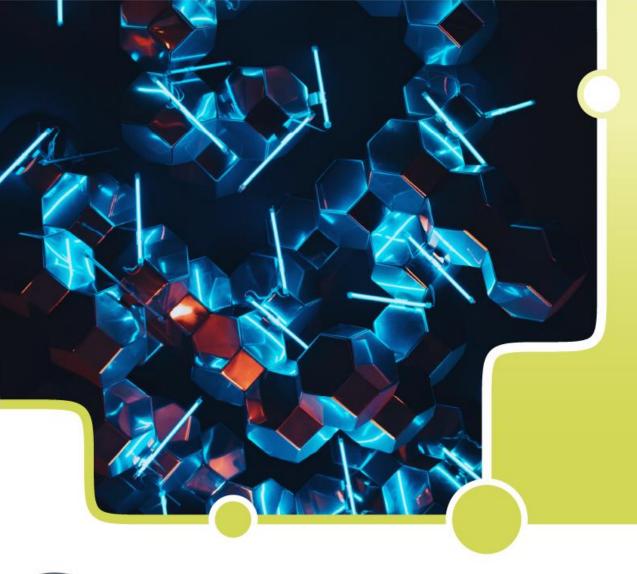
October 25, 2023 | 10:30am-12pm Virtual Workshop + Sandbox Session

Data Management Plans & Intro to DMP Assistant

u.mcmaster.ca/scds-events













McMaster University is located on the traditional Territories of the Mississauga and Haudenosaunee Nations, and within the lands protected by the "Dish With One Spoon" wampum agreement.

WabbitWanderer, "Cockpit Island in Cootes Paradise, Hamilton Ontario, on an autumn afternoon," October 28, 2018, Flickr - https://www.flickr.com/photos/44251652@N08/44101709870/in/photostream/

Code of Conduct

The Sherman Centre and the McMaster University Library are committed to fostering a supportive and inclusive environment for its presenters and participants.

As a participant in this session, you agree to support and help cultivate an experience that is collaborative, respectful, and inclusive, as well as free of harassment, discrimination, and oppression. We reserve the right to remove participants who exhibit harassing, malicious, or persistently disruptive behaviour.

Please refer to our code of conduct webpage for more information:

scds.ca/events/code-of-conduct/

Session Recording and Privacy

This session is being recorded with the intention of being shared publicly via the web for future audiences. In respect of your privacy, participant lists will not be shared outside of this session, nor will question or chat transcripts.

Questions asked via the chat box will be read by the facilitator without identifying you. Note that you may be identifiable when asking a question during the session in an audio or visual format.



Certificate Program

The Sherman Centre offers a Certificate of Attendance that rewards synchronous participation at **7 workshops**. We also offer concentrations in Data Analysis and Visualization, Digital Scholarship, and Research Data Management.

Learn more about the Certificate Program: <u>https://scds.ca/certificate-program</u>

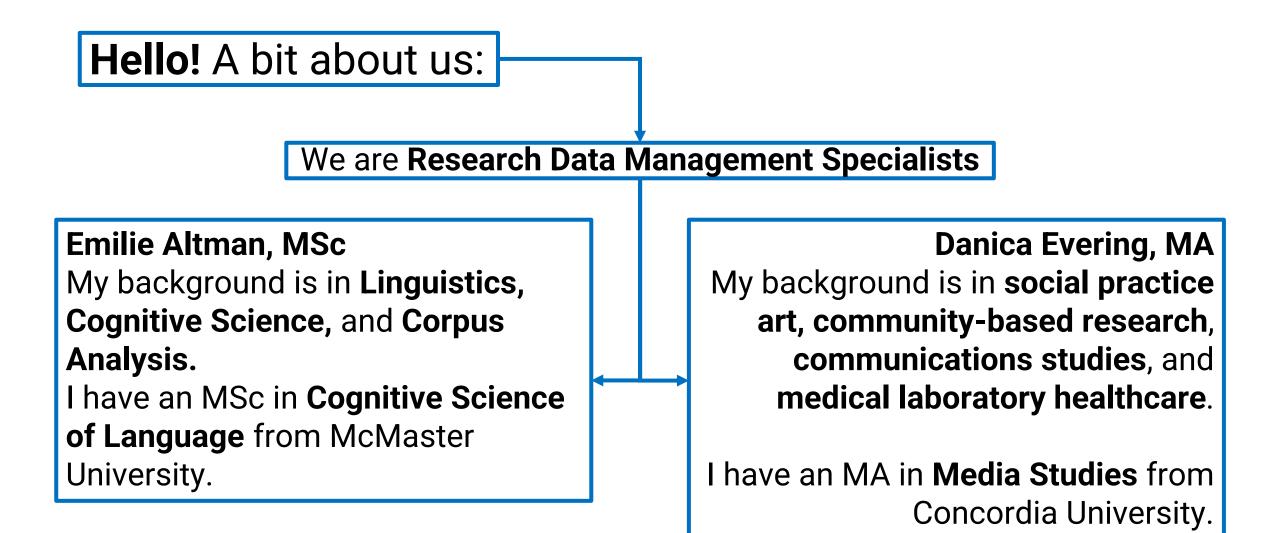
Verify your participation at a session: <u>https://u.mcmaster.ca/verification</u>

At an unspecified point during the workshop, a code will be read aloud. This is the answer to the third question of the form.

Research Data Management Workshops

- Register for upcoming RDM events: <u>https://rdm.mcmaster.ca/events</u>
- Nov. 29: "Depositing & Sharing Data Online with McMaster Dataverse"
- Feb. 14: "Storage Scores: Store & Back Up Data at McMaster"
- Mar. 20: "How to Implement Encryption to Protect Your Research Data"
- Apr. 17: "Sensitive Data Management"
- May 14: "Data Management Plan (DMP) Bootcamp"
- Jun. 18: "Data Deposit Bootcamp"





7 McMaster University





What is RDM and why is it important?

Data Management Plans (DMPs)

- Why are they important?
- What goes in one?
- What makes a good plan?



Funder Requirements for DMPs

Digital Research Alliance of Canada DMP Assistant tool

What is Research Data Management anyways?

Research Data Management is a suite of connected processes and practices applied throughout the research lifecycle, as data are **planned** for, **collected**, **organized**, **documented**, **stored**, **preserved**, **shared**, and **reused**, in support of analysis, research, creative works, and dissemination that benefit society.



McMaster

University

9

Library

in your Research" - https://scds.github.io/intro-rdm/intro.html

Why is RDM important? Data are valuable.

Why is Research Data Management (RDM) important?

Research Data Management best practices make your research better.

Proper data organization and planning ahead saves time and resources.

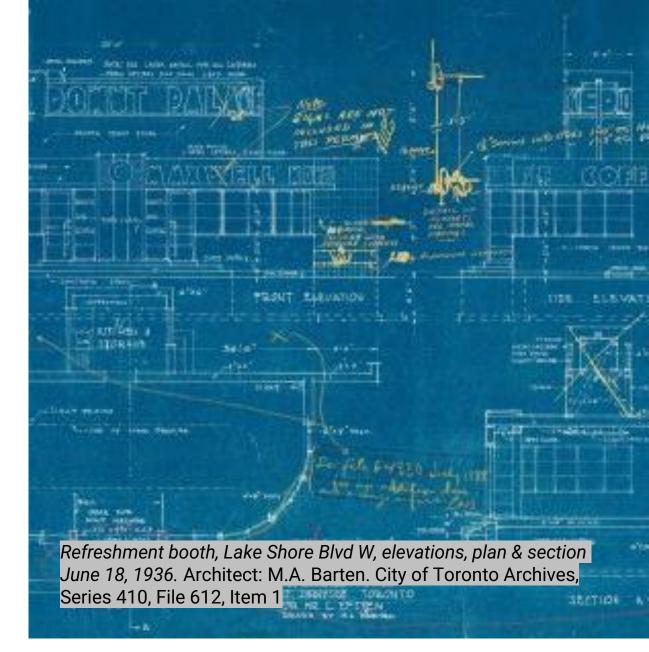
	help avoid loss of data from theft, corruption, or damage to storage devices.
	allows others to reproduce and verify research results.
Depositing and Publishing data	increases the visibility of research and citations.

Photo by Louis Reed on Unsplash.

Data Management Plans: Set up a system for best practices for your project.

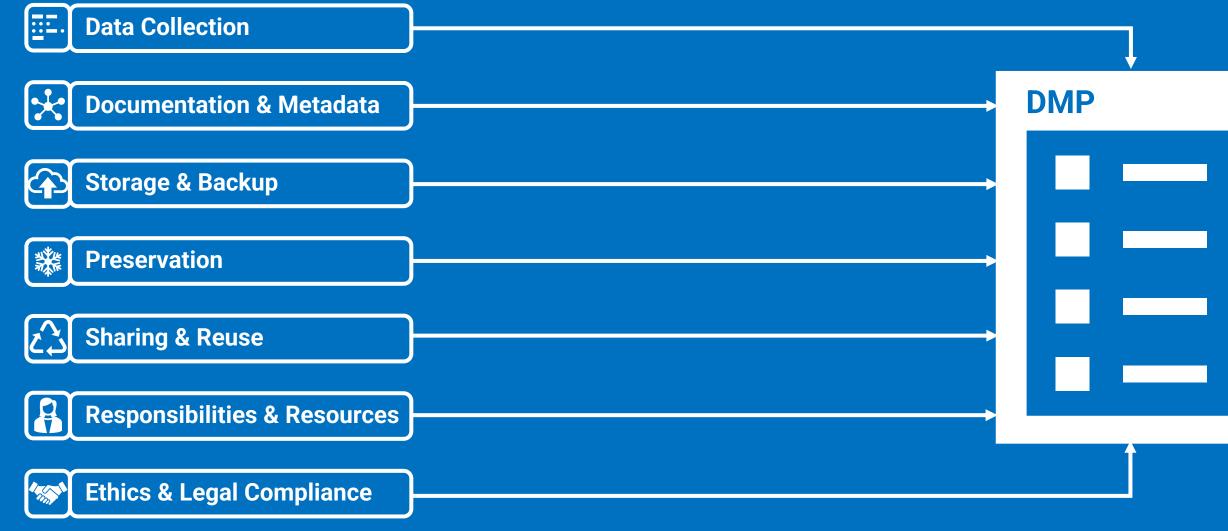
A Data Management Plan (DMP) is a **living document** describing your plan for how you will create, store, organize, document, secure, preserve, and share your research data.

- Creating your own DMP is straightforward using web tools such as <u>DMP Assistant</u>.
- DMPs ask pointed questions of researchers to help them articulate their plans for managing data; they do not compel researchers to manage data differently.
- DMPs outline how you will manage data both during the active phases of your research and after the completion of the research project.





What goes in a Data Management Plan?



Bad management makes data **vulnerable**, **messy**, **+ disconnected**.

Consider the most common approach to data management:

- Storage: Data is stored on laptop or desktop hard drives and backed up to a collection of miscellaneous external hard drives accumulated over the years.
- Documentation: Data is not consistently documented
- Sharing: Data is not published or shared outside the research group except by direct request.

This approach is **vulnerable** to data loss and makes working with the data frustrating.



Photo by Santeri Viinamäki on Wikimedia Commons



Why should I create a Data Management Plan?

Set out consistent strategies **prior to starting your research** for how data will be managed, shared, and archived.

Identify the strengths & weaknesses in your current practices.

Ensure **quality assurance** and decide how to integrate effective data management practices into your research.

 \bigcap_{i}

Make sure your data stays safe and align with **ethical responsibilities**.



Photo by National Cancer Institute on Unsplash.

DMPs **support collaboration** within your lab or research team.

- Engage research partners and collaborators in ongoing conversation about how to best manage research data.
- Establish and consistently lay out data practices for a lab.
- Set up storage and security systems, with timelines for backups and updates.
- Ensure contingency plans and responsibilities for unexpected events – illness, moving universities, ransomware attack.



Data Management Plans are **"living documents**"

- A living document reflects the inevitability of change.
- A living document is edited and updated on an ongoing basis.
- Update your DMP as your project evolves and consider reviewing it along with your password check every 3 months.
- Approached this way, a DMP can be a very useful research tool!





Tri-Agency RDM Policy 2021

	vernement anada Search Canada.ca
IENU ↔	rch funding > Policies and Guidelines > Research Data Management
Research Data Management Tri-Agency	Tri-Agency Research Data Management Policy
Statement of Principles on Digital Data Management	1. Preamble
Tri-Agency Research Data Management Policy	The <u>Canadian Institutes of Health Research (CIHR)</u> , the <u>Natural Sciences</u> and <u>Engineering Research Council of Canada (NSERC)</u> , and the <u>Social</u> <u>Sciences and Humanities Research Council of Canada (SSHRC)</u> (the
Public Consultation Summary	agencies) are federal granting agencies that promote and support research, research training, knowledge transfer and innovation within Canada.

Open Letter

Completed

institutional

research data

The agencies expect the research they fund to be conducted to the highest professional and disciplinary standards, domestically and internationally. These standards support research excellence by ensuring

Institutional Strategies

Data Management Plans (DMPs)

Data Deposit





"All grant proposals submitted to the agencies should include methodologies that reflect best practices in RDM. For certain funding opportunities, the agencies will require data management plans (DMPs) to be submitted to the appropriate agency at the time of application, as outlined in the call for proposals; in these cases, the DMPs will be considered in the adjudication process.

DMPs are living documents that can be modified to accommodate changes throughout the course of a research project."

Innovation, Science and Economic Development Canada. "Tri-Agency Research Data Management Policy." Government of Canada. Innovation, Science and Economic Development Canada, March 15, 2021. https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy



Tri-Agency Data Management Plan Requirements:

Grants that have recently rolled out DMP requirements:

Canadian Institutes of Health Research (CIHR)

- Network Grants in Skin Health and Muscular Dystrophy
- Strengthening the Health Workforce for System Transformation
 Natural Sciences and Engineering Research Council of Canada (NSERC)
- Subatomic Physics Discovery Grants Individual and Project

Social Sciences and Humanities Research Council of Canada (SSHRC)

Partnership Grants Stage 2





Data Management Plans align with global research funding.

- Most UK & EU funders, Wellcome Trust
- Other Canadian funders, such as the International Development Research Centre
- United States National Science Foundation (NSF) Grants
- United States National Institutes of Health (NIH) released their Data Management and Sharing Policy for rollout in 2023 – requiring a Data Management and Sharing Plan (DMSP)



DMP Assistant

- A web-based, bilingual data management planning tool
- Available to all researchers in Canada
- Walks you through relevant questions for data management.
- Exportable data management plans
- Send to RDM Services for review!
- Access at <u>dmp-pgd.ca/plans</u>



McMaster General Purpose DMP Template

This plan is based on the "McMaster General Purpose DMP Template" template provided by McMaster University.

This template is provided by McMaster University RDM Services for general DMP creation. This template is based on designed for any particular discipline. Some research projects may benefit from using a DMP Template built by The

Template version 3, published on July 05, 2023

Instructions

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 preserva
- What conventions and procedures will you use to structure, name and version-control your files to help you ar 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?
- What tools and standards are you using to document and describe your data?



DMP Database

- DMPs can vary across disciplines, methodologies, and data types.
- Over 180 example DMPs from resources across the world.
- Search by field, location, funder (use Canada to find SSHRCspecific DMPs).
- Submit your DMP for other researchers!
- Access at <u>rdm.mcmaster.ca/dmps</u>

Filters: All Fields	~ Clear
Displaying 1 - 30 of 181	Field
	Engineering and Technology (14)
A Framework for Adaptive Sampling of Social Science Research Data Using the Twitter API: Understanding Social Media	Humanities and the Arts (20)
Communication During Crisis Events Original Source	Interdisciplinary (7)
University of California, Davis	Medical, Health, & Life Sciences (33)
This DMP aims to collect and sample data from the Twitter API for subsequent use in social science research to better understand social media communication during a crisis.	Natural Sciences (66)
media communication during a crisis.	Social Sciences (41)
A Political Ecology of Value: A Cohort-Based Ethnography of the Environmental Turn in Nicaraguan Urban Social Policy	
High Point University, Western Washington University Original Source	Funder
This is a DMP for conducting ethnographic research in order to ascertain the impact of novel urban policies in	Arts and Humanities Research Counc
Nicaragua.	(AHRC) (6)
Additive Manufacturing for Spare Parts Supply Chain Original Source	Biotechnology and Biological Science
University of Tennessee at Knoxville	Research Council (BBSRC) (2)
This DMP aims to collect data on the supply and demand for additive manufacturing spare parts in order to optimize the supply chain	Cyber-Enabled Discovery and Innovat
network.	(CDI) program (1)
Advanced Biometrics: Heavy Metals in Estuarine Copepods	Digital Curation Centre (DCC) (1)
Advanced Biometrics: Heavy Metals in Estuarine Copepods	Economic and Social Research Coun (ESRC) (4)
This DMP aims to collect meteorological, physiochemical, environmental, and copepod population data to determine the effect of heavy	
metal on Estuarine Copepods.	Engineering and Physical Sciences
Afra Dessandant Mausmanta and Tamitasias of Life in Urban Casesa Euromales from Passil	Research Council (EPSRC) (1)
Afro-Descendant Movements and Territories of Life in Urban Spaces: Examples from Brazil University of Massachusetts Amherst University of Massachusetts Amherst	European Research Council (ERC) (2)
This DMP investigates Afro-descendant movement in Latin America and subsequent self-determined collectives using participant	Gordon and Betty Moore Foundation
observation, semi-structured interviews, & participatory workshops.	Horizon 2020 (4)
Analyzing Diversity Efforts in Public Radio Organizations - A comparative approach to performance standards in the	IDEX-LYON (1)
workplace Original Source	International Development Research
Brown University	(IDRC) (2)
This is a Data Management Plan reviewing archival data from the National Public Broadcasting Archives, National Public Radio	Key Action 2 Strategic Partnerships f
organizational records, and semi-structured interviews with nonwhite broadcasters and public radio employees in the USA and Australia	Higher Education (1)
to analyze diversity efforts in Public Radio Organizations.	



DMP Exemplars

The Digital Research Alliance of Canada has several DMP exemplars, <u>available here</u>. Our new DMP Database is <u>available here</u>.

We're going to look at the DMP for the "People, Places, Policies and Prospects: Affordable Rental Housing for Those in Greatest Need" project.

https://zenodo.org/record/4062466

Catherine Leviten-Reid, Jasmine Hoover, Cape Breton University.

Storage, Access, and Backup

Describe where, how, and for how long data will be securely stored during the active *phases* of the research project. If any data are to be collected through the use of electronic platforms, account for their usage within your data storage description. Include a description of any policies and procedures that will be in place to ensure that data are regularly backed-up.

All data storage and backup procedures will be clearly outlined within the project's data collection policies and procedures which will be developed prior to data collection. These procedures will also indicate where data will be stored throughout the active stages of the project.

As we are collecting survey data using <u>REDCap</u> software, the raw data will be transferred using a FTP process, and will be stored securely. REDCap servers are locally hosted by WCHRI within the Faculty of Medicine and Dentistry and undergo regular backups (incremental and full). Our virtual research project space has a regularly established scheduled incremental and full backup process in place to ensure no data loss occurs.

Qualitative interviews will be conducted using virtual recordings over Zoom. Upon completion of the interviews the data will be securely transferred within 48 hours to the virtual research project space located on Digital Research Alliance of Canada's cloud platform. Once the interviews are uploaded to the cloud platform they will be permanently deleted from the local computers on which the interviews were saved. This VRE undergoes backups on a regular schedule which include incremental and full backup processes.

Describe how members of the research team will securely access and work with data during the active phases of the research project.

All data will be securely stored on the Digital Research Alliance of Canada's (DRAC) cloud platform and these data will be accessible only by approved researchers, trainees, and project



Data Collection

- What types of data will you collect, create, link to, acquire and/or record?
- Where is your data coming from? Are you re-using existing data?
- What file formats will your data be collected in?
- How will your data be organized? SQL database, spreadsheet, etc.
- What conventions and procedures will you use to structure, name and version-control your files?

Jon Erlandson - https://doi.org/10.1126/science.1201477

Data Collection

Data collected during our projects may include, but are not limited to, those gathered from surveys, in-depth interviews, focus groups, community conversations and arts-based methods such as photography. This means we will potentially generate numeric, audio, image, video and text-based data.

This research project is collecting a variety of types of data. Examples of these include XML and CSV for databases and spreadsheets, JPG or TIFF files for images, MP3 files for sound and TXT for text. Each of these file types are non-proprietary, ensuring ease and flexibility of reuse.





Data Collection

All files will use a conventional **naming standard**. File names should include the **grant name** (in shortened form), a **summary** of the file's content, the **region** and the **date** (in the format YYY/MM/DD).

An example is the following:

prospects_interviewguide_ON_20200617.

Document **versions** should be named sequentially (with file names ending in v1, v2 etc.).

An example is the following:

prospects_interviewguide_ON_20200617_v1.



Data Collection - What are some considerations for collecting, creating, linking to, or acquiring data in your research?

This could be different file formats over time, structuring, naming, and version controlling.

Data Collection: Resources

- File formats:
 - DataverseNO <u>Prepare your data: Preferred file formats</u> <u>https://site.uit.no/dataverseno/deposit/prepare/#what-are-preferred-file-formats</u>
 - DCN Data Curation Primers on preserving different file formats <u>https://datacurationnetwork.org/outputs/data-curation-primers/</u>
- McMaster RDM page on file naming and organization
 - https://rdm.mcmaster.ca/organize#tab-file-folder-organization

Documentation & Metadata

"The utility and longevity of data relates directly to how complete and comprehensive the metadata are." Michener, 2015

- 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?
- Will you use a metadata standard and/or tools to document and describe your data?

Michener, 2015 https://doi.org/10.1371/journal.pcbi.1004525

United Nations Photo - https://flic.kr/p/aEDMSr

Documentation & Metadata

In order for data to be potentially reused, all data files should include a description of **team members** responsible for creating the data, **how** the data were collected, the **code book** (if involving survey data), the **interview guide** (if involving qualitative data), any issues affecting data quality and other pertinent background information which allows the content to be easily understood by others.

All files containing spreadsheets must include column names which are easily interpreted, even though they will be defined in a code book.

Library

Documentation & Metadata

Team researchers engaged in data analysis using software will create **logs and syntax files** to ensure that the steps leading to the final results are documented and saved. No identifying information of participants may be included in data files. Metadata must also include the grant name and funders (SSHRC and CMHC).

Since these data files will be deposited in the Scholars Portal Cape Breton University Dataverse, the **Data Documentation Initiative** (**DDI**) **metadata standard** will be applied.

<image><section-header><section-header><section-header><section-header><section-header><section-header><section-header><text><text>



Documentation & Metadata: Resources

Data Documentation

- McMaster RDM page <u>https://rdm.mcmaster.ca/organize#tab-file-folder-organization</u>
- Cornell ReadMe template <u>https://cornell.app.box.com/v/ReadmeTemplate</u>

Metadata

- Dataverse North Metadata Best Practices Guide v 2.0 <u>http://hdl.handle.net/2429/73609</u>
- DCC list of disciplinary metadata standards <u>https://www.dcc.ac.uk/guidance/standards/metadata</u>



Documentation & Metadata - What **problems** could you foresee without sufficient documentation and metadata?

Storage & Backup

Data loss is more common than you think. Hard drives, USB drives, and other storage media can fail easily or be lost/stolen.
What are the anticipated storage requirements for your project?
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?

Kvistholt Photography - https://unsplash.com/photos/oZPwn40zCK4

TRACE Mar. 188

Storage & Backup

Storage space is anticipated to be approximately **100 GB**. The data will be stored for **5 years locally**, with a permanent copy held in the Scholars Portal Cape Breton University **Dataverse**.

The **3-2-1 backup rule** will be followed for data storage and backup. All team members will upload their files to a cloud-based server located in Canada, to be identified by the project lead. Sensitive files are to be encrypted.

OneDrive is used to store, share, and work with data.



Storage & Backup: Resources

Data Storage:

 McMaster Research Data Storage Finder <u>https://u.mcmaster.ca/storagefinder</u>

Backup:



Copies of your data (at least!)

Example:

copy stored locally on hard drive for analysis
 copy stored on cloud storage platform
 copy stored in a secure campus drive



Copies are on-hand (easily accessible) on different systems (internal hard drive, cloud storage, etc.)



Copy is in another location ("off-site") from the others with a *trusted* service provider



Storage & Backup - What are potential risks in your field if you don't have a **plan** for data storage or if data is not **stored** and **backed-up** properly?

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.

Faungg - https://flic.kr/p/BFaJKC

Preservation

Data collected during this grant should normally be indexed/archived on the Scholars Portal Cape Breton University **Dataverse** in accordance with the SSHRC policy on data sharing. To comply with this policy, team members will do so within a **two-year period** after data have been collected for their particular research project.

However, this will not apply to data deemed sensitive by researchers or their Research Ethics Board (an example might include qualitative data in which research participants describe difficult past housing experiences).





Preservation: Resources

Data Repositories:

- DataCite Repository Finder tool <u>https://repositoryfinder.datacite.org/</u>
- McMaster Dataverse <u>https://dataverse.scholarsportal.info/dataverse/mcmaster</u>
- FRDR <u>https://www.frdr-dfdr.ca/repo/</u>
- Data Repository Guidance from Nature Scientific Data <u>https://www.nature.com/sdata/policies/repositories</u>



Preservation – What are some considerations for **preserving data** in your field? Where have you preserved your data in the past? (Do you have a hard drive hidden away somewhere?)

Sharing & Re-use

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

When will the data be shared?

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?

Are there any methodological or other considerations that preclude data sharing?

Andreas Kay https://flic.kr/p/ZjmrWN

Sharing & Re-use

The analyzed, de-identified data set or datasets will be put under **mediated access** in the Scholars Portal Cape Breton University **Dataverse**. Users will be required to request access to the data for reuse.

Requests will be **evaluated by the PI** and/or a backup member identified on the research team. Terms of access and use will be determined by the PI in consultation with the research team to ensure appropriate use of the data.

Data deposited in Dataverse will be assigned a **Digital Object Identifier** (DOI), a unique and persistent code that can be used by others to locate and access these data. **Metadata is harvested by the FRDR**, a Canada wide research repository, where data can be discovered, and then shared, at a national level. We will also link our dataset to the **publications** arising from this study.





Sharing & Re-use: Resources

Data Anonymization:

Portage Network De-Identification Guidance <u>https://zenodo.org/record/4270551</u>

Data Licenses:

 DCC How to License Research Data <u>https://www.dcc.ac.uk/guidance/how-guides/license-research-data</u>



Sharing and Reuse - Could there be reasons to share or not share data?

Responsibilities & Resources

- Who will be responsible for managing this project's data during and after the project?
- What are the data-related roles and responsibilities for other team members?

How will responsibilities for managing data 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?

Sue Thompson https://flic.kr/p/nFJNfy

Responsibilities & Resources

The **project lead** is responsible for ensuring team members follow this data management plan. University-based team members are responsible for informing their student researchers/HQPs of this plan.

A **backup member** of the research team will be identified in case the project lead can no longer complete their duties.

Cape Breton University Library offers Dataverse services for the university at **no cost** to researchers. Storage of data in external drives, and other related expenses, could cost approximately **\$200.00-\$300.00**.





Responsibilities & Resources: Resources

Costing

- UK Data Service Costing tool and checklist <u>https://ukdataservice.ac.uk/media/622368/costingtool.pdf</u>
- University of Utrect Costs of data management estimator <u>https://www.uu.nl/en/research/research-data-</u> <u>management/guides/costs-of-data-management</u>

Roles & Responsibilities

 DataOne Best Practice: Define roles and assign responsibilities for RDM <u>https://dataoneorg.github.io/Education/bestpractices/define-roles-and</u>



Ethics & Legal Compliance

If your project involves data from Indigenous communities, DMPs must be codeveloped with them in accordance with RDM principles or DMP formats that they accept.

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?

What ethical, legal, and commercial constraints (if any) are the data subject to?

Arx Zyanos https://flic.kr/p/218fFPs

Ethics & Legal Compliance

No sensitive data will be shared. Any sensitive data will be stored on secure servers for 5 years.

Research has been approved by the Research Ethics committees at the various institutions involved in the project. Participants are also required to sign the informed consent agreement. By mediating data requests and determining their own terms of access, researchers maintain their rights to the intellectual property.





Ethics & Legal Compliance: Resources

Indigenous Data Principles:

- First Nations OCAP Principles https://fnigc.ca/ocap-training/
- CARE Principles for Indigenous Data Governance <u>https://www.gida-global.org/care</u>

Securing sensitive data:

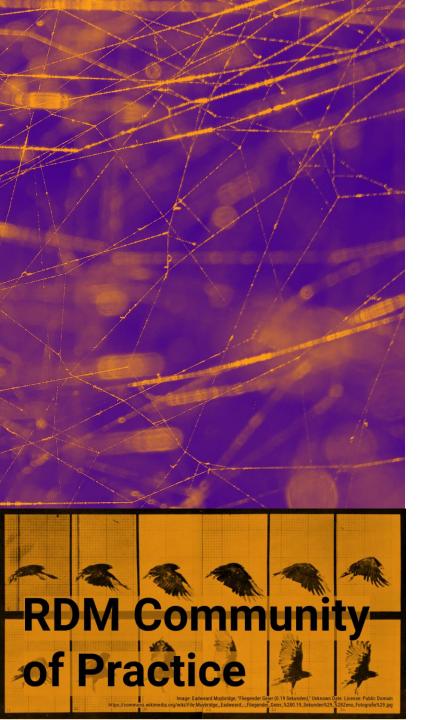
- Portage Sensitive Data Toolkit
 - Glossary of Terms for Sensitive Data https://zenodo.org/record/4088946
 - Human Participant Research Data Risk Matrix https://zenodo.org/record/4088954
 - Research Data Management Language for Informed Consent <u>https://zenodo.org/record/4107178</u>
- McMaster RDM page 'Secure' https://rdm.mcmaster.ca/secure



General Best Practices & Resources

- Be specific in your answers
- Review your DMP regularly and revise it when things change
- Follow exemplars
 - Alliance DMP Exemplars and templates <u>https://alliancecan.ca/en/services/research-data-management/learning-and-training/training-resources#heading-dmp-exemplars</u>
- Contact us if you need help <u>rdm@mcmaster.ca</u>
- McMaster RDM Website <u>https://rdm.mcmaster.ca/</u>





RDM Community of Practice

- Monthly meetings of people interested in RDM at McMaster – Thurs. October 26th– 11 AM! (That's tomorrow!)
- Roundtable with guests Dr. Michelle Dion (Political Science) and Dr. Phil Kollmeyer (Engineering)
- Discussing open data and reproducibility
- Connect with other researchers practicing RDM across the university! <u>https://u.mcmaster.ca/rdm-community</u>
- Sign up here: <u>libcal.mcmaster.ca/event/3759156</u>



November 29, 2023 | 10:30am-12pm Virtual Workshop + Sandbox Session

Depositing & Sharing Data Online with McMaster Dataverse

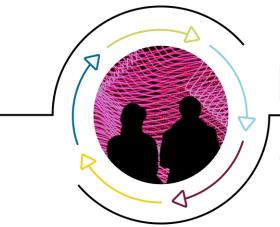
u.mcmaster.ca/scds-events











Research Data Management

Services

McMaster RDM webpage:

Contact RDM services at:

rdm.mcmaster.ca

rdm@mcmaster.ca

Upcoming RDM webinars:

<u>rdm.mcmaster.ca/events</u>

Recorded RDM webinars:

u.mcmaster.ca/learn-rdm

Make an appointment with a Research Data Management Specialist: u.mcmaster.ca/rdm-appointments

