Research Data Management at UCalgary

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What are Research Data? A Poetic Answer

It depends on who you ask!

"Data may exist only in the eye of the beholder: The recognition that an observation, artifact, or record constitutes data is itself a scholarly act."

(Borgman, Christine L. 2012. "The Conundrum of Sharing Research Data". Journal of the American Society for Information Science and Technology, 63(6): 1061. DOI: 10.1002/asi.22634)

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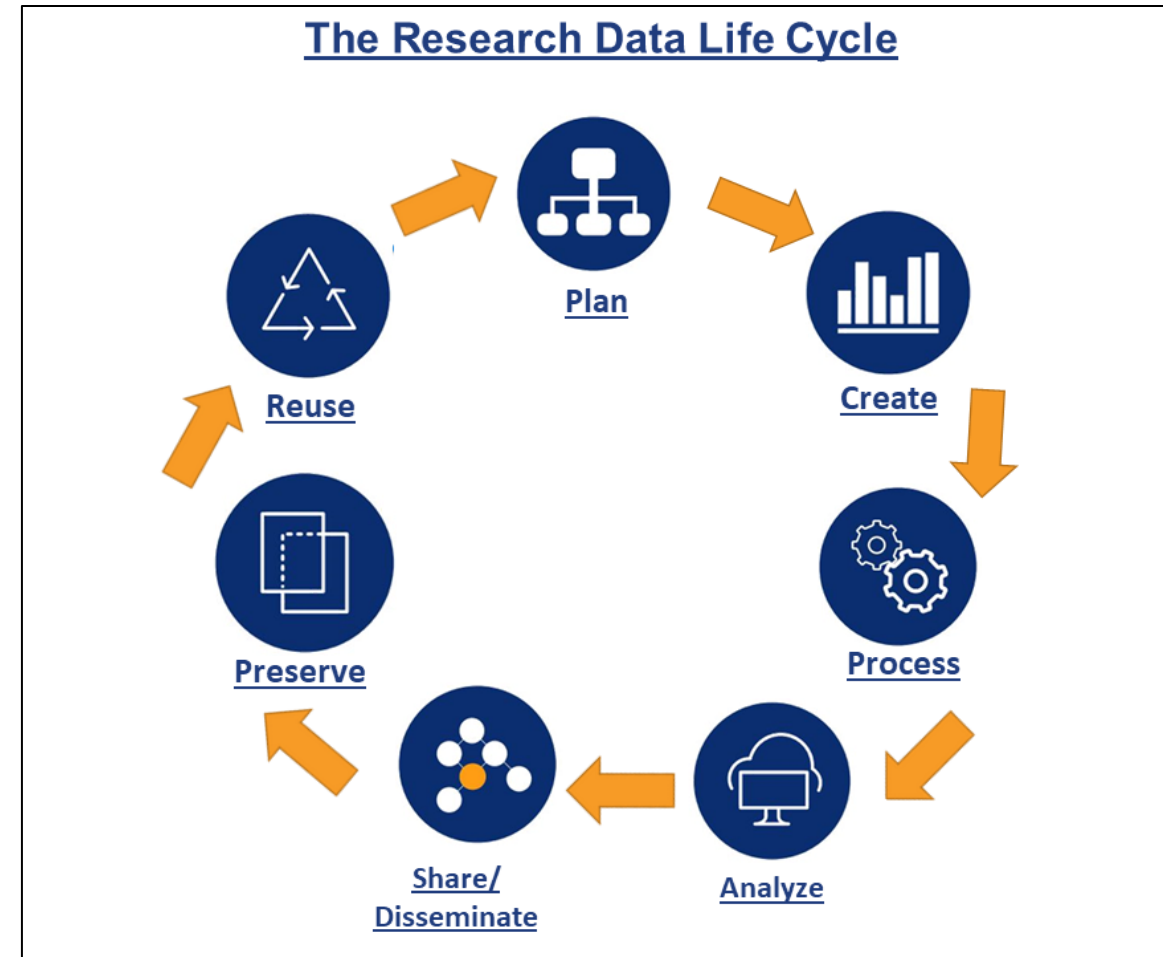
What are Research Data? A Funder Answer

The Tri-Agency definition:

"data that are used as primary sources to support technical or scientific enquiry, research, scholarship, or creative practice, and that are used as evidence in the research process and/or are commonly accepted in the research community as necessary to validate research findings and results."

("1b: What are research data?" Frequently Asked Questions: Tri-Agency Research Data Management Policy, last accessed July 20, 2022 at https://science.gc.ca/eic/site/063.nsf/eng/h_97609.html#1b)

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Research Data Management (RDM)

- "the processes applied through the lifecycle of a research project to guide the collection, documentation, storage, sharing and preservation of research data." (Frequently Asked Questions, Tri-Agency Research Data Management Policy, #1d)

- Applies at all stages of the research data life cycle: before, during, and after the active phases of a research project

The Research Data Life Cycle

Plan

Create

Process

Analyze

Share/ Disseminate

Preserve

Reuse

Adapted from a graphic by Jeff Moon, Portage Network/Digital Research Alliance of Canada

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Why RDM? A Few Reasons

- Moves towards open/transparent science
- Reducing costs of research/Responsible use of public funds
- Reproducibility
- Making everyday research work more efficient and effective
- Ethics, privacy, and security
- Increasing research impact
- Funder and publisher requirements

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Funder and Publisher Requirements

- Funders are increasingly requiring evidence of RDM as part of grant applications
  - CFI: requirements for description of how data will be managed for Innovation, Major Science Initiatives, and Biosciences Research Infrastructure Funds
  - NIH: will require submission of a Data Management and Sharing Plan starting January 2023
  - NSF: requires data management plans and encourages data sharing
- Publishers are increasingly requiring data deposit/sharing as conditions of publication
- The big one for UCalgary in the near future will be the Tri-Agency Research Data Management Policy

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The Tri-Agency RDM Policy

- Launched in March 2021: https://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html

- Building on the Tri-Agency Statement of Principles on Digital Data Management (issued 2016)

- Applies to all post-secondary institutions and research hospitals which administer Tri-Agency funds

- Built around three pillars rolling out over time
    1. Institutional RDM Strategies (requirement for institutions)
    2. Data Management Plans (requirement for researchers)
    3. Data Deposit (requirement for researchers)

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Pillar 1: Institutional Strategies

- "Each postsecondary institution and research hospital eligible to administer CIHR, NSERC or SSHRC funds is required to create an institutional RDM strategy and notify the agencies when it has been completed."

- Must be posted on the institution's website with contact information for inquiries by **March 1, 2023**

- Expected that these strategies will be reviewed/revised when appropriate

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What UCalgary is Doing

- UCalgary is currently working on an institutional RDM strategy
- VPR has convened <u>two committees</u> (steering and working), including representatives from key groups
- Strategy outlines how UCalgary will support researchers' RDM efforts, including DMP and data deposit/sharing requirements
- Consultation on a draft of the strategy in Fall 2022
- Webinar series for Fall 2022/Winter 2023 to build awareness/capacity; stay tuned for further information!

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Pillar 2: Data Management Plans (DMPs)

- DMPs are formal, living documents that detail the strategies and tools researchers will use to effectively manage data during the active phase of research.

- They also document the mechanisms which will be used for preserving and appropriately sharing data at the end of the research project.

- "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."

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The Programs Piloting DMPs

- **CIHR**
  - Network Grants in Skin Health and Muscular Dystrophy (Anticipated launch fall 2022 or early winter 2023)
  - Virtual Care/Digital Health Team Grants (Anticipated launch fall 2022 or early winter 2023)
  - Data Science for Equity (Anticipated launch fall 2022 or early winter 2023)
- **NSERC**
  - Subatomic Physics Discovery Grants - Individual and Project (Anticipated launch summer 2023)
- **SSHRC**
  - Partnership Grants Stage 2 (Anticipated launch summer 2023)

Resources for creating DMPs

- LCR Guide: https://libguides.ucalgary.ca/researchdatamanagement (click on "Plan" in the left-hand menu)

- DMP Assistant: https://assistant.portagenetwork.ca/?locale=en

- DMP/DMP Assistant training videos

- DMP Exemplars and Templates

- Webinar on DMPs being planned for this fall

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Pillar 3: Data Deposit

- "Grant recipients are required to deposit into a digital repository all digital research data, metadata and code that directly support the research conclusions in journal publications and pre-prints that arise from agency-supported research."

- Deposit must be made by the time of publication

- No particular repositories specified; whatever repository is chosen must "ensure safe storage, preservation and curation of the data."

- NOT an open data or a data sharing requirement

- Will be rolled out gradually after other requirements are met

Some Data Deposit Options

- UCalgary's Dataverse instance: https://borealisdata.ca/dataverse/calgary

- Federated Research Data Repository (FRDR): https://www.frdr-dfdr.ca/repo/

- Consult with your subject librarian about disciplinary data repositories

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Thank you for your time!
Let's chat!

And sign up for our mailing list, at https://research.ucalgary.ca/conduct-research/additional-resources/research-data-management

Contact me at jennifer.abel@ucalgary.ca

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