

REI – Animal Ethics AI Guide

Research Ethics and Integrity Animal Ethics

Guide for Responsible Use of AI in UQ Animal Ethics Applications

Purpose

Generative Artificial Intelligence (Gen AI) can play a role in improving the quality, clarity, and completeness of animal ethics applications. However, AI should assist, not replace, human judgement. Animal ethics applications require a nuanced understanding of animal welfare, scientific justification, husbandry, regulatory requirements, and the principles of Replacement, Reduction and Refinement (the 3Rs).

This document provides practical guidance for UQ researchers on the responsible and effective use of Gen AI when preparing applications for animal ethics approval. It aims to encourage practices that support ethical reflection and improve clarity, while avoiding reliance on AI to complete applications without critical engagement.

This guide should be read in conjunction with the UQ [Responsible Use of Generative AI in Research](#), which provides guidance on risks such as data security, confidentiality, and intellectual property when using different Gen AI tools.

AI should not be relied upon to determine animal welfare impacts, severity classifications, humane endpoints, or veterinary interventions, as these require expert scientific, veterinary and ethical judgement. Where veterinary advice is required, researchers should consult appropriately qualified veterinary staff rather than rely on AI-generated recommendations.

The use of AI to prepare application content does not diminish the expectation that researchers have a thorough understanding of all procedures, risks, welfare impacts, monitoring requirements and mitigation strategies described in the application.

Key Principles

1. Do Not Delegate Ethical Judgement to AI

Ethical judgement requires human deliberation and expertise. Researchers remain accountable for the accuracy, integrity, scientific merit, animal welfare considerations, and ethical soundness of their application.

2. Use AI to Support Ethical Reflection

AI can assist in identifying potential animal welfare concerns, refinement opportunities, risks, and alternative approaches. Treat outputs as suggestions rather than definitive answers.

AI may assist researchers to identify opportunities for Replacement, Reduction and Refinement that may not have otherwise been considered. Researchers remain responsible for evaluating whether these opportunities are scientifically and practically appropriate.

3. Use AI to Enhance Clarity and Consistency

AI can help improve readability, structure, and consistency across ethics applications and supporting documents, while ensuring information is communicated clearly to reviewers in lay (non-scientific) language.

4. Maintain Accuracy and Compliance

Validate all AI-generated content against:

- The Australian Code for the Care and Use of Animals for Scientific Purposes
- Relevant State or international legislation
- UQ policies and procedures

REI – Animal Ethics AI Guide

Research Ethics and Integrity Animal Ethics

- Institutional Animal Ethics Committee requirements

AI tools may generate inaccurate information, fictitious references, incorrect regulatory requirements, or inappropriate welfare recommendations. All outputs should be independently verified before inclusion in an application.

5. Protect Confidentiality

Do not input confidential, commercially sensitive, unpublished, or restricted research information into public AI platforms. Researchers should understand the risks and limitations associated with any AI platform before use.

6. Transparency

Researchers should be transparent about the use of AI in developing ethics applications and associated materials, particularly where AI-generated content has substantially informed the final submission.

7. Accountability

Researchers remain responsible for compliance with the Australian Code, applicable legislation, and UQ policies.

Animal Ethics Committees assess the rationale and justification provided by researchers, not AI-generated outputs. Researchers must be able to explain and defend the content of their application during ethics review.

Practical Examples of Responsible AI Use

Researchers are reminded of the [guidance documents, checklists and templates](#) available through UQ Research Ethics and Integrity that can assist with preparing high-quality animal ethics applications.

1. Drafting and Structuring Applications

Brainstorming Stage - AI can generate lists of potential animal welfare considerations associated with specific procedures, species, or research methodologies.

Application Drafting - AI can assist with drafting clear descriptions of procedures, animal monitoring, husbandry practices, and welfare interventions.

Template Guidance - AI can suggest suitable structures for sections relating to:

- Scientific justification
- Animal numbers
- Experimental design
- Welfare monitoring
- Humane endpoints
- Application of the 3Rs

Drafting Standard Operating Procedures (SOPs) - AI can assist with preparing or improving descriptions of animal procedures, monitoring regimes, and contingency plans.

REI – Animal Ethics AI Guide

Research Ethics and Integrity Animal Ethics

Applications should only reference UQ-approved SOPs for procedures where an approved SOP already exists. AI should not be used to generate alternative SOPs for established procedures covered by existing UQ documentation.

AI may, however, assist in drafting new SOPs, procedures, workflows, or process descriptions for novel methodologies or activities that are not currently covered by an approved SOP. Such documents must undergo the appropriate [review and approval processes](#) before use.

Generating Summaries - AI can help prepare concise summaries of complex projects for Animal Ethics Committee review.

2. Language and Clarity Enhancement

Plain Language Review - AI can improve the clarity of technical descriptions and reduce jargon that may otherwise impact readability.

Readability Checks - AI can identify overly complex or ambiguous wording and suggest improvements.

Consistency Checking - AI can verify that information relating to species, procedures, animal numbers, monitoring and endpoints remains consistent throughout the application.

Procedure Summaries - AI can help create concise explanations of complex procedures.

Proofreading - AI can assist with identifying grammatical errors, ambiguity, or inconsistencies prior to submission.

3. Welfare Considerations and Risk Identification

Exploring Welfare Risks and Refinements - Prompt AI to identify potential welfare impacts associated with procedures and suggest opportunities for refinement.

Applying the 3Rs - Researchers may ask AI to:

- Identify potential replacement alternatives
- Explore opportunities to reduce animal use
- Suggest refinements to procedures

All suggestions must be critically evaluated by researchers.

Scenario Testing - AI can be used to explore hypothetical adverse events and assist in developing intervention and contingency plans, whilst also identifying expected adverse events.

Welfare Monitoring - AI can assist in developing draft monitoring criteria or welfare assessment frameworks appropriate to specific species and procedures.

Humane Endpoints - AI can help identify appropriate considerations for humane endpoint planning; however, all endpoints must be developed and justified by appropriately qualified researchers and veterinarians.

4. Scientific Justification and Experimental Design Support

Animal Number Justification - AI may assist researchers in understanding concepts relating to statistical power, randomisation and experimental design; however, final decisions regarding animal numbers and study design should be based on appropriate scientific and statistical expertise.

Animal Sex Justification - AI may assist researchers in reviewing literature and guidance relating to sex as a biological variable and in drafting a scientific justification for the proposed sex(es) of animals. However,

REI – Animal Ethics AI Guide

Research Ethics and Integrity Animal Ethics

researchers remain responsible for ensuring that the justification accurately reflects the study objectives, current evidence, and any ethical or scientific implications of excluding one sex.

Alternative Methods - AI can help identify questions that should be considered when assessing non-animal alternatives or existing data sources.

Tissue Sharing and Animal Reuse - AI can prompt consideration of opportunities to access existing tissues, data, or biological materials before using additional animals.

Literature and Alternatives Review - AI may assist researchers to develop search strategies and identify keywords for reviewing alternatives to animal use, refinement opportunities, or emerging methodologies. Researchers should independently verify all results and ensure searches are comprehensive, current, and sufficient to demonstrate consideration of Replacement as required by the Australian Code.

Experimental Design Review - AI can assist in identifying potential design weaknesses that may lead to unnecessary animal use or reduced scientific value.

5. Efficiency and Consistency

Completeness Checks - AI may assist in confirming that key sections such as:

- Scientific justification
- Application of the 3Rs
- Monitoring
- Humane endpoints
- Adverse event management

have been adequately addressed.

Cross-Document Consistency - AI can compare multiple supporting documents and identify inconsistencies.

Pre-submission Review - Researchers may ask AI to simulate an Animal Ethics Committee review and highlight common issues requiring clarification.

Final Review - AI can assist with proofreading and identifying unclear wording before submission.

Note: *Some AI-assisted review functions may require application content to be exported, copied, or otherwise provided to the AI tool. Researchers must ensure any information shared with AI systems complies with institutional requirements relating to privacy, confidentiality, and data security.*

6. Training and Education

Training and Competency Planning - AI may assist researchers in drafting training and supervision plans for team members who have not yet achieved competency in a procedure. However, researchers are responsible for ensuring that training arrangements meet institutional requirements and accurately reflect the skills, experience, and supervision needs of individual team members. As training plans are not attached to the application, all AI-generated content should be critically reviewed before use.

Scenario-Based Learning - AI can generate examples illustrating strong and weak animal ethics applications for training purposes.

Welfare Discussions - AI can be used to facilitate discussions around animal welfare, refinement opportunities, and ethical decision-making.

REI – Animal Ethics AI Guide

Research Ethics and Integrity Animal Ethics

Understanding the 3Rs - AI can help researchers explore practical examples of Replacement, Reduction and Refinement relevant to their work.

UQ Recommended AI Tools

UQ does not currently endorse external AI platforms for drafting animal ethics applications.

M365 Copilot is UQ's recommended Gen AI tool, which exists within the boundary of the UQ M365 environment. Therefore:

- Data is encrypted at rest and in transit.
- Data is not used to train AI models.
- Data resides in Australia.

M365 Copilot has been assessed as suitable for UQ information classified as SENSITIVE (subject to any project-specific restrictions or agreements).

Prompts and responses are retained in the staff member's Exchange mailbox (inaccessible via Outlook). Files uploaded as part of prompts are stored in the staff member's OneDrive and retained in accordance with UQ's M365 retention arrangements.

Researchers should ensure that use of AI tools remains consistent with research agreements, confidentiality obligations, and any restrictions associated with funding or collaborative arrangements.

References

- [Australian Code for the Care and Use of Animals for Scientific Purposes](#)
- [Animal Care and Protection Act \(2001\)](#)
- [Animal Ethics in Teaching and Research Procedure](#)
- [UQ Animal Ethics Guidelines, Forms and Templates](#)
- [Responsible Use of Generative AI in Research](#)
- [The Australian Code for the Responsible Conduct of Research](#)
- [UQ Responsible Research Management Framework Policy](#)
- [UQ AI Learning Module](#)
- [Responsible use of AI for research – AI Research Hub](#)

Disclosure

Microsoft Copilot was used to assist in developing concepts and generating initial draft text for this animal ethics resource. The document was subsequently reviewed, edited, and validated by the author to ensure its accuracy, clarity, and alignment with University of Queensland requirements, animal welfare obligations, and the Australian Code for the Care and Use of Animals for Scientific Purposes.