Portage & Data Management Plans in Canada: Policies, Templates, & Platforms

RDA 10th Plenary Collocated event
Jeff Moon, Queen’s University
Jane Fry, Carleton University
September 18, 2017

Thanks to Chuck Humphrey for permission to repurpose his slide deck
Agenda

Policies

Data Management – Culture & Context

Templates & Platforms
Learning Outcomes

This workshop will introduce research data management (RDM) topics and prepare participants to better support researchers in completing data management plans (DMPs). By the end of the workshop, participants will:

1. be able to describe the Tri-Agency principles on digital data management, data management plans, and how the Portage Network of Expertise and Infrastructure Platforms support RDM
2. understand the research data lifecycle and know the difference between ‘data management’ and ‘data stewardship’
3. be able to describe each of the seven RDM sections in the Portage data stewardship template and to direct researchers to sources to help answer the questions under each of these sections
4. be able to advise researchers on how to export their DMPs for use by others
Policies
Policies

Principles
Tri-Agency statement of principles

- The Tri-Agency Statement of Principles on Digital Data Management includes text about dealing with research data use, sharing, and stewardship.

“The agencies believe that research data collected with the use of public funds belong, to the fullest extent possible, in the public domain and available for reuse by others. They also strongly support the creation of a robust and efficient environment for data stewardship in Canada and internationally.”
Tri-Agency statement of principles

- The statement further describes practices that support these values:
  - Data management planning
  - Working within legal and ethical obligations
  - Adherence to standards
  - Secure digital practices
  - Providing quality metadata
  - Preserving, retaining, and sharing
  - Timely sharing
  - Citation and attribution
  - Efficient and cost effective practices
Tri-Agency statement of principles

- The statement further describes practices that support these values:
  - Data management planning
  - Working within legal and ethical obligations
  - Adherence to standards
  - Secure digital practices
  - Providing quality metadata
  - Preserving, retaining, and sharing
  - Timely sharing
  - Citation and attribution
  - Efficient and cost effective practices
Principles

Tri-agency statement of principles on digital data management

Data Management Planning

Data management planning is necessary at all stages of the research project lifecycle, from design and inception to completion.

Data management plans are key elements of the data management process. They describe how data are collected, formatted, preserved and shared, as well as how existing datasets will be used and what new data will be created. They also assist researchers in determining the costs, benefits and challenges of managing data. They should be developed using standardized tools, where available.

[emphasis added]

Tri-Agency Statement of Principles on Digital Data Management  Dec 2016
Principles

Tri-agency statement of principles on digital data management

Data Management Planning

Data management planning is necessary at all stages of the research project lifecycle, from design and inception to completion.

Data management plans are key elements of the data management process. They describe how data are collected, formatted, preserved and shared, as well as how existing datasets will be used and what new data will be created. They also assist researchers in determining the costs, benefits and challenges of managing data. They should be developed using standardized tools, where available.

[emphasis added]
Canadian university research data management statement of principles

Data Management Plans:

*Institutional and project-specific data management plans* typically follow recognized, relevant international standards and community best practices. Such plans should recognize that data may be of potential long-term value, sometimes for purposes distinct from those for which the data were created, and will require plans and resources for preservation and access. Decisions about the length of time for data preservation should be based on policies which recognize the potential long-term value of research data.

[emphasis added]
Principles

Canadian university research data management statement of principles

Data Management Plans:

Institutional and project-specific data management plans typically follow recognized, relevant international standards and community best practices. Such plans should recognize that data may be of potential long-term value, sometimes for purposes distinct from those for which the data were created, and will require plans and resources for preservation and access. Decisions about the length of time for data preservation should be based on policies which recognize the potential long-term value of research data.

[emphasis added]
Policies
Policies

U.S. Department of Energy Office of Science

- DMPs should describe whether and how data generated in the course of the proposed research will be **shared** and **preserved**. If the plan is not to share and/or preserve certain data, then the plan must explain the basis of the decision (for example, cost/benefit considerations, other parameters of feasibility, scientific appropriateness, or limitations discussed in #4). At a minimum, DMPs must describe how data sharing and preservation will enable validation of results, or how results could be validated if data are not shared or preserved.

- DMPs should provide a plan for making all research data displayed in publications resulting from the proposed research open, machine-readable, and digitally accessible to the **public at the time of publication**. This includes data that are displayed in charts, figures, images, etc. In addition, the underlying digital research data used to generate the displayed data should be made as accessible as possible to the public in accordance with the principles stated above. This requirement could be met by including the data as supplementary information to the published article, or through other means. The published article should indicate how these data can be accessed.

Source: https://science.energy.gov/funding-opportunities/digital-data-management/
Policies
U.S. Department of Energy Office of Science

- DMPs should consult and reference available information about data management resources to be used in the course of the proposed research. In particular, DMPs that explicitly or implicitly commit data management resources at a facility beyond what is conventionally made available to approved users should be accompanied by written approval from that facility. In determining the resources available for data management at Office of Science User Facilities, researchers should consult the published description of data management resources and practices at that facility and reference it in the DMP. Information about other Office of Science facilities can be found in the additional guidance from the sponsoring program.

- DMPs must protect confidentiality, personal privacy, Personally Identifiable Information, and proprietary interests; recognize intellectual property rights; avoid significant negative impact on innovation, and U.S. competitiveness; and otherwise be consistent with all applicable laws, regulations, and DOE orders and policies. There is no requirement to share proprietary data.

Source: https://science.energy.gov/funding-opportunities/digital-data-management/
Tri-Agency
Data Management Policy Development

Jeremy Geelen, PhD
Social Sciences and Humanities Research Council
CARA Annual Conference
May 8, 2017
Tri-Agency
Data Management Policy Development

Institutional Strategy
- Institutions

DMPs
- Researchers

Deposit
- Researchers
1. Institutions: Institutional Strategy

- Institutions administering Tri-Agency funds will require an institutional research data management strategy outlining how researchers will be provided with an environment that enables and supports world class RDM practices.
- The strategy must be posted and publicly available on the institution’s website, with contact information to direct inquiries about the strategy.
2. **Researchers**: Data Management Plans

- Data Management Plans (DMPs) will be required for projects supported wholly or in part by Tri-Agency funds.

  DMPs required *after* grant awarded but *before* funds released

- For specific funding opportunities:

  DMPs required *in application* as part of adjudication

[modified, emphasis added]
3. **Researchers:** Data Deposit

- For all research data and code that support journal publications, pre-prints and other research outputs that arise from agency-supported research, grant recipients are **required to deposit these data and code in an appropriate public repository or other platform** that will ensure safe storage, preservation, curation, and (if applicable) access to the data.

[modified, emphasis added]

Source: Jeremy Geelen, SSHRC
Data Management – Culture & Context

Research Data Culture
Research Data Types
The Data Lifecycle
Management vs Stewardship
Institutional Commitment

Institutional Strategy
DMPs
Deposit

Institutions
Researchers
Researchers
Research Data Culture

The **values** and **norms** that describe the appropriate treatment of research data and that give meaning to the importance and use of research data in our society.

- Data culture of **use** → evidence-based *actions*
- Data culture of **sharing** → allowing others *access* to your research data
- Data culture of **stewardship** → taking responsibility for the *long-term access* to your research data
Research Data Types
Types of Research Data

Exercise 1:

Create a list of the different types of research data that you have encountered in your research and some context surrounding your use of each data type.

Take 5 minutes... and then we’ll regroup
The Data Lifecycle
Research data lifecycle

Exercise 2:

Choose one of the data types identified in the previous exercise and draw a lifecycle model representing the steps through which the data would flow in a research project.

Focus on high-level, generalized steps in the research process – aim for six to eight steps.

Take 10 minutes, and then we’ll report back...
UKDA Research Data Lifecycle
Managing research data entails the many activities dealing with the *operational support* of data across the stages of the research lifecycle. This involves the “what” and “how” of research data.

Data Stewardship involves *assigning responsibility* for ensuring data management activities are performed to best practice levels and standards across the complete lifecycle. This addresses “who” is responsible for specific data activities.
Institutional commitment

Researchers face increasing burden managing project-level data due to pressures from funders, publishers, disciplinary shifts regarding sharing, and regulatory frameworks protecting human participants in research.

Institutions need to better coordinate research services and infrastructure to more efficiently manage (and minimize) these pressures on their research community.

Institutional RDM strategies will be a start
DMPs help clarify responsibilities

KEY

- Institution Level
- Project/Researcher Level
ANDS: Data Management Overview
ANDS: Data Management Overview
DMPs help clarify responsibilities

DMPs can help researchers

a. identify institutional services that can support their data after a project ends, and
b. determine the process for transferring their data.
DMPs and data workflows

Trends in research data management are being shaped by **digital workflows**.

- Plan to **go digital** from the beginning of a project.
- Develop practices in a digital workflow that facilitate the **flow of data and metadata** across platforms that support the collection, processing, analysis, visualization, publishing, sharing, and deposit of data.
- Use **open-source** software if possible.
The Goals of the Portage Network

- Foster a **community of practice** for research data management (RDM)
- Facilitate and provide leadership in the **development of RDM infrastructure**
- Engage and advocate for research data management with **stakeholder communities**
Layers of a Community of Practice

- Researcher Layer
- Institutional Layer
- Network of Expertise Layer
- Infrastructure Platform Layer

Researchers
Institutions
Network of Expertise
Infrastructure Platform
Layers of a Community of Practice

Strengthening relationships

- Researcher with subject / liaison librarian
- Subject / liaison librarian with Portage experts
- Infrastructure providers with Portage experts
Distribution of a Community of Practice

Canada’s four regional library consortia
# Portage RDM framework

## Research Data Lifecycle

<table>
<thead>
<tr>
<th>Data Planning and Production</th>
<th>Data Deposit</th>
<th>Data Curation</th>
<th>Data Preservation</th>
<th>Data Access</th>
<th>Reuse &amp; Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMPs &amp; Project-level research data management</td>
<td>Staging &amp; institutional repositories</td>
<td>Trustworthy data repositories</td>
<td>Institutional and domain repositories</td>
<td>Virtual research environments</td>
<td></td>
</tr>
</tbody>
</table>

## Portage Network of Expertise

<table>
<thead>
<tr>
<th>Data Management Plans</th>
<th>Data Curation</th>
<th>Data Preservation</th>
<th>Data Discovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Intelligence</td>
<td>Training</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## RDM Tools & Platforms

<table>
<thead>
<tr>
<th>Data Management Plans</th>
<th>File Transfer and Deposit</th>
<th>Curation Toolkit and Preservation Pipeline</th>
<th>Data Discovery and Data Integration Toolkit</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMP Assistant</td>
<td>DVN2Arch</td>
<td>Islandora2Arch Globus FTP</td>
<td>FPR-PREFE, Federated Research Data Repository, Dataverse North</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Network of Expertise

● Expert groups
  ○ Data Management Plans (DMPEG)
  ○ Curation (CEG)
  ○ Preservation (PEG)
  ○ Discovery (DEG)
  ○ Training (TEG)
  ○ Research Intelligence (RIEG)

● Working groups
  ○ Data repositories & collection development
  ○ Metadata for discovery
  ○ Online training module on an introduction to RDM
  ○ Online training module on DMPs
  ○ CIHR Training Modules
  ○ FRDR Service Model Working Group

● Dataverse North community of practice
What we’ve covered so far...

Policies

DMPs: Culture & Context

Institutions

Researchers

Researchers
Sum up, questions & Break
Data Management Templates & Platforms
Agenda - review

Policies
Tri-Agency principles and emerging policies

Data Management – Culture & Context
Research Data Culture
Research Data Types
The Data Lifecycle
Data Management vs Stewardship
Institutional Commitment
Platforms & Templates

- Web-based data management platforms
  - Tools
  - Software

- Data stewardship templates
  - Frameworks
  - Used for planning
  - Within a platform
  - Could also be called a form
Exercise 3:

• Choose **one** step in the research lifecycle.
• List **three** data management activities that would be conducted for this step.

5 minutes!
UKDA Research Data Lifecycle
The next step

- What’s next?
  - the Data Management Plan and
  - the Data Management Plan Assistant
If you were asked to draft a data management plan as part of a grant application, which of the following statements would best describe your situation?

- 46% would be able to draft a data management plan that would address these types of questions without assistance.
- 37% would be able to draft a data management plan that would address these types of questions, but would prefer to have assistance and/or guided documentation to ensure the success of my application.
- 17% would need assistance and/or guided documentation to appropriately address some or all of the sections.

83% reported needing or preferring to have help.

A survey of Engineering and Science Researchers on Research Data Management Understanding & Practice conducted in 2016. Responses compiled from: Queen’s University, University of Alberta, University of British Columbia, University of Toronto, and University of Waterloo (n=551).
“I liked the Portage Guidance that accompanies each question. I don't think people always understand why they are being asked to write a data management plan. A common mistake I have seen in NSF proposals is DMPs that focus too narrowly on how data access will be limited (for human subject protection) and don't give enough information about how data will be preserved and shared and made useful to others. So I think this system can play an important role in educating researchers about all the different ways they need to think about their data management, and guiding them as they plan their research.”
"What surprised me most about the process was the extent to which our group had already developed many of the DMP elements. The process of incorporating these existing elements into a single document, however, provided us the opportunity to better appreciate the points at which those elements can be brought together more effectively. The exercise was tremendously valuable in that way."
Feedback (cont’d)

“As we are at the beginning of our project, the DMP process really helped us to plan what we want to do with our data and how we want to proceed. We found it very useful. However lots of points will need to be clarified.”

“The process of writing the DMP really pointed out the great diversity of the data we are dealing with within our project, and showcased the importance of having a distinct data management approach for each type of data, and the challenges that come with it.”

“I came to see the DMP process as about planning for the preservation and archivization of data, not about its ideal presentation or optimal accessibility.”
General DM template

- Developed by the Portage DMP Expert Group
  - Nine experts from across Canada
  - Conducted an environmental scan of data stewardship best practices
  - Identified seven sections
    - prepared 20 questions with guidance text
  - Pre-tested the text
    - then modified it based on feedback
  - Translated into French
    - the text
    - the User Interface of DMP Assistant
- Launched October 21, 2015
**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

Launched in 2015 by the [Canadian Association of Research Libraries](http://www.carl.ca), Portage works within the library community to coordinate expertise, services, and technology in research data management, seeking to collaborate with other research data management stakeholders.

**Research data culture** represents widely shared values and principles for digital data management.

**A community of practice for research data** consists of stakeholders working collaboratively to ensure data are accessible to address complex research issues.

Research data management activities span sectors, domains, and jurisdictions, necessitating nationally coordinated research
DMP Assistant is a bilingual tool for preparing data management plans (DMPs). The tool follows best practices in data stewardship and walks researchers step-by-step through key questions about data management.

**Sign up with DMP Assistant**

**Sign in and select a template under Organizations. The Portage template is the default.**

**Answer the questions that are relevant to your work. Guidance and examples are provided.**

**Revisit the tool throughout your research to review or revise your answers.**

---

**Sign in**

If you have an existing account with DMP Assistant or previous version of DMP Builder.

**Sign up**

New to DMP Assistant? Sign up today.

Please note that we are currently working on single sign-in authentication. For now, please create a new DMP Assistant account. You will have the option to link your DMP Assistant account to your campus ID when that feature becomes available.
Sign up

New to DMP Assistant? Sign up today.

Email *

Organization

My organisation isn't listed

Password *

Password confirmation *

I accept the terms and conditions *

Sign up

https://assistant.portagenetwork.ca/
Sign in

If you have an existing account with DMP Assistant or previous version of DMP Builder.

Email address *

Password *

Forgot your password?

☐ Remember me

Sign in

Campus ID single sign-in authentication coming soon!
DMP Assistant

• When creating a plan
  • choose from a set of available templates to prepare a DMP

• A user maintains their own list of plans
  • from this list can edit, share, export, or delete a plan
My plans

The table below lists the plans that you have created, and any that have been shared with you by others. These can be edited, shared, exported or deleted at anytime.

<table>
<thead>
<tr>
<th>Name</th>
<th>Owner</th>
<th>Shared?</th>
<th>Last edited</th>
<th>Select an action</th>
</tr>
</thead>
<tbody>
<tr>
<td>My plan (Portage Template)</td>
<td>Me</td>
<td>No</td>
<td>14-12-2016</td>
<td>Edit</td>
</tr>
<tr>
<td>My plan (Portage Template)</td>
<td>Me</td>
<td>No</td>
<td>12-01-2017</td>
<td>Edit</td>
</tr>
<tr>
<td>My plan (Portage Template)</td>
<td>Me</td>
<td>No</td>
<td>16-01-2017</td>
<td>Edit</td>
</tr>
<tr>
<td>My plan (University of Alberta Template)</td>
<td>Me</td>
<td>No</td>
<td>16-01-2017</td>
<td>Edit</td>
</tr>
</tbody>
</table>
Create a new plan

Please select from the following drop-downs so we can determine what questions and guidance should be displayed in your plan.

If you aren't responding to specific requirements from a funder or an institution, you can choose the Portage Data Stewardship Template. The Portage Data Stewardship Template is based on internationally accepted standards and best practices. It has been prepared and is maintained by a group of research data management experts from research libraries across Canada.

To see institutional questions and/or guidance, select your organization.

You may leave blank or select a different organization to your own. If you leave blank, default Portage DWM template will be used.
## Plan Details

**My plan (Portage Template)**

<table>
<thead>
<tr>
<th>Plan details</th>
<th>Portage Data Management Questions</th>
<th>Share</th>
<th>Export</th>
</tr>
</thead>
</table>

This page gives you an overview of your plan. It tells what your plan is based on and gives an overview of the questions that you will be asked.

- **Plan name**: My plan (Portage Template)
- **ID**: -
- **Grant number**: -
- **Principal Investigator/Researcher**: Jane Fry
- **Plan data contact**: -
- **Description**: -

This plan is based on:

<table>
<thead>
<tr>
<th>Institution</th>
<th>Portage</th>
</tr>
</thead>
</table>

[Edit plan details] [Answer questions] [Export]
Editing the plan details

<table>
<thead>
<tr>
<th>Plan details</th>
<th>Portage Data Management Questions</th>
<th>Share</th>
<th>Export</th>
</tr>
</thead>
</table>

Please fill in the basic project details below and click 'Save' to save

<table>
<thead>
<tr>
<th>Plan name</th>
<th>My first DMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>20170731</td>
</tr>
<tr>
<td>Grant number</td>
<td>CU#7524</td>
</tr>
<tr>
<td>Principal Investigator/Researcher</td>
<td>Jane Fry</td>
</tr>
<tr>
<td>Principal Investigator/Researcher ID</td>
<td>9235</td>
</tr>
<tr>
<td>Plan data contact</td>
<td><a href="mailto:jane.fry@carleton.ca">jane.fry@carleton.ca</a></td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
</tbody>
</table>

Questions to consider:
- What is the nature of your research project?
- What research questions are you addressing?
- For what purpose are the data being collected or created?

Guidance:
Briefly summarise the type of study (or studies) to help others understand the purposes for which the data are being collected or created.
## My first DMP

<table>
<thead>
<tr>
<th>Portage Data Management Questions</th>
<th>Share</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>This page gives you an overview of your plan. It tells what your plan is based on and gives an overview of the questions that you will be asked.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plan details</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan name</td>
<td>My first DMP</td>
</tr>
<tr>
<td>ID</td>
<td>20170731</td>
</tr>
<tr>
<td>Grant number</td>
<td>CU#7524</td>
</tr>
<tr>
<td>Principal Investigator/Researcher</td>
<td>Jane Fry</td>
</tr>
<tr>
<td>Principal Investigator/Researcher ID</td>
<td>9235</td>
</tr>
<tr>
<td>Plan data contact</td>
<td><a href="mailto:jane.fry@carleton.ca">jane.fry@carleton.ca</a></td>
</tr>
<tr>
<td>Description</td>
<td>-</td>
</tr>
</tbody>
</table>

This plan is based on:

| Institution | Portage |
DMP Templates

Structure of a template

• **Project description**
  o called “Plan Details”

• **Sections**
  o major topics that have to be addressed in your DMP

• **Questions**
  o for each section
  o specific ones for that particular section

• **Guidance text**
  o hints on what to consider when answering the question
  o an explanation of the question
Template Sections

- Data collection
- Documentation & metadata
- Backup & storage
- Preservation
- Data sharing & reuse
- Responsibilities & resources
- Ethics & legal compliance
Template Sections (cont’d)

Data Collection

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

● 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?

● What conventions and procedures will you use to structure, name and version-control your files to help you and others better understand how your data are organized?
Documentation and Metadata

- What documentation will be needed for the data to be read and interpreted correctly in the future?

- How will you make sure that documentation is created or captured consistently throughout your project?

- If you are using a metadata standard and/or tools to document and describe your data, please list here.
Storage and Backup

● What are the anticipated storage requirements for your project, in terms of storage space (in megabytes, gigabytes, terabytes, etc.) and the length of time you will be storing it?

● How and where will your data be stored and backed up during your research project?

● How will the research team and other collaborators access, modify, and contribute data throughout the project?
Template Sections (cont’d)

Preservation

- Where will you deposit your data for long-term preservation and access at the end of your research project?

- Indicate how you will ensure your data is preservation ready. Consider preservation-friendly file formats, ensuring file integrity, anonymization and de-identification, inclusion of supporting documentation.
Sharing and Reuse

- What data will you be sharing and in what form? (e.g. raw, processed, analyzed, final).

- Have you considered what type of end-user license to include with your data?

- What steps will be taken to help the research community know that your data exists?
Responsibilities and Resources

- Identify who will be responsible for managing this project's data during and after the project, and the major data management tasks for which they will be responsible.

- How will responsibilities for managing data activities be handled if substantive changes happen in the personnel overseeing the project's data, including a change of Principal Investigator?

- What resources will you require to implement your data management plan? What do you estimate the overall cost for data management to be?
Ethics and Legal Compliance

- If your research project includes sensitive data, how will you ensure that it is securely managed and accessible only to approved members of the project?

- If applicable, what strategies will you undertake to address secondary uses of sensitive data?

- How will you manage legal, ethical, and intellectual property issues?
Source: Jeff Moon, Queen’s University
Funding Agencies

Academic Societies

Data Services & Repositories

Academic Journals

Government Policies

Ethics Boards

University VP Research Offices

Sharing and Reuse

What data will you be sharing and in what form? (e.g. raw, processed, derived)
Have you considered what type of end-user license to use for each dataset?
What steps will be taken to help the research community understand and use your data?

Responsibilities and Resources

Identify who will be responsible for managing this project
How will responsibilities for managing data activities be allocated?
What resources will you require to implement your data management plan?

Ethics and Legal Compliance

If your research project includes sensitive data, how will you manage its protection?
If applicable, what strategies will you undertake to add value to the data?
How will you manage legal, ethical, and intellectual property issues?
<table>
<thead>
<tr>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Collection</strong></td>
</tr>
<tr>
<td><strong>Documentation and Metadata</strong></td>
</tr>
<tr>
<td><strong>Storage and Backup</strong></td>
</tr>
<tr>
<td><strong>Preservation</strong></td>
</tr>
<tr>
<td><strong>Sharing and Reuse</strong></td>
</tr>
<tr>
<td><strong>Responsibilities and Resources</strong></td>
</tr>
<tr>
<td><strong>Ethics and Legal Compliance</strong></td>
</tr>
<tr>
<td>Sections</td>
</tr>
<tr>
<td>----------------------------------------------</td>
</tr>
<tr>
<td><strong>Data Collection</strong></td>
</tr>
<tr>
<td>What types of data will you collect, create, link to, acquire?</td>
</tr>
<tr>
<td>What file formats will your data be collected in? Will they be changed?</td>
</tr>
<tr>
<td>What conventions and procedures will you use to structure your data?</td>
</tr>
<tr>
<td><strong>Documentation and Metadata</strong></td>
</tr>
<tr>
<td>What documentation will be needed for the data to be used?</td>
</tr>
<tr>
<td>How will you make sure that documentation is created and maintained?</td>
</tr>
<tr>
<td>If you are using a metadata standard and/or tools to document your data, what are they?</td>
</tr>
<tr>
<td><strong>Storage and Backup</strong></td>
</tr>
<tr>
<td>What are the anticipated storage requirements for your data?</td>
</tr>
<tr>
<td>How and where will your data be stored and backed up?</td>
</tr>
<tr>
<td>How will the research team and other collaborators access your data?</td>
</tr>
<tr>
<td><strong>Preservation</strong></td>
</tr>
<tr>
<td>Where will you deposit your data for long-term preservation?</td>
</tr>
<tr>
<td>Indicate how you will ensure your data is preserved over time</td>
</tr>
<tr>
<td><strong>Sharing and Reuse</strong></td>
</tr>
<tr>
<td>What data will you be sharing and in what form? (e.g. raw, summarized)</td>
</tr>
<tr>
<td>Have you considered what type of end-user license to use?</td>
</tr>
<tr>
<td>What steps will be taken to help the research community understand and use your data?</td>
</tr>
<tr>
<td><strong>Responsibilities and Resources</strong></td>
</tr>
<tr>
<td>Identify who will be responsible for managing this project</td>
</tr>
<tr>
<td>How will responsibilities for managing data activities be distributed?</td>
</tr>
<tr>
<td>What resources will you require to implement your data management plan?</td>
</tr>
</tbody>
</table>

**Ethics and Legal Compliance**

- If your research project includes sensitive data, how will you handle it? ✔
- If applicable, what strategies will you undertake to address these issues? ✔
- How will you manage legal, ethical, and intellectual property issues? ✔
<table>
<thead>
<tr>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Collection</strong></td>
</tr>
<tr>
<td>What types of data will you collect, create, link to, acquire? What file formats will your data be collected in? Will there be any restrictions on file formats? Which conventions and procedures will you use to structure your data?</td>
</tr>
<tr>
<td><strong>Documentation and Metadata</strong></td>
</tr>
<tr>
<td>What documentation will be needed for the data to be used? How will you make sure that documentation is created? If you are using a metadata standard and/or tools to document your data, what are they?</td>
</tr>
<tr>
<td><strong>Storage and Backup</strong></td>
</tr>
<tr>
<td>What are the anticipated storage requirements for your data? How and where will your data be stored and backed up? How will the research team and other collaborators access your data?</td>
</tr>
<tr>
<td><strong>Preservation</strong></td>
</tr>
<tr>
<td>Where will you deposit your data for long-term preservation? Indicate how you will ensure your data is preserved?</td>
</tr>
<tr>
<td><strong>Sharing and Reuse</strong></td>
</tr>
<tr>
<td>What data will you be sharing and in what form? (e.g. raw, anonymized, aggregated). Have you considered what type of end-user license to use? What steps will be taken to help the research community access and use your data?</td>
</tr>
<tr>
<td><strong>Responsibilities and Resources</strong></td>
</tr>
<tr>
<td>Identify who will be responsible for managing this project. How will responsibilities for managing data activities be determined? What resources will you require to implement your data management plan?</td>
</tr>
<tr>
<td><strong>Ethics and Legal Compliance</strong></td>
</tr>
<tr>
<td>If your research project includes sensitive data, how will you manage access to it? If applicable, what strategies will you undertake to address compliance issues? How will you manage legal, ethical, and intellectual property considerations?</td>
</tr>
</tbody>
</table>

Source: Jeff Moon, Queen's University
Template Sections (cont’d)

My first DMP

Tips

Not all questions will apply to all research projects. Researchers are encouraged to answer the questions relevant to their work.

Researchers should revisit the tool throughout their research to review or complete their responses.

<table>
<thead>
<tr>
<th>Plan details</th>
<th>Portage Data Management Questions</th>
<th>Share</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Collection (3 questions, 0 answered)</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation and Metadata (3 questions, 0 answered)</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage and Backup (3 questions, 0 answered)</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preservation (2 questions, 0 answered)</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing and Reuse (2 questions, 0 answered)</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsibilities and Resources (3 questions, 0 answered)</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethics and Legal Compliance (3 questions, 0 answered)</td>
<td>+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data Collection

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

Guidance
Portage Guidance
Examples: numeric, images, audio, video, text, tabular data, modeling data, spatial data, instrumentation 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?

Guidance
Portage Guidance
Proprietary file formats requiring specialized software or hardware to use are not recommended, but may be necessary for certain data collection or analysis methods. Using open file formats or industry-standard formats (e.g. those widely used by a given community) is preferred whenever possible.

Read more about file formats: UBC Library or UK Data Archive
Data Collection (cont’d)
You can give other people access to your plan here. There are three permission levels:

Users with "read only" access can only read the plan.
Editors can contribute to the plan.
Co-owners can also contribute to the plan, but additionally can edit the plan details and control access to the plan.

Add each collaborator in turn by entering their email address below, choosing a permission level and clicking "Add collaborator".

Those you invite will receive an email notification that they have access to this plan, inviting them to register with DMP Assistant if they don't already have an account. A notification is also issued when a user's permission level is changed.

Collaborators

<table>
<thead>
<tr>
<th>Email address</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane Fry</td>
<td>Owner</td>
</tr>
</tbody>
</table>

Add collaborator

Email

Permissions:

- Co-owner
- Editor
- Read only

Editors can contribute to plans. Co-owners have additional rights to edit plan details and control access.
Exporting

• The export tab
  • allows displaying a plan in full or selectively for specific themes and their questions
• Export formats include:
  • pdf
  • csv
  • html
  • json
  • text
  • xml
  • docx
DMP title

Project Name  My first DMP
Project Identifier  20170731
Grant Title  CU#7524
Principal Investigator / Researcher  Jane Fry
Project Data Contact  jane.fry@carleton.ca
Institution  Portage

Data Collection
What types of data will you collect, create, link to, acquire and/or record?
  Question not answered.

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?
  Question not answered.

What conventions and procedures will you use to structure, name and version-control your files to help you and others better understand how your data are organized?
  Question not answered.

Documentation and Metadata
What documentation will be needed for the data to be read and interpreted correctly in the future?
  Question not answered.
Exporting (cont’d)
Exporting (cont’d)

From here you can download your plan in various formats. This may be useful if you need to submit your plan as part of a grant application. Select what format you wish to use and click to ‘Export’.

Format

- pdf

Settings (Using default PDF formatting values)

Font

<table>
<thead>
<tr>
<th>Face</th>
<th>Size (pt)</th>
<th>Margin (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arial, Helvetica, Sans-Serif</td>
<td>12</td>
<td>Top: 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bottom: 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Left: 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right: 20</td>
</tr>
</tbody>
</table>

Save  | Reset
Exporting (cont’d)

DMP title

Project Name My first DMP
Project Identifier 20170731
Grant Title CU#7524
Principal Investigator / Researcher Jane Fry
Project Data Contact jane.fry@carleton.ca
Institution Portage

This document was generated by DMP Assistant (https://assistant.portagenetwork.ca)
Exercise 4:

• Choose one of the sections from the DMP template.
• Read over the questions for your section.
• Answer one of the questions listed.
• Bonus
  • Are there any other questions that you think were omitted?

*Hint: use your research experience to help answer these questions 😊
You have 5 minutes!
In sum ... 

You have learned about ... 

- RDM policies 
- The culture and context of DM 
- Portage DMP Assistant platform and the Data Stewardship Template
Thank you!

Jeff Moon
moonj@queensu.ca
&
Jane Fry
Jane.fry@carleton.ca