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RDM Capacity Building in Canada and the Portage Insights Reports Series

by Caroline Winter | 28 January 2022 | English, Observations, Observations and Responses | 0 comments



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This observation was written by Caroline Winter, with thanks to Shahira Khair for her feedback and suggestions.

At a glance:

Title	Institutional Research Data Management Services Capacity Survey Insights Reports
Creator	Portage Network, Research Intelligence Expert Group (RIEG)
Publication Date	2020–2021
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In May 2018, Canada’s Tri-Agency released a draft Research Data Management (RDM) Policy for Consultation, one of several policies related to data management, including the [Tri-Agency Open Access Policy on Publications](#) (2015) and the [Tri-Agency Statement of Principles on Digital Data Management](#) (2016) (see “[Tri-Agency Research Data Management Policy](#)”). The final Tri-Agency RDM Policy was released in March 2021 (see “[Update: Research Data Management in Canada](#)”).

Under the policy, research institutions that administer Tri-Agency funds are required to develop RDM strategies by March 1, 2023 (Government of Canada 2021). As institutions began developing their RDM policies in response to the draft Tri-Agency policy, the [Portage Network's Research Intelligence Expert Group \(RIEG\)](#) conducted two surveys to determine how ready institutions were to implement the RDM policy and what services Portage and other stakeholders could offer in support.

The Institutional RDM Strategy Survey

Portage's [Institutional RDM Strategy Survey](#) (Portage 2019) was conducted in June 2019 and received 88 responses from 63 institutions. It found that most responding institutions had started the process of developing an institutional RDM strategy, although many were at the planning stage; of these, many noted that development had stalled, awaiting the release of the final Tri-Agency RDM policy. Based on the survey responses, the RIEG suggested steps to be taken to support institutions in developing their strategies, including sharing finished strategies to serve as examples, facilitating communities of practice to help institutional working groups learn from one another, and providing explicit guidance about how strategies can meet the requirements of the Tri-Agency policy.

The Institutional RDM Services Capacity Survey and Insights Reports

In the fall of 2019, RIEG conducted the Institutional Research Data Management Services Capacity Survey in order to establish a benchmark for the capacity of research institutions in Canada to support the RDM activities outlined in the draft Tri-Agency RDM policy (Cooper et al. 2020). It received 85 responses from 77 institutions, including universities, colleges, CEGEPs, research centres and institutions, and government organizations (4). An [Executive Summary](#) was released in January 2020 (Cooper et al. 2020).

[The first Insights Report](#), released in June 2020, focused on capacity within organizations, with key findings related to policy, work structures and staffing, budgets, and internal and external collaborations (Abel et al., 3). Building on the results discussed in the initial report, it found that libraries and research administrative offices were most often leading RDM strategy and policy development in both universities and colleges (7). Looking at work structures, about half of the institutions (mostly universities) had formal institutional RDM working groups, most led by libraries or research administration groups (9–10).

In terms of staffing, about a third (33.8%) of the institutions, mostly universities, had created new positions to perform RDM responsibilities and just under a third (28.6%) had reassigned existing staff to perform them, but slightly more than a third (37.7%) had no staff responsible for RDM (8). Although funding is crucial for capacity development, only one institution reported a dedicated institutional RDM budget; the most common form of funding was using operational budgets (27.3%), and many institutions (37.7%) reported no dedicated RDM budget (13–15). Most institutions were involved in national (65.6%) or regional (72.1%) collaborative RDM initiatives (10–11).

[The second Insights Report](#), released in February 2021, focused on highly qualified personnel (HQP), infrastructure, and services (Cooper et al. 2021a). It examined RDM expertise across 12 skills categories (e.g., policy knowledge, software development, data curation, metadata creation), organized into stages in the data lifecycle as described in the [Portage RDM Primer](#). It found that universities tended to report greater capacity than colleges in several categories and that institutions expressed a need for more skilled support in all categories, with particular need in “managing sensitive data, data curation, and research software development, data preservation, researchers’ data management skills and technical aspects in e-infrastructure” (4). In terms of RDM infrastructure, compared to colleges, universities again reported greater knowledge of and institutional support for data transfer (50%; 19%), sensitive data (40.4%; 33.3%), high performance computing (50%; 14.3%), qualitative commercial software (55.8%; 28.6%), quantitative software (75%; 38.1%), and collaboration tools (26.9%; 9.5%) (11–14). In many cases, though, respondents were unsure of what supports were available.

Looking at RDM services, while more than half of respondents offer a full range of RDM supports, the extent and level of development of these services vary widely (15). These services tend to be offered at the institutional level and led by libraries, IT departments, or joint efforts (16–18). Institutions with dedicated RDM positions and dedicated budgetary support tend to offer more institutional supports, whereas those in which RDM support is assigned to existing positions tend to draw on external resources (19–21).

The third Insights Report, released in February 2021 (Cooper et al. 2021b), examines what RDM resources are available, how they are being allocated, and how they could better serve the community. When asked to rank which resources should be prioritized to support RDM, respondents cited human resources most often (37.7%), followed by policy guidance (22.1%) and financial (16.9%) and technical (14.3%) resources (4). In terms of investment, nearly half (46.8%) of institutions had no plans or did not know of any plans to invest further in RDM technology supports, and only 7.8% planned to create new RDM positions (6). Roughly a quarter of universities reported offering professional development in RDM for researchers (19.6%) and staff (23.5%), compared to only 5.3% of colleges, who reported training for researchers only (7). When asked about the barriers to supporting RDM, respondents most often cited lack of awareness or resistance to sharing data, lack of time, and lack of funding and incentives (10). When asked what factors would most effectively accelerate RDM development, respondents mentioned funding most often, followed by policy, training, and collaboration (15).

The third Insights report concludes with a list of recommendations, some new and some that are already being implemented. Broadly, these include the development of resources to support RDM capacity, such as those Portage has created to support the development of **institutional RDM strategies**. They also include increased collaboration among existing organizations, particularly through the **Digital Research Alliance of Canada** (the Alliance, formerly NDRIO), and connecting researchers with existing resources. The report also notes that the Alliance will continue to provide RDM support at the national level, allowing institutions to focus their funding and other resources on local needs (Cooper et al. 2021b, 21).

Taken together, these three reports show that RDM services and supports—including institutional strategy and, to a lesser extent, policy—are in development at many Canadian institutions, often led by libraries. Institutions are engaging with regional and national networks and collaborations, but RDM supports are unevenly available, with universities reporting more resources than colleges. Some of the priorities for building RDM capacity include HPQ and human resources, funding, technological infrastructure, and policy knowledge (Cooper et al 2021b, 19).

RDM Capacity Building and the INKE Partnership

RDM is an issue of interest for many INKE Partnership members, many of whom have long been involved in developing RDM capacity. Before joining the Alliance, Portage was originally an initiative of the **Canadian Association of Research Libraries (CARL)**, and as CARL Portage it developed the **DMP (Data Management Plan) Assistant**, an online, bilingual tool for data management planning hosted by the University of Alberta. It also worked with **CANARIE** to support a national extension of the **Scholars Portal Dataverse** service, a research data repository supported by the **Ontario Council of University Libraries (OCUL)** and hosted by the **University of Toronto Libraries**. CARL Portage and **Compute Canada** also partnered with the Alliance on developing the **Federated Research Data Repository (FRDR)**, a repository for large datasets (>1 TB) and a discovery platform that federates data across Canadian repositories.

Portage and fellow INKE partner the **Canadian Research Knowledge Network (CRKN)** also manage the **DataCite Canada Consortium**, which allows Canadian institutions to mint and integrate DOIs to support RDM and improve the discoverability, accessibility, and citability of scholarship.

In June 2021, UVic Libraries led a virtual event called **Research Data Management for Digitally-Curious Humanists** that explored the concept of research data in the humanities and strategies for RDM capacity

building. A [draft report](#) based on discussions at the event was shared on the Open Scholarship Policy Observatory for comment in November 2021.

RDM Capacity Building and the Broader Academic Community

The report series by the international library cooperative [OCLC](#), titled *The Realities of Research Data Management* presents case studies from universities in the UK, the US, Australia, and the Netherlands. The authors note that the exponential increase in the scale of research data is an important factor driving the need for greater RDM capacity. The advent of Big Data, “combined with an emerging array of data-intensive computational research techniques in the humanities and social sciences, has changed the face of research data in 21st-century scholarship, and, by extension, the process of assembling, managing and curating research data as well” (Bryant et al. 2017, 5). Research data, in addition to the publications based on it, has become an important part of the scholarly record and a valuable asset, particularly when optimized for reuse.

In Canada, the Tri-Agency RDM policy that Portage’s survey and Insights Reports respond to is part of ongoing developments in national policy and infrastructure ecosystems that aim to build RDM capacity. [An article in University Affairs](#) notes that while RDM is increasingly important across all disciplines as research becomes more data intensive, it is not always a priority for researchers, so cultural change is an important factor in advancing RDM capacity. As Jeff Moon, director of Portage, notes, “We need to change the culture so that well-documented data, metadata and code are considered to be as valuable as a well-written and nicely published journal article” (Voinigescu 2021). The article points to [resources offered by Portage](#) as useful supports for individuals and institutions.

Canada’s efforts to build RDM capacity are part of its overall digital research infrastructure (DRI) strategy. The Alliance was created as part of this strategy: a not-for-profit, national organization for supporting advanced research computing and research software in addition to RDM and integrating them into a national DRI system (see [“NDRIO and the Canadian Digital Research Infrastructure Strategy”](#)).

The Alliance released [a related report](#) in September 2021, surveying the RDM environment in Canada (Khair et al. 2020; see [“The Current State of Research Data Management in Canada: A Report by the Digital Research Alliance of Canada”](#)). In December 2021, the Alliance [announced new RDM resources](#) to support institutions:

- [RDM Institutional Strategy Development Template](#)
- [RDM Maturity Assessment Model in Canada \(MAMIC\)](#)
- [Introduction to Data Management Plans \(DMPs\) video](#)
- [Introduction to DMP Assistant video](#)
- [Managing DMPs with DMP Assistant video](#)

RDM Capacity Building and Open Scholarship

Although the Tri-Agency RDM Policy states explicitly that it is “not an open data policy” (Government of Canada 2021), and not all research data can or should be open, RDM practices and capacity are foundational to open data and open scholarship. Researchers can use RDM infrastructures such as FRDR, for example, to improve the discoverability and reusability of their research data, for instance (Voinigescu 2021). Building on the existing RDM supports identified in Portage’s Insights reports will thus enhance the Canadian research ecosystem’s capacity for open scholarship as well.

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