



Digital Research
Alliance of Canada

Alliance de recherche
numérique du Canada

Pillar 2: Data Management Plans

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Academic Director, UAlberta Research Data Centre
Co-Chair, Portage DMP Expert Group

Putting the Tri-Agency Policy into Practice
October 25-28, 2021





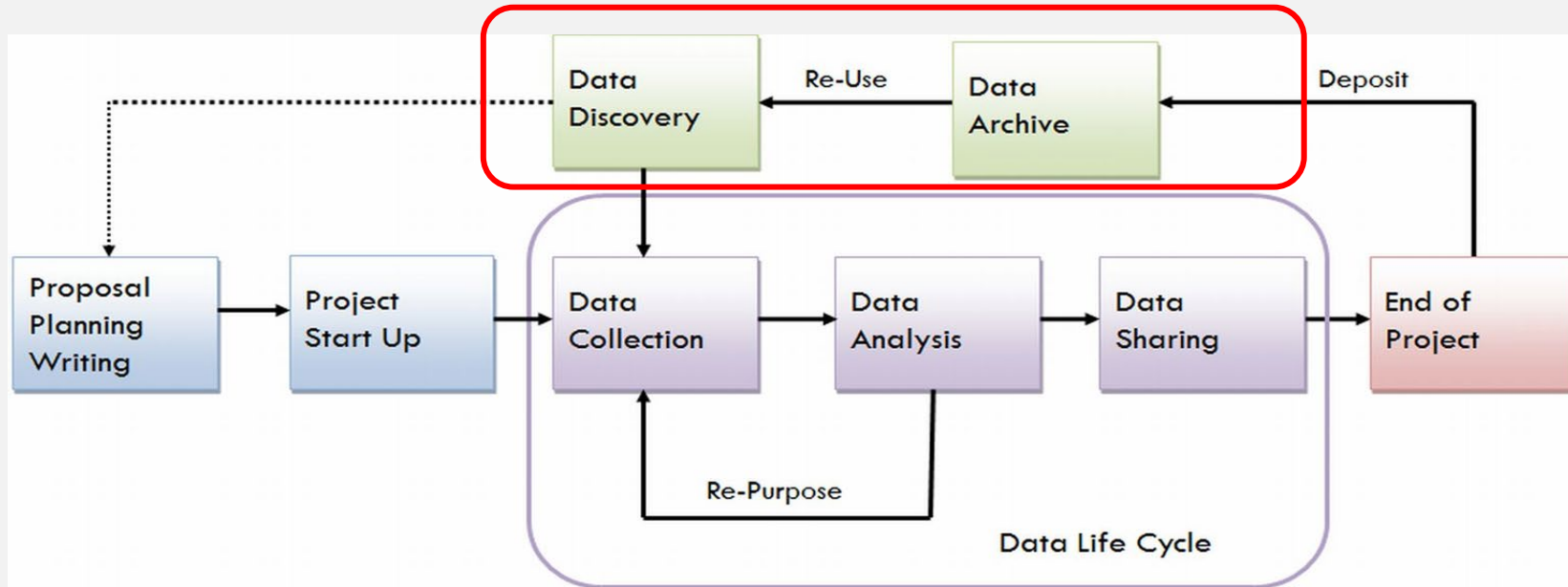
Session overview:

1. **DMPs** - What they are, their importance & benefits
1. **Content of DMPs** - General categories & guidance
1. **DMP Assistant** - How to access and use the tool; key features overview
1. **DMP Expert Group resources** - General guidance, DMP exemplars; upcoming resources
1. **Questions & Discussion**



What is Research Data Management?

RDM spans across all phases of the research lifecycle - managing data through active phases and beyond



Source: “[University of Virginia Library LibGuide: Research Data Management](#)”

What *is* a data management plan (DMP)?

A DMP:

- Is a formal document which clearly articulates the strategies and tools you will implement to effectively manage your data
- Speaks to the management of data both **during** the active phases of your research and **after** the completion of the research project.

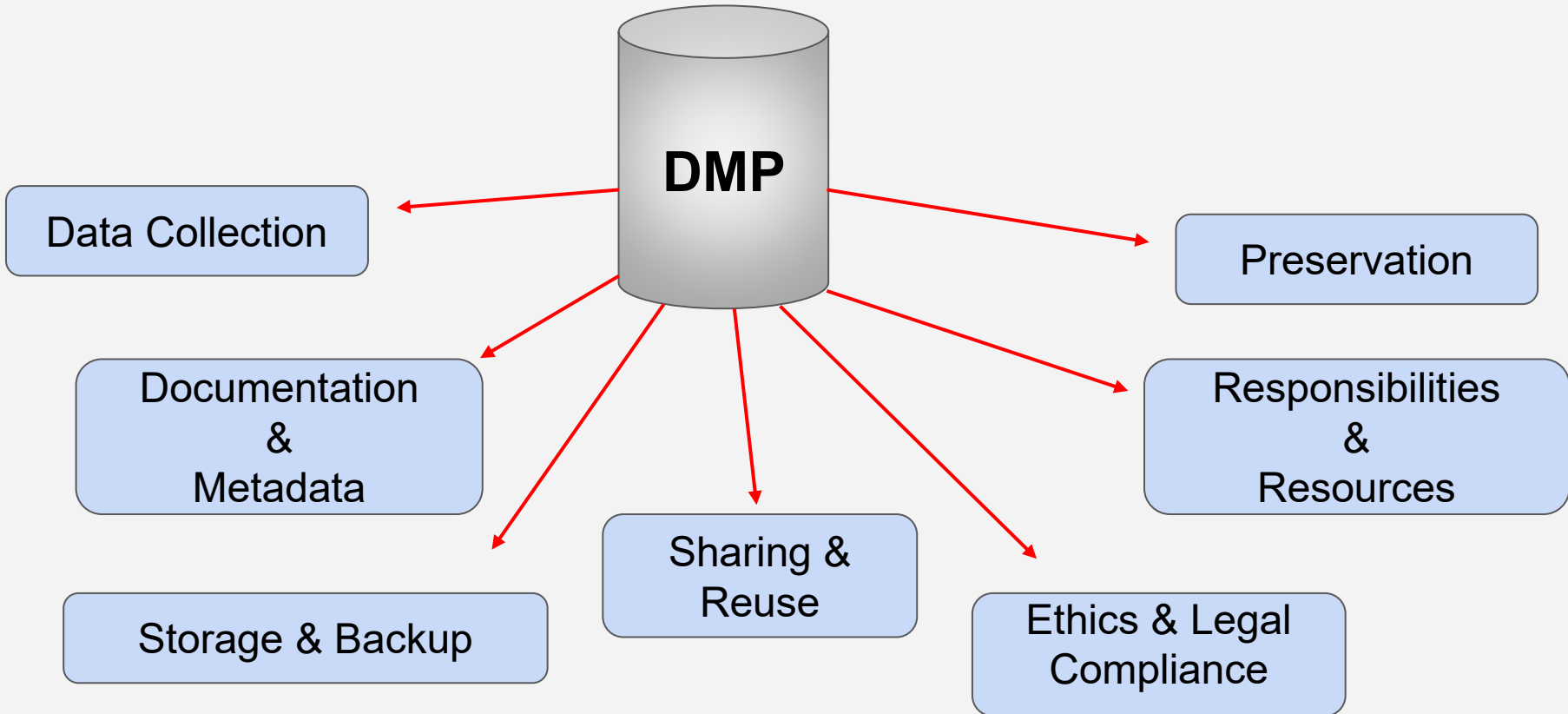
The objective of a DMP is to address issues related to data management prior to starting your research project!

Why are DMPs important?

A data management plan is important to the research process as it can help you to:

- set out consistent strategies prior to starting your research for how data will be managed throughout its entire lifecycle
- identify the strengths & weaknesses in your current practices and make decisions on how to integrate effective data management practices into your process
- prepare data for future reuse, preservation and sharing
- reduce the overall cost of research by increasing project efficiencies

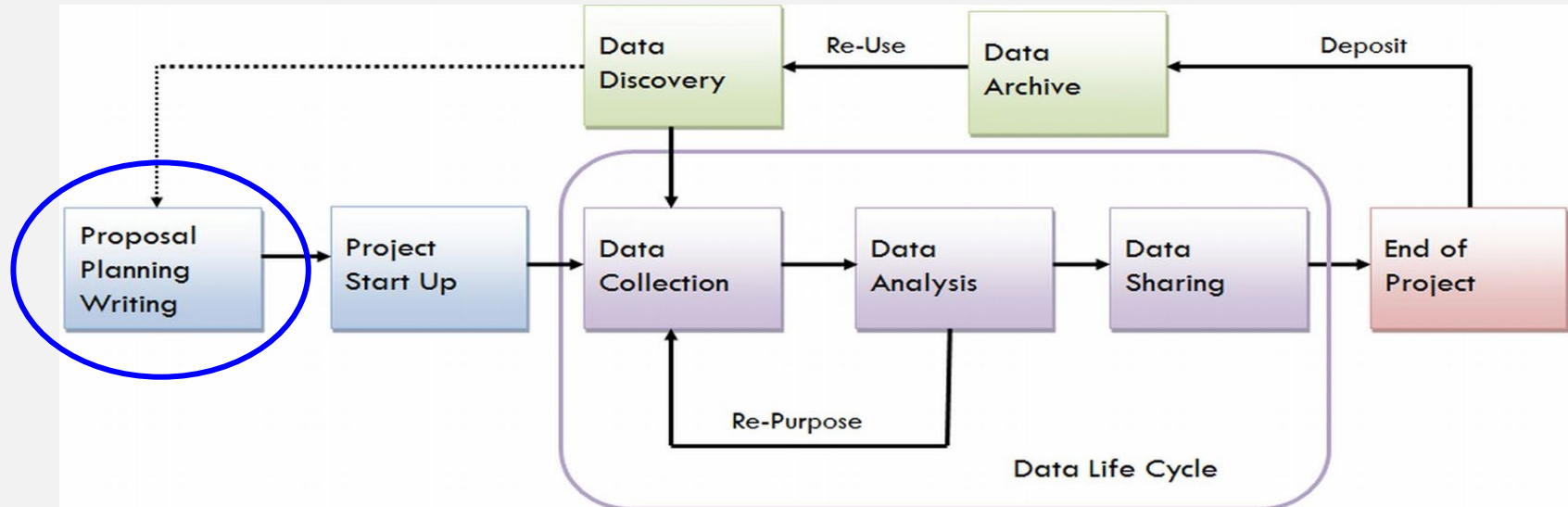
A DMP provides information across key research lifecycle categories:



When should I start creating my DMP?


A DMP should be developed as early in the research process as possible!

Every research project should ideally **begin** with the creation of a DMP, as it can be used to guide the research process.



DMP guidance resources

Creating an effective DMP ([English](#)/[French](#))



Services pratiques pour les données de recherche
SHARED STewardSHIP OF RESEARCH DATA

Brief Guide

CREATE AN EFFECTIVE DATA MANAGEMENT PLAN

This brief guide presents a general framework for creating an effective data management plan (DMP) to help you plan and organize your research and to meet research funder requirements.

To prepare your DMP, visit the [Portage DMP Assistant tool](#).

GENERAL GUIDELINES


- Begin by providing a description of your research project, its focus, and purpose.
- Avoid the extensive use of discipline specific jargon - your DMP should be easily understood by anyone.
- Provide clarification for any acronyms used.
- Do not leave sections or questions blank.
- Provide rationale for decisions made - help others understand why you have made a decision.
- Your DMP is a living document - update it as needed!

DATA COLLECTION


- Include descriptions of how you will collect data, including from where and in what format(s).
- Provide an estimate of the amount of data you will collect (e.g., MBs/GBs/TBs).
- Describe any software and/or platforms that will be used for data collection.
- Clearly explain how you will both store and transfer data.
- Explain how you will organize your data, including details relating both to file naming and versioning.

DOCUMENTATION AND METADATA

- Describe what information will be needed for others to understand or reuse your data.
- Describe how you will consistently capture documentation throughout the project.
- Choose a metadata standard suited to your discipline and/or chosen data repository or provide rationale for creating your own.



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Services pratiques pour les données de recherche
SHARED STewardSHIP OF RESEARCH DATA

Brief Guide

STORAGE AND BACKUP

- Provide an estimate of storage space needed during the active phases of your research - remember to take into account file versioning, backups, and data growth.
- If needed, follow the 3-2-1 backup rule: 3 copies of your data, on 2 different storage media, with 1 located offsite.
- State a data backup schedule, automatic being most ideal.
- Describe how collaborators or research team will be able to access, modify, contribute, and work with your data.

PRESERVATION


- Not all data that you create necessarily needs to be preserved - consider such things as the value of your data, funding requirements, etc., and decide which, if any, should be preserved. Consult with experts in your Library as needed.
- Consider optimal file formats (preferably non-proprietary) for supporting long-term preservation.

SHARING AND REUSE

- Consider the appropriate sharing of your data, including any funding, ethical and/or confidentiality requirements.
- Explain what uses can be made of your data through licenses like Creative Commons.
- Consult with colleagues or librarians to choose an appropriate data repository or search re3data.org to find one.
- Choose a repository that assigns permanent identifiers to datasets (e.g., DOI) to enhance discoverability, accessibility, and citability.
- If applicable, describe how you will ensure file integrity, anonymization and de-identification.

RESPONSIBILITIES AND RESOURCES

- Identify data stewardship roles and responsibilities of project members and other organizations during and after the project.
- Estimate and describe any required resources and costs for data management and long-term access to your data.



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DMP General guidelines

Begin by providing a description of your research project, its focus, and purpose

Avoid extensive use of discipline specific jargon - your DMP should be easily understood by anyone!

Provide clarification for any acronyms used

Do not leave sections or questions blank

Provide rationale for decisions made - help others understand *why* you have made a decision

Your DMP is a living document - update it as needed!

DMP Sections: Data Collection

Include descriptions of *how* you will collect data, including from where and in what format(s)

Provide an estimate of the amount of data you will collect (e.g., MBs/GBs/TBs).

Describe any software and/or platforms that will be used for data collection

Clearly explain how you will both store and transfer data

Explain how you will organize your data, including details relating both to file naming and versioning

DMP Sections: Documentation & Metadata

Describe what information will be needed for others to understand or reuse your data.

Describe how you will consistently capture documentation throughout the project.

Choose a metadata standard suited to your discipline and/or chosen data repository, or provide rationale for creating your own.

DMP Sections: Storage & Backup

Provide an estimate of storage space needed during the active phases of your research - remember to take into account file versioning, backups, and data growth!

State a data backup schedule, automatic being most ideal.

Describe how collaborators or research team will be able to access, modify, contribute, and work with your data.

DMP Sections: Preservation

Not all data that you create necessarily *needs* to be preserved - consider such things as the value of your data, funding requirements, etc., and decide which, if any, should be preserved. Consult with experts in the Libraries as needed!

Consider optimal file formats (preferably non-proprietary) for supporting long-term preservation. Optimally preserved data are easily accessible and use by anyone, without requiring proprietary software to do so.

DMP Sections: Sharing & Reuse

Consider the appropriate sharing of your data, including any funding or confidentiality requirements.

Explain what uses can be made of your data through licenses like [Creative Commons](#).

Consult with colleagues or librarians to choose an appropriate data repository or search re3data.org to find one.

Choose a repository that assigns permanent identifiers to datasets (e.g., DOI) to enhance discoverability, accessibility, and citability.

If applicable, describe how you will ensure file integrity, anonymization and de-identification.

DMP Sections: Responsibilities & Resources

Identify data stewardship roles and responsibilities of project members and other organizations during and after the project.

Estimate and describe any required resources and costs for data management and long-term access to your data.

DMP Sections: Ethics & Legal Compliance

Describe if there are any legal, ethical, and intellectual property issues when managing and sharing your data.

Explain how you will comply with any applicable privacy legislation and laws, including funding and institutional requirements.

Describe how you will ensure your data are securely managed after the project is completed including the secure management of sensitive data and in accordance with any ethical obligations

Services
Portage

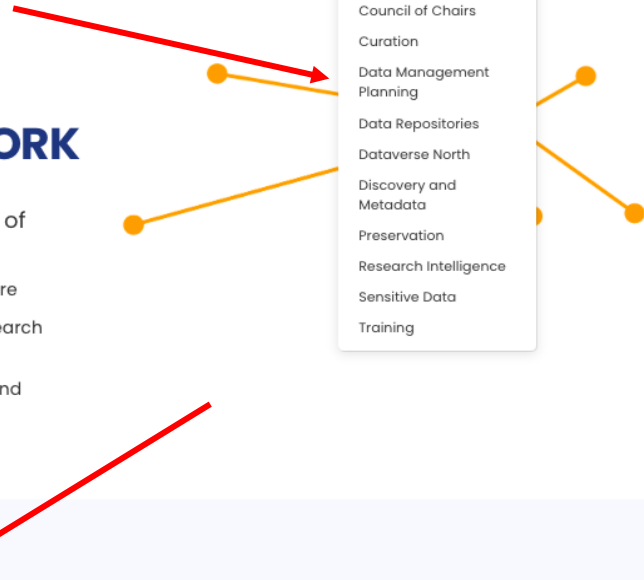


THE PORTAGE NETWORK

is dedicated to the shared stewardship of research data in Canada through:

- Developing a national research data culture
- Fostering a community of practice for research data
- Building national research data services and infrastructure

- Council of Chairs
- Curation
- Data Management Planning
- Data Repositories
- Dataverse North
- Discovery and Metadata
- Preservation
- Research Intelligence
- Sensitive Data
- Training



Store, share, publish and discover research data!
Scholars Portal **Dataverse**

Training Resources



+ Portage DMP Assistant



- Hosted by the **University of Alberta Library** and supported by the **Portage Network**.
- A **national, open, bilingual** data management planning (DMP) tool to help researchers better manage their data throughout the lifespan of a project.
- **Develops a DMP** by prompting researchers to answer a number of key data management questions, supported by best-practice guidance and examples.

<https://assistant.portagenetwork.ca/>

Portage DMP Assistant



Researchers can:

- **Create project plans**, using a generic template or an institution-, discipline-, or methodology-specific template;
- **See guidance** appropriate to the particular template they are using;
- **Collaborate** with multiple researchers on a plan;
- **Connect** to local guidance and support for data management at their academic institutions.

<https://assistant.portagenetwork.ca/>

Portage DMP Assistant

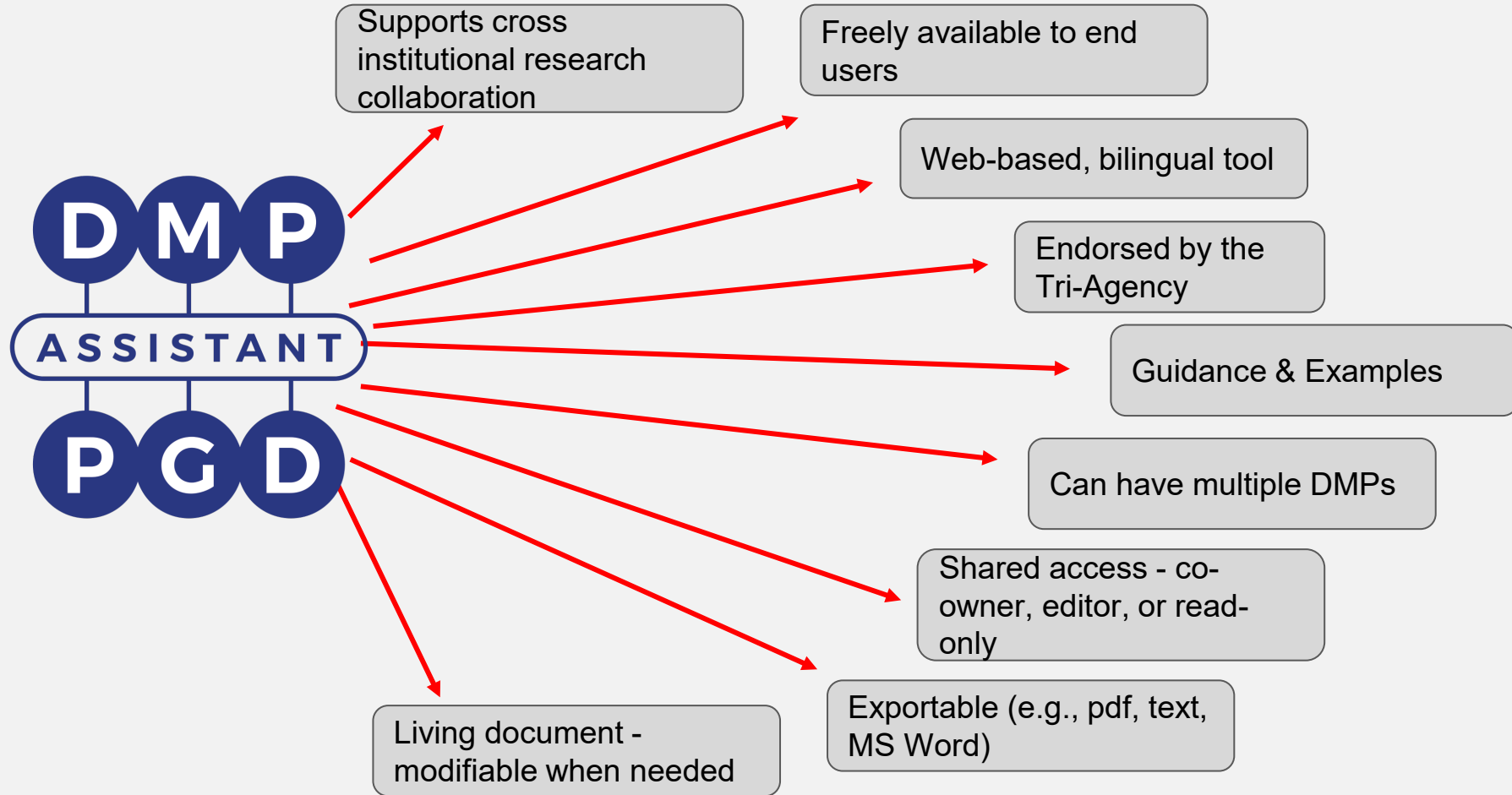


Institutions can:

- **Customize** the default Portage template for their institution;
- Create **institution-specific** templates and guidance;
- View information about DMP Assistant **usage** at their institution.

<https://assistant.portagenetwork.ca/>

DMP Assistant Key Features



DMP Assistant



✔ Notice: Signed out successfully.

Welcome to DMP Assistant.

DMP Assistant has been developed by the **Portage Network** to help you write data management plans.

Getting started:

- [Digital Curation Centre](#)
- [UC3: University of California Curation Center](#)
- [UK funder requirements for Data Management Plans](#)
- [US funder requirements for Data Management Plans](#)
- [DCC Checklist for a Data Management Plan](#)
- [DMP Assistant equivalent in France](#)
- [France funder requirements for Data Management Plans](#)

[Sign in](#) [Create account](#)

* **Email**

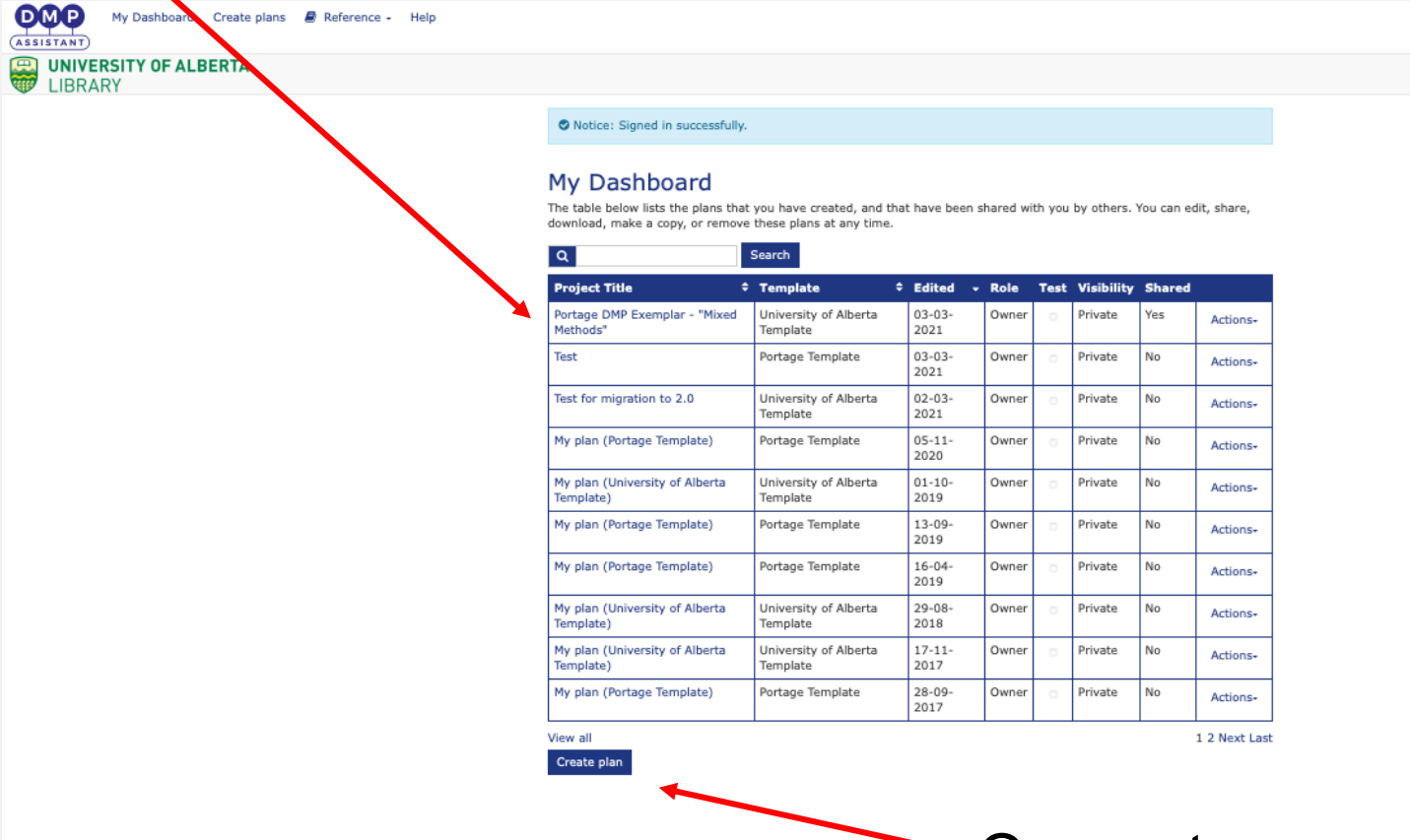
* **Password**

[Forgot password?](#)

Remember email

[Sign in](#)

Upon signing in, you can either access an existing DMP



DMP ASSISTANT My Dashboard Create plans Reference - Help

UNIVERSITY OF ALBERTA LIBRARY

Notice: Signed in successfully.

My Dashboard

The table below lists the plans that you have created, and that have been shared with you by others. You can edit, share, download, make a copy, or remove these plans at any time.

Q Search

Project Title	Template	Edited	Role	Test	Visibility	Shared	Actions-
Portage DMP Exemplar - "Mixed Methods"	University of Alberta Template	03-03-2021	Owner	<input type="checkbox"/>	Private	Yes	Actions-
Test	Portage Template	03-03-2021	Owner	<input type="checkbox"/>	Private	No	Actions-
Test for migration to 2.0	University of Alberta Template	02-03-2021	Owner	<input type="checkbox"/>	Private	No	Actions-
My plan (Portage Template)	Portage Template	05-11-2020	Owner	<input type="checkbox"/>	Private	No	Actions-
My plan (University of Alberta Template)	University of Alberta Template	01-10-2019	Owner	<input type="checkbox"/>	Private	No	Actions-
My plan (Portage Template)	Portage Template	13-09-2019	Owner	<input type="checkbox"/>	Private	No	Actions-
My plan (Portage Template)	Portage Template	16-04-2019	Owner	<input type="checkbox"/>	Private	No	Actions-
My plan (University of Alberta Template)	University of Alberta Template	29-08-2018	Owner	<input type="checkbox"/>	Private	No	Actions-
My plan (University of Alberta Template)	University of Alberta Template	17-11-2017	Owner	<input type="checkbox"/>	Private	No	Actions-
My plan (Portage Template)	Portage Template	28-09-2017	Owner	<input type="checkbox"/>	Private	No	Actions-

View all 1 2 Next Last

[Create plan](#)

Or create a new one

You can 'copy' or 'clone' an existing DMP for similar projects or funder requirements

DMP ASSISTANT My Dashboard Create plans Reference - Help

UNIVERSITY OF ALBERTA LIBRARY

Notice: Signed in successfully.

My Dashboard

The table below lists the plans that you have created, and that have been shared with you by others. You can edit, share, download, make a copy, or remove these plans at any time.

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My plan (Portage Template)	Portage Template	16-04-2019	Owner	<input type="checkbox"/>	Private	No	Actions-
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My plan (University of Alberta Template)	University of Alberta Template	17-11-2017	Owner	<input type="checkbox"/>	Private	No	Actions-
My plan (Portage Template)	Portage Template	28-09-2017	Owner	<input type="checkbox"/>	Private	No	Actions-

View all 1 2 Next Last

Create plan

Actions-

- Edit
- Share
- Download
- Copy
- Remove



Select a template to use when creating a new plan:

Create a new plan

Before you get started, we need some information about your research project to set you up with the best DMP template for your needs.

* What research project are you planning?

mock project for testing, practice, or educational purposes

* Indicate the primary research organisation

- or - No research organisation associated with this plan or my research organisation is not listed

Which DMP template would you like to use?

- ✓ Portage Template
- Portage CRDCN Template for Accessing Data from Research Data Centres
- Portage CRDCN Template for Research Data Centres and External Analysis
- Portage Template for Advanced Research Computing
- Portage Template for Arts-Based Research
- Portage Template for Interdisciplinary Health Software/Technology Development
- Portage Template for Mixed Methods (Surveys & Qualitative Research)
- Portage Template for Neuroimaging in the Neurosciences
- Portage Template for Open Science Workflows
- Portage Template for Qualitative Health Sciences Research
- Portage Template for Research in History and the Humanities
- Portage Template for Studying Molecular Interactions
- Portage Template for Systematic Reviews
- Portage Template for Water Quality Research
- University of Alberta Template

We found multiple DMP templates corresponding to your primary research organisation





DMP Templates



There are **13** discipline and methodology-specific templates...so far!



- Advanced Research Computing
- Arts-Based Research
- Interdisciplinary Health Software/Technology Development
- Mixed Methods (Surveys & Qualitative Research)
- Qualitative Health Sciences Research
- CRDCN: Accessing Data from Research Data Centres
- CRDCN: Research Data Centres and External Analysis
- History and the Humanities
- Neuroimaging in the Neurosciences
- Open Science Workflows
- Studying Molecular Interactions
- Systematic Reviews
- Water Quality Research

<https://portagenetwork.ca/tools-and-resources/training-resources/>



Each DMP has study level information associated with it

DMP ASSISTANT My Dashboard Create plans Reference - Help

UNIVERSITY OF ALBERTA LIBRARY

Portage DMP Exemplar - "Mixed Methods"

Project Details | Plan overview | Write Plan | Share | Download

*** Project title**
Portage DMP Exemplar - "Mixed Methods"

Visibility

- Private: restricted to me and people I invite.
- Public: anyone can view.
- Organisation: anyone at my organisation can view.
- Test: mock project for testing, practice, or educational purposes.

Funder
[Empty text box]

Grant number
12345

Project abstract
This is a fictional exemplar data management plan focusing on mixed methods research (survey & interviews/focus groups). This exemplar DMP was developed in February 2020 by James Doiron (Co-chair, Portage DMP Expert Group) for educational and guidance purposes. For these purposes, the premise of the project being described is that the study topic of interest is

ID
8675309

Principal Investigator
[Empty text box]

You can choose from a range of visibility settings - from public to private

You can choose to answer questions within any given section at any time...



University of Alberta

Portage DMP Exemplar - "Mixed Methods"

Project Details	Plan overview	Write Plan	Share	Download
-----------------	---------------	------------	-------	----------

expand all | collapse all 22/22 answered

Data Collection (6 / 6)	+
Documentation and Metadata (3 / 3)	+
Storage and Backup (2 / 2)	+
Preservation (3 / 3)	+
Data Sharing and Reuse (4 / 4)	+
Responsibilities and Resources (4 / 4)	+

Dedicated space as well as guidance customized guidance is provided for each question...

Documentation and Metadata (3 / 3)

What documentation will be needed for the data to be read and interpreted correctly in the future? This includes study-level documentation, data-level description, and any other contextual information required to make the data usable by other researchers.

B I [List Icon] [List Icon] [Link Icon] [Table Icon]

Survey data will be collected within [REDCap](#), a secure electronic data capture and management software hosted by the Women & Children's Health Research Institute (WCHRI) at the University of Alberta. REDCap features include the ability to develop and export a data dictionary which will outline all codes and variables within the survey. Key documentation related variables will be automatically populated within the survey data including time and date stamps and other key information to support data management and analytic activities.

All qualitative interviews will include summary information including: data collector, location of interview, and the date that the interview was conducted. Additionally, qualitative interviews will have accompanying field notes containing key contextual information and metadata.

File naming documentation will be developed and implemented. Components of file names will include as needed: file version (raw, edit, master, analytic), date (i.e., dd/mm/yyyy), and any applicable key contextual information, (e.g., geographical location, interviewer initials or code).

Save

Guidance **Comments**

UAlberta

Your documentation may include study-level information about:

- who created/collected the data
- when it was created
- any relevant study documents
- conditions of use
- contextual details about data collection methods and procedural documentation about how data files are stored, structured, and modified.

A complete description of the data files may include:

- naming and labelling conventions
- explanations of codes and variables
- any information or files require to reproduce derived data.

More information about data documentation is available at the [UK Data Archive](#)

You can easily add collaborators to your DMP, with different permissions settings...

Portage DMP Exemplar - "Mixed Methods"

- Project Details
- Plan overview
- Write Plan
- Share
- Download

Set plan visibility

Public or organisational visibility is intended for finished plans. You must answer at least 0% of the questions to enable these options. Note: test plans are set to private visibility by default.

- Private: visible to me, specified collaborators and administrators at my organisation
- Organisation: anyone at my organisation can view
- Public: anyone can view

Manage collaborators

Invite specific people to read, edit, or administer your plan. Invitees will receive an email notification that they have access to this plan.

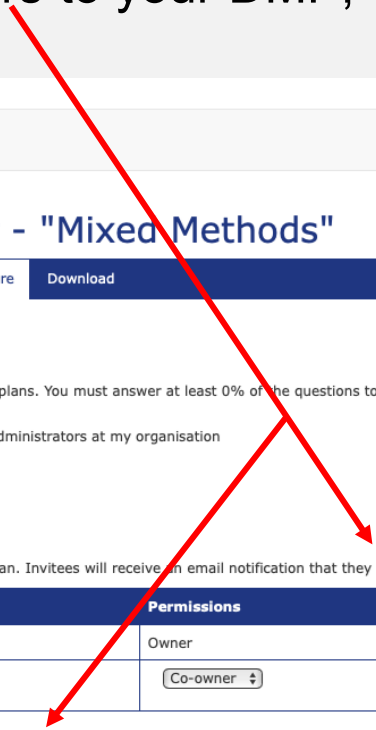
Email address	Permissions	
mitchelldoiron@hotmail.com	Owner	
jdoiron@ualberta.ca	Co-owner	Remove

Invite collaborators

* Email

- * Permissions
- Co-owner
 - Editor
 - Read only

Submit



A range of options are available both for formatting and downloading your DMP...

Portage DMP Exemplar - "Mixed Methods"

Project Details Plan overview Write Plan Share Download

Download settings

Optional Plan Components

- project details coversheet
- question text and section headings
- unanswered questions

Format dropdown menu:
csv
html
pdf
text
docx

PDF formatting

Font

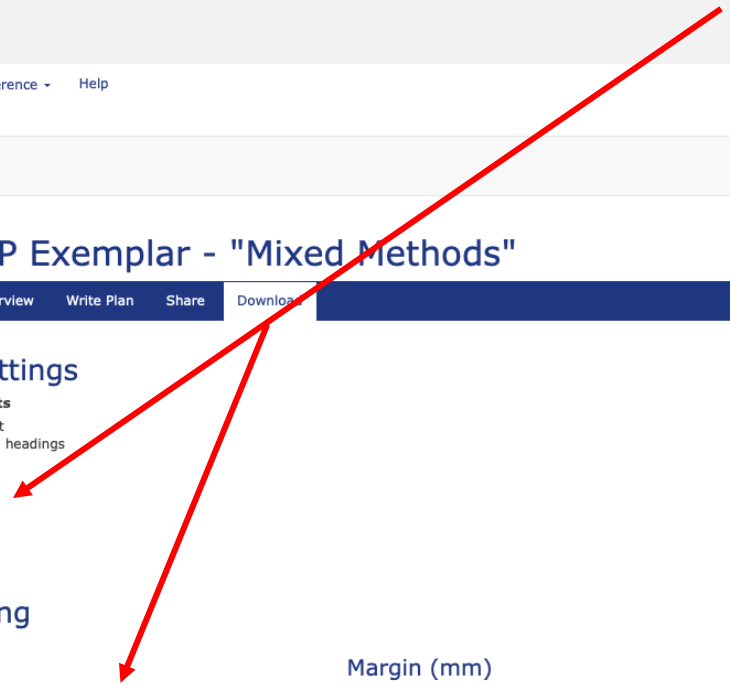
Face: Arial, Helvetica, Sans-Serif

Size (pt): 10

Margin (mm)

Top	Bottom	Left	Right
25	20	12	12

Download Plan





+ Supports & Resources

The Portage **DMP Expert Group** helps to develop guidelines, best practices, and content in support of the DMP Assistant. **Upcoming** outputs include:

- **Tutorial Videos**
 - Introduction to DMPs
 - Introduction to DMP Assistant
- **Updated Institutional Administrator Guide**
 - Institutional Administrator Training
- **More DMP Exemplars**
- **And More!**

<https://portagenetwork.ca/network-of-experts/dmp-expert-group/>

DMP exemplars

Discipline and/or methodology focus	Title & Link
Digital Humanities	Belgians and French in the Prairies
	Soundscape Study
	Women's Print History Project (1750-1830)
	Historical Canadian Census Data
Mixed Methods (surveys & qualitative interviews)	Mixed Methods Fictional Exemplar
Natural Sciences	Ecohydrology Research Group
	Computational Reproducibility in High-Performance Computing
Social Sciences	People, Places, Policies & Prospects: Affordable Rental Housing for Those in Greatest Need
	Usage of Academic Profile Websites

DMP exemplars

Discipline and/or methodology focus

Digital Humanities

Mixed Methods
(surveys & qualitative interviews)

Natural Sciences

Social Sciences

portage
UNIVERSITÉ MONTAÏNE POUR LES COMMUNES DE RECHERCHE
UNIVERSITY OF SASKATCHEWAN

Data Management Plan Exemplar #3: Mixed Methods

Fictional Exemplar

Data Collection

What types of data will you collect, create, acquire and/or record?

We will be collecting surveys which will then be exported into tabular format.

We will also be conducting both semi-structured interviews and focus groups that will produce both digital audio and text (transcriptions) based data.

What file formats will your data be collected in? Will these formats allow for data re-use, sharing and long-term access to the data?

Our file formats will exist both in non-proprietary and proprietary formats. The non-proprietary formats will ensure that these data are able to be used by anyone wishing to do so once they are deposited and made openly available.

Surveys will exist in .csv (non-proprietary), MS Excel, & SPSS (both proprietary) formats. For more information regarding SPSS see: SPSS Wikipedia <https://en.wikipedia.org/wiki/SPSS>

Interviews & focus groups data will exist in .mp3 (non-proprietary), MS Word & NVivo (both proprietary) formats. For more information regarding NVivo see: NVivo Wikipedia <https://en.wikipedia.org/wiki/NVivo>

Any survey data deposited for sharing and long-term access will be in .csv format so that anyone can use them without requiring proprietary software.

The final de-identified versions of the interviews and focus groups transcripts will be exported into a basic non-proprietary text format for deposit, long-term preservation and access.

If data are collected using laptops or mobile devices, please explain how you will securely store and transfer the data.

Laptops are not being used for any data collection, though encrypted digital voice recorders (DVRs) will be used to collect both interviews and transcripts. Interviews and focus group digital audio files will not be stored on the DVRs, only collected and then securely transferred to the project's cloud based virtual research environment space via a secure FTP (File Transfer Protocol).



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2

nk

1830)

n-Performance Computing

: Affordable Rental Housing

If you are interested in learning more about using the DMP Assistant, you can access and view the below webinar!

[Support Your Research with DMP Assistant 2.0!](#)

Presenter:
Robyn Nicholson,
DMP Coordinator, Digital Research Alliance of Canada



The image shows a webinar slide with the following content:

- Logos:** CARL ABRC (with a network diagram icon), portage (with the tagline "SERVICES PARTAGÉS POUR LES DONNÉES DE RECHERCHE" and "SHARED STEWARDSHIP OF RESEARCH DATA"), NDRIO (with the tagline "New Digital Research Infrastructure Organization"), and NOIRN (with the tagline "Nouvelle organisation d'infrastructure de recherche numérique").
- Text:** "Webinar: Support Your Research with DMP Assistant 2.0!"
- Government Logo:** Innovation, Science, & Economic Development Canada.
- Footer:** "Funding in support of the Portage Network's stewardship of research data within Canada is administered through the New Digital Research Infrastructure Organization in (NDRIO)." and a Creative Commons BY-NC-ND license icon.
- Video Player:** A video player interface at the bottom with a progress bar showing 0:00 / 1:03:55 and various control icons.
- Inset Video:** A small video inset in the top right corner showing the presenter, Robyn Nicholson.

Portage Webinar – Support Your Research with DMP Assistant 2.0!



+ **The DMP Assistant Steering Committee** provides essential guidance, support and direction including on the development of **new proposed features** such as:

- **API Integration** with other systems (e.g., grants, ethics)
- **Reviewing & Evaluating** DMPs
- Building a **DMP Repository** with DMP Assistant integration
- **DMP Versioning**
- Leveraging the power & potential of **PIDs**
- Improving machine-actionability > **maDMPs**



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Alliance de recherche
numérique du Canada

Questions & Discussion

James Doiron

RDM Services Coordinator, UofA Library
Academic Director, UofA Research Data Centre
Co-Chair, Portage DMP Expert Group

jdoiron@ualberta.ca

