COLLEGE OF INTENSIVE CARE MEDICINE
OF AUSTRALIA AND NEW ZEALAND

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FORMAL PROJECT REQUIREMENTS

1. INTRODUCTION

An important part of training in intensive care medicine is the ability to plan, undertake, write, and present a research project. While not all trainees will become researchers, it is expected that all trainees should:

- Gain an understanding of research methods and be exposed to the rigour of research.
- Develop the ability to critically analyse scholarly literature.
- Develop a questioning attitude to their own clinical practice, including ongoing systematic audit and review.

To facilitate the development of these skills and capabilities, all trainees are required to complete a formal research project or report, known as the "Formal Project." Trainees cannot commence the transition year / Phase 3 until the formal project has been submitted in its final form. Successful completion of the Formal Project is required prior to attainment of Fellowship.

2. TYPE OF PROJECT

A broad range of project types are acceptable. The following types of projects meet the requirements of the Formal Project. This list is not exclusive, and other projects may be acceptable upon consultation with the College.

- Quality improvement projects including clinical audit, practice review, and evaluations.
- A significant case series defining exposures, treatments, or outcomes.
- Systematic reviews with or without meta-analysis as appropriate. A systematic review must include a reproducible search strategy and a formal assessment of risk of bias.
- Prospective clinical trials. This includes locally collected data undertaken as part of a larger multi-centre trial where this is acceptable to the Project Management Team of the trial. It would be expected that the trainee undertakes the preparation and analysis of the local data in a formal manuscript that meets the authorship guidelines for CC&R. Participation in larger projects is encouraged but must include a report written themself specifying their contribution to the larger trial.
- Epidemiological studies (case-control, cohort, cross-sectional, intervention, ecologic) undertaken in a manner described by the BASIC Research manual or the STROBE guidelines.
- Laboratory-based investigations of a question of at least broad clinical relevance.
- Surveys of practice or opinion conforming to the principles of survey design for research (limited surveys of opinion conducted electronically using proprietary software will generally not be acceptable).

- An educational project or evaluation of an educational intervention, which may include a formal hypothesis and testable evaluation of effectiveness in meeting the educational objective or use other valid methods in educational research including qualitative or inductive research.
- Advocacy projects with a formal impact assessment.
- Other relevant work including environmental and cost effectiveness analysis.

Where appropriate, approval by an institutional Ethics Committee must be granted and details included in the formal project report. Where a need for ethical review is waived, there must still be documentation of this process.

2.1 What other types of projects will be accepted?

The following will also be deemed acceptable for submission, provided that the submission's requirements regarding format, length and presentation outlined in sections 4 and 5 of this document are met.

- A scientific paper already accepted for publication in a journal will require no further modification before submission. Proof of acceptance or publication must be provided together with the accepted manuscript. The trainee must be the first author of this publication.
- Project reports completed in conjunction with training toward other Fellowships may be submitted for consideration. Please note that, unless the manuscript has been formally published in a peer reviewed journal, the discussion and literature review must be up to date at the time of submission.
- Reports arising from work undertaken as part of scientific courses or higher degrees may be submitted but must conform to all formal project requirements with respect to form and presentation. If not already published, thesis material should be presented in the format of a paper for Critical Care and Resuscitation and with an updated literature review and discussion.
- If not published, projects completed prior to commencement of intensive care training must be presented in the format of a paper for Critical Care and Resuscitation with an updated literature review and discussion. Trainees intending to submit such projects must discuss this with their Supervisor of Training before entry into Phase 2 of training. Specialist International Medical Graduates (SIMGs) will have their requirements for a project established as part of their College assessment process.

2.2 What will not be accepted?

The following **do not** meet the requirements of the Formal Project and will not be accepted:

- individual case reports
- letters to the editor
- correspondence
- book chapters
- editorials
- theses for higher degree in thesis form

- narrative literature reviews without a systematic review of the literature

3. CONDUCTING THE RESEARCH: WHAT IS INVOLVED?

Conducting the research for the Formal Project typically involves:

- formulation of a question
- finding a helpful supervisor
- development of a hypothesis
- conducting a literature review
- protocol development
- consideration of ethical requirements
- planning of time frames for data collection, analysis, write-up, and submission
- finding funding if required (although most Formal Projects only require time commitment)
- getting the work published (though publication itself is not mandatory)
- dissemination of results (techniques for presentation including slide and poster preparation)

For a list of useful resources that can assist with the completion of the Formal Project, refer to the Resources document.

4. PRODUCING THE FORMAL PROJECT - SPECIFIC REQUIREMENTS

When completing the Formal Project, the following specific requirements must be met:

4.1 The project must be original.

4.2 The trainee must be the first author of the project.

4.3 The project must demonstrate the minimal criteria for the principles of investigation and research including:

4.3.1 A clear question for investigation.

4.3.2 A structured literature review using relevant databases, evidence-based medicine techniques and specifying search criteria and methodology.

4.3.3 Appropriate study design and methodology to answer the question including bias minimisation strategies where relevant.

4.3.4 A description of any requisite, relevant ethical approval process.

4.3.5 Specification of sample determination with inclusion and exclusion criteria where appropriate.

4.3.6 Specification of the primary outcome of the research.

4.3.7 Analysis appropriate to the study design.

4.3.8 Discussion based upon a summary of the main findings, relationship to existing

literature and relevant contexts.

4.3.9 Potential study biases and limitations as appropriate.

4.3.10 Clear conclusions supported by the data or material presented and the relevant literature.

4.3.11 Accurate references using a recognised citation format – preferably that included in the *Critical Care and Resuscitation* guidelines for authors https://www.sciencedirect.com/journal/critical-care-and-resuscitation.

4.3.12 Clarity in the writing style and overall organisation of the report.

4.3.13 A statement of conflict of interests of all personnel involved in the research, and sources of support as required.

4.4 In general, a Formal Project should be between 2,000 and 3,000 words. While it can be slightly longer than this, the project should not exceed 4,000 words.

5. REQUIRED FORMAT FOR THE FORMAL PROJECT

To be acceptable, the Formal Project must be submitted as either:

- A published manuscript, or
- A manuscript that meets the submission requirements for the journal Critical Care and Resuscitation. These submission requirements are detailed in the 'Information for Authors' section of Critical Care and Resuscitation Journal https://www.sciencedirect.com/journal/critical- care-and-resuscitation

As such, all submissions should include:

- an abstract
- an introduction (including objectives or an hypothesis)
- a description of patients, methods, and results (as applicable)
- a discussion including referenced literature review
- a conclusion

While the Formal Project should ideally have been submitted for publication, publication is not mandatory.

6. PRESENTATION OF THE FORMAL PROJECT

The trainee is required to present the project in a forum which involves a discussion period where the trainee answers critical questions from the audience regarding the conduct and findings of the investigation.

International, national, or regional scientific meetings and state or regional trainee meetings are suitable. Remote presentation is available if trainees cannot be physically present and presentation at state or regional trainee presentation evenings is encouraged.

Presentation at a local forum, such as a major hospital forum, is acceptable only under extenuating circumstances and provided it involves a discussion period in which the trainee is answerable to a suitable audience. A suitable audience can be defined as one that includes at least five senior clinicians, a sufficient number of whom were not involved in the research process to allow a rigorous and independent critique of the project. At least one senior clinician must be external to the facility at which the research was undertaken. The details of this meeting including the extenuating circumstances must be completed on the Supervisor's Project Evaluation Report that must accompany the project.

Any enquiries in relation to the presentation can be directed to formalprojects@cicm.org.au.

Meetings with perpetual pre-approval in place include:

- CICM Annual Scientific Meeting
- ANZICS Annual Scientific Meeting
- Regional CICM Research Forums
- ANZICS-CTG meetings
- ACEM Annual Scientific Meeting and Winter Symposium
- RACP Annual Scientific Meeting or RACP affiliated specialty scientific meeting

Poster presentations are not suitable where there is no presentation or discussion period, or there are only brief presentation and discussion periods.

7. ROLE OF THE SUPERVISOR OF TRAINING

Supervisors of Training (SOTs) are responsible for:

- Advising trainees on the selection and conduct of the project and preparation of the final Formal Project. The SOT does not need to be the Project Supervisor but must confirm that a suitable Project Supervisor (if not the SOT themselves) is involved.
- Advising trainees on the most suitable time during training to carry out the Formal Project, keeping in mind that this may take up to 18 months and requires consistent access to the data source(s).
- Monitoring progress of the Formal Project during regular assessments.
- Critically reviewing the final manuscript to ensure its suitability for submission.
- Involving other senior colleagues experienced in research.

Completing the **Supervisor's Project Evaluation Report** which involves providing written confirmation:

i. of the nature of the presentation
ii. of the duration of the presentation
iii. of the period of interrogation
iv. that the trainee has presented the project at an appropriate forum
v. that the trainee has been the major contributor to the project

vi. that the trainee is the first author.

8. PROJECT SUBMISSION

Trainees are required to electronically submit the following to the College:

- The Report Cover Sheet, including any declarations.
- The completed Formal Project.
- A scanned copy of the Supervisor's Project Evaluation Report.

Note:

1. If a project is required by reviewers to be revised and resubmitted, an updated Supervisor's Project Evaluation Report may also be required upon reviewer request.
2. Where the project has been written or published in a foreign language, the onus remains with the trainee to submit the Formal Project in a form that enables assessment in English.

9. PROJECT ASSESSMENT

A standard assessment form is used to mark the Formal Project which is identical for all project types – although different weighting may be applied to different project types. The project is marked against minimum criteria. To be judged acceptable all criteria must be achieved. Assessors' feedback of the project will be provided to the trainee if the project requires review and resubmission.

The standard required for acceptance will vary with the nature of the project. Case series and systematic reviews will be assessed against the standard of presentation, structure and academic discussion of a manuscript published in Critical Care and Resuscitation. Manuscripts published in main-stream, fully peer-reviewed journals will not normally require extensive review provided all criteria for submission have been met. Publication does not, however, guarantee acceptance of the Formal Project; this remains the responsibility of the reviewers.

Each project will be assessed by at least two Assessors from the Formal Project Assessment Panel. If the Assessors do not achieve consensus, the Censor or Chairperson of the Formal Project Assessment Panel will decide on the outcome of the review.

If a Formal Project is not accepted trainees will be required to respond to reviewer comments and resubmit an SOT report. This supports trainees to critically review their own work and provides subsequent opportunities for successful completion of the Formal Project. This should be discussed with the Supervisor of Training before the project is resubmitted.

Where a project is assessed as not accepted, trainees may request reconsideration by the Panel and then review by the Assessments Committee if needed. The final decision may be subject to the College Appeals Process. Trainees will be notified of outcomes in writing.

10. RESOURCES

Resources to assist in completing the CICM trainee Project requirement:

- **Short research courses:**

i. ANZICS-CTG Trainee Research Forums
ii. CICM Regional Committee Trainee Research Forums
iii. BASIC Clinical Research courses

- **Website resources:**

i. NHMRC – Australian Code for the Responsible Conduct of Research
http://www.nhmrc.gov.au/guidelines/publications/r39
ii. NHMRC- how to put the evidence into practice
http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/cp71.pdf
iii. NHMRC-how to review the evidence: systematic identification and review of scientific literature
http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/cp65.pdf
iv. NHMRC-how to use the evidence: assessment and application of the evidence
http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/cp69.pdf
v. NHMRC - Australian code of practice for the care and use of animals for scientific purposes
http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/ea16.pdf
vi. WHO – Guidelines for Good Clinical Research Practice
http://apps.who.int/prequal/info_general/documents/gcp/gcp1.pdf
vii. NIH – Clinical Trials.gov http://clinicaltrials.gov/ct2/info/understand
viii. YouTube – How Do I get Started in Clinical Research?
http://www.youtube.com/watch?v=re48P3RVLk4
ix. Research in Flip Flops https://www.researchinflipflops.com/

- **Printed resources:**

i. *Clinical Epidemiology: How to do clinical practice research*. Editor R Haynes. DL Sackett, GH Guyatt, Peter Tugwell 2006 Lippincott Williams and Wilkins
ii. *Statistics at Square One*. Ninth Edition. T D V Swinscow Revised by M J Campbell, University of Southampton BMJ Publishing Group 1997 (available online from BMJ).
iii. How to read a paper: *Statistics for the non-statistician. I: Different types of data need different statistical tests.* BMJ 1997; 315 http://dx.doi.org/10.1136/bmj.315.7104.364
iv. *How to read a paper: Statistics for the non-statistician. II: "Significant" relations and their pitfalls* BMJ 1997; 315 http://dx.doi.org/10.1136/bmj.315.7105.422
v. *Basic and Clinical Biostatistics.* B Dawson, RG Trapp. Lange McGraw Hill 2004
vi. Information for authors. Critical Care and Resuscitation 2004: 6:74-76

CICM Resources

T-10 The Role of the Supervisor of Training in Intensive Care Medicine

T-27 Assessment of Specialist International Medical Graduates
IC-23 Appeals, Review and Reconsideration Processes
Section 5, College of Intensive Care Medicine of Australia and New Zealand Regulations

Further Reading

T-13 Framework for Supporting Trainees and SIMGs at Risk of or Not Making Satisfactory Progress
T-29 Guidelines on the Award of the Felicity Hawker Medal
T-33 Guide to CICM: Trainees

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July 2025	T-9 revisions provide quality assurance for Formal Projects including timeliness of submissions and recency of research.

Publishing Statement

Published by CICM: July 2025. This Training Document has been prepared with regard to general circumstances, and it is the responsibility of the practitioner to have regard to the particular circumstances of each case, and the application of this document in each case. The College's Training Documents are reviewed from time to time, and it is the responsibility of the practitioner to ensure the current version has been obtained.

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