

Research Data Management Guidelines

Definitions

Term	Definition
Active phase	The phase whereupon data will be collected and analysed. This phase will commence from the start of a project to closure and include everything in between.
Caretaker	Someone who will provide a service for the data custodian and will have access to the retained data or datasets.
Data	<p>For the purpose of this policy data is defined in accordance with the National Statement on Ethical Conduct in Human Research (NHMRC, 2018).</p> <p>Data is intended to refer to bits of information in their raw form, whereas ‘information’ generally refers to data that have been interpreted, analysed or contextualised. Data and information may include but not be limited to:</p> <ul style="list-style-type: none">• What people say in interviews, focus groups, questionnaires/surveys, personal histories and biographies;• Images, audio recordings and other audio-visual material;• Records generated for administrative purposes (e.g. billing, service provision) or as required by legislation (e.g. disease notification);• Digital information generated directly by the population through their use of mobile devices and the internet;• Information or data derived from physical specimens or artefacts;• Information generated by analysis of existing personal information (from clinical, organisational, social, observational or other sources);

	<ul style="list-style-type: none"> • Observations; • Results from experimental testing and investigations; and • Information derived from human biospecimens such as blood, bone, muscle, urine.
Data Management Plan	A data management plan (DMP) is a written document that describes the data you expect to acquire or generate during the course of a research project, how you will manage, secure and store those data, and what mechanisms you will use at the end of your project to share those data.
Data custodian	The individual responsible for the management of a project's research data.
Data security	The protection of data from unauthorized use, access disclosure and destruction, as well as the prevention of unwanted changes that can affect the integrity of data. Ensuring data security requires paying attention to physical security, network security and security of computer systems and files.
Descriptive Metadata	Identifying information collected with the data to enable cataloguing and searching. It can be used to describe physical items as well as digital items. Metadata is most useful when collected in a standard machine- and human- readable format for representing project and data documentation.
Research	The creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings. This could include synthesis, collation, evaluation and analysis of previous Research to the extent that it is new and creative and/or that it informs policy and professional practice.
Researcher	A Researcher is a person who conducts Research. For the purpose of this policy and unless otherwise stated this will be understood to include staff, students, adjunct, honoraries and visiting fellows.
Research data	Facts, observations or experiences on which an argument, theory or test is based. Data may be numerical, descriptive or visual.

	<p>Data may be raw or analysed, experimental or observational. Data includes records, files and other evidence, irrespective of their content or form. Data may be digital, non-digital (in print, lab notebooks, field notebooks, questionnaires, audiotapes, videotapes, models, photographs, films, test responses) or primary materials (geological, biological, chemical, etc.).</p> <p>In the creative arts, data includes the creative artefacts of human expression that have emerged via text, visual arts, performing arts and music where both the expressive artefact and the process of creating that artefact are the objects of investigation. Data can be ephemeral and multifaceted and should therefore be thought of as the shifting and constantly re-evaluated set of emergent ideas that find embodiment in the final artwork. For this mode of research, a durable record of the response to the data should be maintained, for example, as a visual diary, recording or journal.</p>
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1. Principles

- 1.1. ECU's principles of data management are to ensure that research data is generated, collected, accessed, analysed, disclosed, stored, secured, retained, disposed, shared and reused according to legal, statutory, ethical and funding bodies' requirements.
- 1.2 **All research activity** conducted by ECU staff and students, must be recorded in the ECU Research Ethics Management System (REMS) prior to the commencement of research activities. This applies whether or not research involves humans or animals or neither. The process of recording the research will determine the ethical review requirements and will include completion of a mandatory Research Data Management Plan.

2. Ownership, Stewardship and control of research data and primary materials

- 2.1 The responsible conduct of research includes the proper management and retention of the research data in alignment with the Australian Code for the Responsible Conduct of Research (NHMRC, 2018) and it's supporting guide, Management of Data and Information in Research.

- 2.2 Research data generated by an ECU researcher will be owned by the University as defined in the Intellectual Property Policy, unless owned by a third party or subject to a formal collaborative agreement. Researchers are responsible for:
- a) Completing a data management plan;
 - b) Retaining clear, accurate, secure and complete records of all research data and primary materials;
 - c) Retaining and be able to produce on request all relevant approvals, authorisations and other administrative documents, such as ethics and financial approvals, receipts and consent forms;
 - d) Where possible and appropriate, allowing access to research data and primary materials, in particular, to enable the sharing of research data;
 - e) Respecting any project-specific conditions of consent or confidentiality obligations;
 - f) Adhering to project-specific protocols that require measures beyond those required by institutional policy or relevant laws, regulations and guidelines, or research discipline-specific practices and standards;
 - g) Reporting any inappropriate use of or access to or loss of data, in accordance with applicable institutional policies;
 - h) Ensuring that agreements are in place to govern circumstances in which researchers leave the project or move from one institution to another during the course of the project;
 - i) The management of data and information consistent with ECU's Information Principles;
 - j) Ensuring that the DMP is updated to accurately reflect the location of research data; and
 - k) Ensuring that agreements are in place between institutions for managing responsibilities set out in this guide for data and information in multicentre or collaborative research projects.
- 2.3 A Data Custodian must be identified for each research project. In the case of a student research project this must be the Principal Supervisor. In all other cases, the chief ECU researcher of the project should be the Data Custodian.

- 2.4 For multi institutional research projects, an agreement should be reached at the commencement covering the management of research data within each institution. An ECU staff member must be nominated as the Data Custodian of ECU data.
- 2.5 The Data Custodian is responsible for:
- a) Determining which research data should be stored and retained. Sufficient data should be retained to justify the outcomes of the research and to defend them if they are challenged;
 - b) Determining which supporting documentation should be stored and retained to provide a clear context from which to understand the research data;
 - c) Ensuring that the digital research data and supporting documentation is captured in the approved data storage system; and
 - d) Ensuring that non-digital research data is transferred to the ECU Information Management and Archive Services team at the close of the project.
- 2.6 Managing research data in accordance with compliance obligations requires preparation and planning. Data management planning for new projects at ECU is integrated into the Research Ethics Management process. **All new research must be recorded in the University's Research Ethics Management System (REMS), prior to the commencement of research activities, to determine the ethical review requirements;**
- If you do not work with humans or their data, or if your research involves animals, you will be taken to a new data management application page to create a data management plan prior to receiving an exempt or out of scope notification from REMS; or
 - If ethical review is required for your study, your data management plan will form part of your full ethics application.
- 2.7 All researchers participating in a research project must be familiar with the DMP and subsequently understand the compliance obligations that pertain to the research data and the plans for the research data.
- 2.8 The researcher must keep clear and accurate records that describe the project, research methods, data sources and research data. These records comprise the supporting documentation and provide a clear context from which to understand the research. The researcher must ensure that research data are dated and well labelled

and that digital research data and supporting documentation is in durable and available file formats. The research data and documentation must be handled in such a way that it meets the compliance obligations that pertain to it. Particular attention must be paid to privacy, confidentiality, security and consent agreements.

- 2.9 If a researcher leaves the University, the original data must remain at the University. If the researcher wishes to continue to use the research data, the researcher must seek approval from the relevant Associate Dean (Research). Any subsequent research publications and other outputs must acknowledge the University. Similarly, if any University researchers wish to utilise the data generated at the University, any subsequent research publications and other outputs must acknowledge the original researcher.
- 2.10 The Data Custodian, on leaving the University, must ensure that their data custodianship is transferred to an appropriate researcher and that the Data Management Plan is updated.

3. Storage, retention and disposal

Storage

- 3.1 Throughout the research lifecycle, research data should be stored in facilities provided by or approved by the institution. All digital and non-digital research data must be stored in a safe (free from risk) and secure (protected from losses) technical or physical environment. Researchers must ensure that the DMP accurately reflects the location of the research data and the plan is updated to reflect any changes.
- 3.2 Researchers must ensure that data transfer and sharing mechanisms used meet the legislation, policy and compliance obligations of the project. Recipients of shared data are responsible for meeting the compliance obligations that pertain to that data.

Digital storage

- 3.3 ECU provides centrally provisioned research data storage space to ensure that data is classified, labelled and managed appropriately. All research project information and collected or generated data should be stored in the centrally provisioned site, which will be available to members of the project team. If the researcher has alternative arrangements or additional compliance requirements this should be clearly set out and justified within the DMP. If necessary, Digital Campus Services will work with researchers to assess the suitability and any risks of those alternative requirements.

Non-digital storage

- 3.4 It is important non-digital data is protected and kept as safe and secure as is practicable during research. Ideally, this means storing physical records in a secure, locked location on ECU premises, boxed and clearly labelled with the unique research number (IMAS can assist researchers with providing labelled boxes). There may be occasions when using ECU facilitated storage is not practical for non-digital data however it is the researchers' responsibility to ensure all research data remains protected and secure at all times, research data storage locations remain up to date on the data management plan and that all research data is returned to ECU at the completion of the research.

Retention and disposal

- 3.5 The University is required to keep a record of research in accordance with the State Records Act of Western Australia (2000). Research data and the documentation that provides the context for the interpretation of the research data must be retained in accordance with the periods specified in the Western Australian University Sector Disposal Authority (WAUSDA).
- 3.6 Data retention outlines the archiving requirements after the project has been completed to ensure both federal and state compliance. The DMP allows you to describe the anticipated retention dates and retention periods depending on the characteristics of your data.
- 3.7 On completion of your project, ECU Information Management and Archive Services will become the caretakers of the retained data and supporting documentation and will manage the retention and archive/disposal of it in accordance with their policies, the State Records Act and the West Australian University Sector Disposal Authority.

4. Safety, Security and Confidentiality

- 4.1 ECU's Information Security and Information Technology policy provide the boundaries, expectations and accountabilities for information security management and the provision and management of the University's Systems, Information Assets and Information and Communications Technology environment.
- 4.2 Researchers must meet relevant legislation, policy and compliance obligations in handling confidential or other sensitive information used in or arising from a research project.

- 4.3 Researchers must ensure that the security and privacy measures that are used for research data and primary materials are appropriate to the risks associated with the confidentiality or sensitivities of these data and materials. These measures relate to storage, access and sharing of the data and information and should be recorded in the DMP.

5. Data sharing and access by interested parties

- 5.1 ECU recognises the significant value in the data generated by its researchers. Research data is valuable to researchers and may have ongoing value for other researchers or the wider community. Research datasets should therefore be made available for reuse unless restricted from doing so by compliance obligations.
- 5.2 Plans for dataset reuse will be made at the start of the project and will be recorded in the DMP. The Data Custodian will determine which datasets can or must be made available for reuse. ECU Library – Research Services will support the Data Custodian with dataset reuse (including in Research Online, ECU’s institutional repository along with discipline, national or international repositories), descriptive metadata capture, meeting funding body or publisher stipulations, applying appropriate license, mediated access arrangements and access agreement planning.
- 5.3 Published research data generally require some kind of online description (i.e. metadata) and should be findable, accessible, interoperable, and re-usable, both manually and with automated tools. This requires researchers to include appropriate context (descriptive, technical, methodological, access, and provenance information) either within the data structure or in separate metadata records for the research data.
- 5.4 Researchers should consider the options for licensing of research data in order to provide clear parameters around the use and re-use of this data. When considering licensing for this purpose, the least restrictive option, such as a [Creative Commons Attribution licence](#), is encouraged. Researchers should be prepared to justify the use of more restrictive controls.

6. Related Documents

Other documents, policies and resources relevant to the operation of this guideline are:

- [Conducting Research with Integrity Policy](#)
- [Privacy Policy](#)
- [Intellectual Property Policy](#)
- [Research Misconduct Guidelines](#)
- [Library Governance Policy](#)
- [Records Management Policy](#)
- [Information Security and Information Technology Policy](#)
- [Information Management Principles](#)
- [Library Guide – Reusing Open Data](#)
- [Research Data Management Planning](#)
- [The Australian Code for Responsible Conduct of Research \(NHMRC 2018\)](#)
- [Management of Data and Information in Research \(NHMRC 2018\)](#)
- [Western Australian University Sector Disposal Authority](#)
- [Library Guide – Manage Your Research Data](#)
- [Australian Research Data Commons \(ARDC\) website](#)

Contact Information

For queries relating to this document please contact:
researchdatamanagement@ecu.edu.au