



2023-2025

Keyano College Research Data Management Institutional Strategy



Keyano College April 27, 2023

Developed by the Keyano Research Data Management Advisory Committee

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Background and Introduction

In March 2021, the Canadian Tri-Agency developed the [Tri-Agency Research Data Management \(RDM\) Policy](#) to support research excellence by promoting sound data management planning and practice throughout the research lifecycle. The Tri-Agency policy is relevant for grant recipients and institutions eligible to administer Tri-Agency funds.

The three main components of the policy include:

- Development of an institutional RDM strategy (March 2023);
- Requirement for researchers to complete Data Management Plans (DMP) for specific grants (starting 2022); and
- Institutions to provide infrastructure for Data Deposit (date TBD).

To support the adoption of this policy and to enhance current research data management planning and practices, Keyano College has established a Research Data Management Advisory Committee dedicated to creating the Keyano College RDM strategy. The committee sought formative feedback from key stakeholders across the institution, including:

- Library Services
- Information Technology Services
- Research Ethics Board
- Faculty Researchers
- Institutional Research
- Keyano Executives

Keyano College recognizes the responsibility to meet the RDM needs of all members of the community and will be working towards a multifaceted, integrative strategy. As one of its components, Keyano's RDM strategy contributes to the goal of Indigenous data sovereignty through its alignment with the [Ownership, Control, Access, and Possession \(OCAP\) standard](#) and other models for Indigenous data consideration.

This Strategy is developed in alignment with [Keyano College's Strategic Plan 2022-2025](#), specifically:

- Pillar 1: Access and Affordability
 - Outcome 3: To provide innovative program delivery
- Pillar 4: Sustainability
 - Outcome 1: To provide strong governing oversight
 - Outcome 2: To drive innovation
 - Outcome 3: To increase alternative revenue sources

To successfully enact and grow RDM, Keyano has adopted a long-term approach. The College recognizes that it will take several years of sustainable resourcing to establish a functionally appropriate level of RDM at Keyano. This includes, but is not limited to, dedicated staffing, training, infrastructure, and continued awareness. While these identified areas are broad in focus, the achievement of the strategy will be adaptive as it progresses. This current strategy will be implemented between September 2023 and March 2025 and will continue to be updated over the next five years to coincide with Keyano's growth and institutional priorities. The approach of having an iterative strategy will ensure that the College is on track to meet its end goal of RDM maturity.

Importance of Research Data and Research Data Management

An institutional RDM strategy is required by all institutions eligible to administer Tri-Agency funds as of March 2023. The purpose of the RDM Institutional Strategy is to support the adoption of responsible RDM practices, in alignment with the Tri-Agency's RDM policy and FAIR Data Principles to make research data findable, accessible, interoperable, and reusable.

In the community college research context, funded research often occurs in partnership with external partners who may own the resulting intellectual property. Keyano recognizes that it is critical to support researchers' right to securely preserve and use their research data throughout the research life cycle, and where appropriate, reuse and share their data. The Keyano Research, Learning, and Innovation Department provides advice and resources for safeguarding research including data sharing, non-disclosure, and other research agreements.

RDM best practices enable the following:

- Competitiveness in granting applications and funding opportunities
- Collaboration across the college and with industry partners
- Accuracy and validity of data
- Accessibility and replicability of research results
- Consistency in data depositing and sharing requirements

Scope

This strategy is relevant to all Keyano researchers, including students, staff, faculty, and administrators in all discipline areas.

The College recognizes that technology has enabled the expansion of the scale and scope of research data which in turn has increased the considerations required to ensure the appropriate handling of these data. As an institution, Keyano aims to offer all the necessary resources to support everyone involved throughout all stages of their research activities, however, the initial focus will be awareness and education followed by governance, infrastructure, and provision of tools and resources.

Oversight and Review

This strategy will be monitored by the RDM Advisory Committee to allow for annual reviews and updates, including a progress report provided to the Keyano College Executive.

Institutional Support

Keyano College has identified and committed to the following strategic priorities to support a scaffolded adoption of the initial RDM Institutional Strategy by its research community. The following priorities are the first steps that Keyano College will take to realize its research goals over the next two years (until March 2025).

Strategic Priority 1: Enhance RDM Education and Training across Keyano College

Awareness:

- Develop and implement a communications plan, including both internal dissemination of RDM institutional strategy and external promotion of research activities
- Develop and implement an engagement strategy for college community
- Lunch and Learns (e.g., Research Life Cycle, Storage vs. Preservation, DMP Assistant) for college community
- Create and promote an RDM LibGuide as a resource for the college community, including RDM best practices, services, and tools
- Develop relationships with Indigenous partners to build capacity for Indigenous research at Keyano

Education/Training:

- Workshops and other training (e.g., FAIR principles to build a foundation of data management best practices) for the college community
- Presentations (e.g., Research Life Cycle, Storage vs. Preservation, DMP Assistant) to the college community
- Collaboration with Centre for Teaching and Learning for onboarding and training of faculty
- Build capacity of Applied Research and Library staff to support the broader college community's RDM needs
 - Require that key providers of RDM support (e.g., librarians and RDM Advisory Committee) receive OCAP training to ensure college-wide understanding of Indigenous data sovereignty and required practices for Indigenous research
- Provide access to external resources and professional development opportunities (e.g., Digital Research Alliance Canada, ARMIN)
- Explore joining discipline- and region-specific RDM communities of practice

Strategic Priority 2: Build Institution-wide Infrastructure and Governance for RDM**Infrastructure:**

- Build and maintain Keyano's RDM webpage infrastructure to provide access to resources and supports to establish strong data management practices
- Evaluate and select an external tool for institutional data repository, discovery, and access (e.g., Canadian Dataverse Repository (Borealis) and Federated Research Data Repository (FRDR))
- Create dedicated Keyano RDM webpages, with content reflecting FOIP, Keyano's Research Ethics Board (REB), Research at Keyano, Tools and Resources for Researchers, etc.

Governance:

- Grow current RDM Advisory Committee to meet the ongoing needs of formally implementing Keyano's RDM Strategy, including ongoing engagement across the college community
- Establish streamlined RDM communications and procedures with external partners
- Assign dedicated staff to RDM in accordance with data privacy legislation (e.g., FOIP)
- Update Keyano policies as required to reflect RDM practices (e.g., Research Activities Policy)
- Develop Keyano policies as required to support RDM practices (e.g., guidelines for research in collaboration with Indigenous Peoples; data disposition and retention)
- Transform Keyano's RDM Institutional Strategy into a Data Governance Policy and Procedure to ensure institutional standards are adhered to across college community
 - Align Keyano's institutional data management policy with the new Data Governance Policy

Staffing and Funding:

- Consider dedicated RDM positions – (e.g., RDM librarian, RDM assistant, Indigenous RDM liaison)
- Develop a sustainable funding strategy to support RDM activities and resources at Keyano
- Provide transparent access to grant opportunities for all college stakeholders

Strategic Priority 3: Provide and/or Support Access to RDM Tools and Resources

- Collaborate with Keyano's Research Ethics Board to update application form and other relevant information, including centralizing information on the Keyano RDM webpages
- Implement access to and training on DMP Assistant Tool to support the college community in effectively building data management plans for research purposes

- Develop a glossary of RDM terms that can be consistently referenced across the college and updated regularly
- Facilitate training on access and use of Keyano’s selected institutional repository

Stakeholders

The success of Keyano’s institutional RDM strategy relies on a variety of stakeholders across the college and broader community. In addition to the Research Data Management advisory committee, consultation will include the following stakeholder areas:

- Library Services
- Researchers (i.e., faculty, staff, and students)
- Indigenous Communities
- Institutional Research
- Information Technology Services
- Research Ethics Board
- Keyano Executive
- FOIP Officer
- Centre for Teaching and Learning
- Data Governance Committee
- External partners (e.g., industry, institutional, and community)

Creating a holistic RDM environment requires ongoing stakeholder feedback. One limitation of this initial strategy is that key voices (i.e., Indigenous communities) are missing; as such, one of Keyano’s long-term priorities is developing an engagement plan to ensure the inclusion of diverse perspectives from the broader community.

Ethics Considerations

Keyano College supports researchers in adopting and complying with ethical, legal, and commercial obligations. Research projects involving human participants will require approval from Keyano’s Research Ethics Board to ensure adherence to the [Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans – TCPS \(2022\)](#) and the [Tri-Agency Data Management Policy](#).

Indigenous Data Considerations

In line with the concept of Indigenous data sovereignty, the [Tri-Agency RDM Policy](#) recognizes that data related to research by and with First Nations, Métis, or Inuit must be handled in accordance with data management principles developed and approved by these communities, and in partnership with them. In addition, [Chapter 9](#) of the Tri-Council Policy outlines

considerations for research with Indigenous Peoples. Keyano College supports a distinctions-based approach to ensuring that the unique rights, interests, and circumstances of the First Nations, Métis, and Inuit are acknowledged, affirmed, and implemented. The principles of [Ownership, Control, Access, and Possession \(OCAP®\)](#) provide a model for First Nations data governance and establishes how First Nations' data and information will be collected, protected, used, or shared. The [CARE principles](#) for Indigenous data governance additionally guide appropriate use and reuse of Indigenous data.

Other Relevant Strategies and Policies

As part of the regular policy review cycle at Keyano College, the policies identified below will be created or evaluated for updating, as required, to ensure consistency with RDM expectations. The College recognizes that Keyano's RDM strategy intersects with the Institutional Data Management policy and should be reflected in the institutional Data Governance policy and procedure.

Internal Policies

- [Academic Integrity Policy](#)
- [College Travel Policy](#)
- [Data Governance Policy \(to be created\)](#)
- [Data Governance Terms of Reference](#)
- [Ethical Conduct for Research Involving Humans Policy](#)
- [External Requests for College Participation in Research Projects Policy](#)
- [Information and Communication Technology Usage Policy](#)
- [Integrity in Research Activity Policy](#)
- [Intellectual Property and Ownership Policy](#)
- [Procurement Policy](#)
- [Protection of Privacy Policy](#)
- [Research Activities Policy](#)
- [Respectful Workplace Policy](#)
- [Workplace Hazardous Materials Information System \(WHMIS\)](#)

External Policies

- [Tri-Agency Research Data Management Policy](#)
- [Tri-Agency Framework on the Responsible Conduct of Research](#)
- [Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans](#)

Timelines

This RDM strategy will be revised on an annual basis over the first five years (until March 2028) as Keyano College ushers in a new ideal of RDM proficiency. The first two years will prioritize the dissemination and implementation of Keyano's first RDM strategy across the College community after which it will evolve to reflect new areas of institutional focus and RDM growth to ensure compliance with Tri-Agency standards while meeting research needs and furthering education of RDM best practices.

Looking Ahead

While this Strategy identifies the initial components and priorities of Keyano's RDM work across the college community, it will also serve as a foundation for future RDM work at Keyano and be a dynamic document. The priorities outlined in this Strategy will be revised on a regular basis by the Research Data Management Advisory Committee along with the Research, Learning, and Innovation Department to adhere to Tri-Agency requirements. As a next step, a comprehensive internal timeline will be developed to help move the identified strategic priorities forward within the initial two-year timeframe. This will include establishing working groups falling under Keyano's RDM Advisory Committee to focus on specific priorities, such as establishing repository-related infrastructure, communication plans, and re-use of data, among others. Furthermore, as the Strategy evolves to reflect the research needs of the college community, additional education as well as resources, tools, infrastructure, and services will be explored and facilitated, as relevant, to support RDM best practices.

Definitions

Applied Research: “refers to activities that move concepts from the theoretical, conceptual stage to the commercialization stage, usually by engaging in proof of concept, prototype development, testing, and validation activities” (Keyano College, 2018).

Data Management Plan (DMP): “a living document, typically associated with an individual research project or program that consists of the practices, processes and strategies that pertain to a set of specified topics related to data management and curation” (Government of Canada, 2021b).

Indigenous Data Sovereignty: the right of Indigenous Peoples, communities, and Nations to participate, steward, and control data that are created with them or about them, including individual and collective rights to data access and privacy (Indigenous Innovation Initiative, 2021).

Research Data: “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” (Government of Canada, 2021b).

Research Data Management (RDM): “refers to the processes applied through the lifecycle of a research project to guide the collection, documentation, storage, sharing and preservation of research data” (Government of Canada, 2021b).

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