g., industry-funded) in determining appropriate data sharing processes.

Oversight and Review

College of the North Atlantic began RDM strategy development in January 2022. As we continue our internal process of developing our new institutional 5-year strategic plan for 2023-28, we recognize that our approach to research data management will continue to develop with our applied research program. This RDM strategy and related practice is constantly evolving toward our ideal end state, and College of the North Atlantic will continuously improve and modify its research data management systems and practices.

Institutional Support

To support the adoption of the RDM strategy and the implementation of RDM practices by researchers, the College will continue to support the following:

- I. Enhance Awareness of RDM
 - Continued implementation of communications plan, and development and dissemination of RDM education products (Tips Sheets, FAQs) to the CNA research community
 - Each new applied research project will require an acknowledgement of the RDM strategy by the researcher and co-researchers, and will require a data management plan to be submitted to the Office of Applied Research prior to project start
 - Development of a targeted faculty and student engagement strategy

- II. Enhance RDM Training and Capacity-building for Faculty and Staff
 - Finalize and disseminate RDM guidelines
 - Provide internal training and education
 - Workshops, lunch and learns, and other training for faculty, students and staff on various aspects of RDM (e.g., DMP training, data sharing deposit and preservation, etc.)
 - Provide access to external professional development
 - Specifically build capacity of librarians to be able to support faculty and staff in good research data management practices, discoverability, and access.
 - OCAP training to enhance understanding and competency for participation in research and data collection with Indigenous peoples and communities.
 - Build access to tools and supports to enhance strong data management practice.

- III. Strengthen RDM Governance
 - Evolve current RDM Advisory Committee to formalize implementation of CNA's RDM Strategy, including engaging other stakeholders across the college.
 - Finalize and socialize new CNA Data Governance Policy and Procedures that will establish institutional standards related to the management of research data.
 - Update other CNA policies as required to reflect RDM practices (e.g., Survey Policy, Institutional Research Policy, Policy guiding research involving human subject) where required.
 - Establish more streamlined RDM communications and processes with external research partners.
 - Consider dedicated staff capacity to support RDM in accordance with data privacy legislation and ATIPP legislation.

- IV. Provide and/or Support Access to RDM Tools, Resources, and Infrastructure
 - Identify repository storage options for CNA faculty and staff for data deposit use.
 - Develop procedures to facilitate the implementation of the policy
 - Implement data management planning, discovery and access tools, including offering training on the DMP Assistant Tool offered by the Digital Research Alliance of Canada
 - Investigate new tools for data deposit, discovery, sharing and access.

Stakeholders

There are a number of stakeholders key to the success of the CNA institutional RDM Strategy including:

- Office of Applied Research and Innovation (OARI)
- CNA Executive
- Faculty
- Students
- Librarians
- Policy representatives
- IT office
- Access & Privacy Manager
- NL Workforce Innovation Centre (NLWIC)

As part of our priorities over the next two to three years, we will develop an engagement strategy to ensure stakeholders are aware of and contributing to the efforts to build a strong RDM environment.

Other Relevant Strategies and Policies

CNA Survey Policy
 CNA Institutional Research Policy
 CNA Operational Policy: Human Research Ethics
 CNA Intellectual Property Policy
 CNA IT Infrastructure Procurement Policy
 CNA Personal & Confidential College Data Encryption Policy
 CNA Records and Information Management Policy

Timelines

The Strategy will be socialized and implemented over the next two years, after which it will be updated with new priority focus areas for continually moving towards advancing best institutional and researcher practices in research data management.

Looking Ahead

We recognize that RDM is quite new in the college context and it may take two-three years to establish a level of staff expertise, researcher understanding and capacity, and infrastructure to reach our ideal end state. This Strategy outlines planned activities over the next two years to keep CNA moving towards an end state. Beyond that, future areas will be addressed based on evolving requirements from Tri-Agency, the needs of CNA faculty researchers and the types of research undertaken at the college.

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