

Guidelines for writing a protocol

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A research protocol forms the basis for how a study is run. A well written and complete protocol is essential for a high quality study. Time spent on writing a detailed protocol will avoid problems during the study, and will make publishing the results easier. A complete protocol is also essential for the study to be approved by the ethics process and for the study to be compliant with NH&MRC regulations.

Approval for a protocol is easier, and the protocol is more likely to be complete if the protocol follows a particular layout or template. There are several templates already available; however most are specifically designed for sponsored drug trials and difficult to follow. Below is a broad outline of the sections expected in a protocol providing a template that should fit most projects.

*This is by no means a definitive layout for a protocol but more to provide guidance to the kind of things expected. Not all of these sections will be relevant for every protocol and the exact form of your protocol will depend on the situation. An * indicates sections that should appear in all protocols.*

Depending on the proposed study, a protocol can be anything from half a dozen to over a hundred pages long. Protocols less than 6 pages long rarely contain all that is required.

1. Synopsis

This is similar to an abstract and should be about the same length (250-300 words). It acts as a stand alone summary of the study and should be present in large protocols. It generally consists of 1-2 sentences background then the concise objective or aim followed by a brief outline of description of participants, intervention, methods, outcome measures and proposed analysis.

2. Front page *

Title of project (including acronym and/or lay title if applicable)

Investigators & personnel

- Indicate the principal investigator
- Other investigators

Institution(s) responsible for the running of the study

3. Introduction / Background *

This should include the following:

- Introduction to the topic of interest.
- What is known already - literature review of relevant findings (Brief and focused)

- Highlight area where there is missing information in the literature
- State the aims of this trial – what the study is going to find out, and in one sentence how this is going to be achieved.
- **Impact** - this is where you indicate how the study will substantially add to science, change practice, save money and best of all save lives or improve quality of life in substantial numbers of people. Include an economic impact if possible. (*note impact is sometimes placed at the end of the protocol*)
- A handful of relevant references

The background should not be an exhaustive lit review. At the end the reader should have a clear idea of what is the research question, an understanding that it is original and relevant, and how this research will help fill the gap in the literature.

4. Objectives *

Clear statement of primary and secondary objectives of the study
If relevant include a clearly defined hypothesis here

Note not all studies need a clear hypothesis

5. Personnel

Indicate the proposed roles of all involved in the study including investigators, advisors, assistants etc.

This is not always needed but for complex protocols it helps readers understand what is happening. It is also important for high risk projects to define who is responsible for what.

6. Study design *

- Describe study *
 - Type of study
 - Where is it going to be carried out (also known as *setting*)
- Study comparison & intervention *
 - What interventions are you comparing? If you are doing a cohort study or survey then what are the exposures or predictors of interest?
 - Details of the interventions – this has to be very detailed if you are planning a drug trial.
- Subjects *
 - Source of participants - where and when are you going to recruit them?
 - How many participants?
 - Inclusion/Exclusion criteria
- Study procedure
 - Patient consent if applicable

- For randomised trials; how patients are going to be randomised (*a simple diagram showing treatment arms is often useful here*)
- Details on how interventions are going to be delivered if applicable
 - Who is going to deliver them?
 - Blinding
- Other details of particular ways the subject will be treated during the study independent to the specific intervention(s) (for example will other drugs not be allowed or will patient's diet or environment be controlled)
- Outcome *
 - What are the primary and secondary outcomes
 - Details of the outcome measures used

Note there should only be one primary outcome

- Data collection *
 - What data are you going to collect, how is it collected, who collects it and when?
 - Details of intervention data
 - Details of outcome data
 - Details of all demographic data and other potentially confounding data
 - Details of safety data and adverse events
- Further subject follow-up, if applicable
 - When?
 - How often?
 - What data is collected at each time point?
- Expected duration of the trial & start times
- Patients withdrawal
 - Are there any conditions which will cause a patient to be withdrawn from the trial?
 - What happens if a patient wishes to withdraw consent?

Note: To help the reader understand complex protocols it is often very useful to include a flow chart (or time line) illustrating exactly what happens (and when) to the subject as they pass through recruitment, consent, randomisation, intervention and follow up(s).

7. Data Management *

- Where and how is data going to be stored?
 - Case record forms
 - Database
- Will there be any attempts at de-identification?

8. Statistical considerations *

- Sample size calculation or justification of numbers
 - Should be based on previous data
- Analysis plan
 - Details on how the primary and secondary outcomes will be analysed.
 - Statistical methods to be used
 - Who is going to carry out the analysis?

9. Quality assurance, monitoring & safety

- Any external committees overseeing the trial such as Trial Steering Committees or Data and Safety Monitoring Committees?
- Will there be an interim analysis?
- What are adverse events & serious adverse events?
- How will adverse events be identified and acted upon?
- Are there any specific safety measures or is there important safety data being collected?

10. Ethical Issues

- Have interventions been used before?
- What goes beyond standard practice?
- Identify and justify any dual relationships, coercion or inducement
- Identify and justify any non negligible risk or burden

11. Finance and resource use*

Details of funding bodies

Budget including direct and indirect costs

12. Publication policy

13. Limitations of the study & Future directions

General comments:

Always number the pages and indicate the date of the *draft*, or once it has been formally submitted for approval, the date of the *version* in the header or footer.