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| **THE RESEARCH PROPOSAL TEMPLATE** |
| This document has been set up to assist investigators in preparing the text for their research proposal. The Research Proposal is a complete description of the intended research. Through the full proposal, the investigator needs to demonstrate convincingly that the study will make a contribution to a public health issue or problem. **How to use this template:** The template provides ALL the sections, headings and subheadings that the investigator will require in their proposal, as well as the line and paragraph spacing, page breaks, page numbering, referencing system and referencing styles. Simply edit the text where appropriate and insert your own text as per your proposal, i.e simply type into the document. Do not attempt to change the styles for the headings or subheadings, and do not attempt to use more than three level headings (i.e A main heading, a sub-heading and a sub-sub-heading). When you have finished typing, then return to the Contents Page, place your cursor on the greyed out section, right click with the mouse, and select “Update entire table”WHEN YOU ARE DONE, DELETE THE FIRST SIX PAGES FROM YOUR PROPOSAL |

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| **Description of the content expected in each section of a Research Proposal:**  |
| The full research proposal should be between 5 and 10 pages and should present the following[[1]](#footnote-1):* **Title**

*The title should be informative, succinct and interesting. It should include the population of interest and the condition/issue being investigated.** **Brief Introduction**

*A brief outline of the problem statement, rationale and objectives of the research study** **Problem Statement**

*A broad statement indicating the goals of the project. Eg. Exploration, description, explanation, prediction (hypothesis testing)** **Relevance/ Rationale**

*Why should the research be done?* *Why is the research important? Has it been done before? Will the study benefit patients, increase knowledge and/or influence policy? Will research resolve controversies? Would the answers have clinical value?* *Keys to success* *– Should be reasonable given the proposed study* *– Literature review will demonstrate that the research is justified* * **Background and Significance**
	1. **[Literature Review]**

*A critical summary of research on a topic of interest, generally prepared to put a research problem in context or to identify gaps and weaknesses in prior studies so as to justify a new investigation. Generally starts off broadly addressing the problem then becoming more narrow and leading to your specific research question(s).** *This is your chance to build a case for doing your study!*
* *Justify the statements that you have made in your Relevance/Rationale section.*
* *Reviewers will be looking to see whether your proposed work is appropriate for the level of knowledge currently existing in that area.*

 *Keys to success:* *- Identify gaps in knowledge or controversies* *- Focus on and leading naturally to your research questions/objectives* *- Be thorough, relevant, and up-to-date* *- Use primary sources of original research* *- Synthesize and be critical* *- Provide local background* |

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| **Description of the content expected in each section of a Research Proposal:**  |
| * **Objectives and Aims**

**[Research question or hypothesis/ Research objectives]***Explicitly state what you propose to study.* * *Form the foundation for the rest of the proposal.*
* *Will be used to assess the adequacy/appropriateness of the study's proposed methods:*

*Testable; logically derived from the literature review* * *Often includes:*

*Population of interest (person, place, time); Variables (independent and dependent); Relationship between variables being investigated* *Keys to success:* *– Be clear and concise**– Generally have only one primary research objectives* *– Include the independent and dependent variables, if applicable* *– Your objectives must be measurable.* *– Objectives must be relevant or novel (as you’ve established in the literature review!).* *– If it is a pilot study, state clearly the pilot objectives (e.g., testing the feasibility of the study procedures, patient adherence to the study protocol, drop-out rates etc.).** **Study design (type of study)**

*Issues to consider in design* *– Exploratory versus explanatory research* *– Potential biases that may emerge* *– Feasibility (logistics)* *– Cost* *– Level of evidence, limitations* *– Ethics**–Types of Designs:* * *Descriptive (Survey, cross-sectional, correlational)*
* *Observational/analytic*
* *Cohort studies*

*Prospective* *Retrospective* *–Interventional* * *Quasi-experimental*
* *Randomized controlled trials*

*Keys to success:* *– Clearly identify the type of design and justify your choice* *– Describe using standard terminology* *– Make sure what you have named your study fits with what will be done* *– Ensure the proposed design is appropriate to address study objectives* *– Address any design issues in the literature review and limitations sections** **Study population and sampling**

Who will you study? Why? Specify eligible subjects:  - Target population: clinical & demographic characteristics  - Accessible population: temporal & geographic characteristics  |
| **Description of the content expected in each section of a Research Proposal:**  |
| Keys to success: – Clearly describe the study population – Provide appropriate inclusion/exclusion criteria – Justify the use of the study population and the sampling method (consider potential bias, generalizability)– Provide all details of the sampling and recruitment methods (including any barriers to recruitment specific to the population and strategies you will use to address these - e.g. cultural barriers) – Do not confuse randomization with random selection* **Data collection methods and instruments**

Identify the: * Independent variable (exposure, intervention…)
* Dependent variable (outcome)
* Covariates
* Where will the information come from (data sources)?
* Exactly how will the information be collected (data collection methods)?

Keys to success: - Indicate relevance to research questions/objectives - Describe the variables in detail (primary outcome, secondary outcome, covariates) - Discuss psychometric properties (for measurement instruments, scales) - Provide justification for use (gold standards, other research, clinical practice). * **Data analysis methods**

*If applicable statistical planning must be fully addressed, or the candidate should provide evidence that statistics are not required.**In many proposals, the sample size section precedes the data analysis section. However, it is advisable to consider the analysis section first, as the sample size calculation should be based on the analysis of the primary research question.**Data Analysis Section* *A detailed plan for handling and analysing data, including procedures for:* * *Recording, storing and reducing data*
* *Assessing data quality*
* *Statistical analyses*

*Keys to success* *– If possible, consult a biostatistician**– Provide reasonable detail* *– Make sure you have described the analysis for each stated outcome/objective* ***Tips for the Data Analysis Section**** *Make sure your objectives are clear, simple and testable.*
* *Think carefully about your outcome measure.*
	+ *What constitutes clinical relevance?*
	+ *Is it appropriate, relevant and measurable?*
* *Be concrete and explicit.*
	+ *Turn your research question into something testable. Take the essential features of your problem and turn it into something measurable.*
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|  **Description of the content expected in each section of a Research Proposal:**  |
| * *Think carefully about your outcome measure.*
	+ *What constitutes clinical relevance?*
	+ *Is the outcome measure appropriate?*
	+ *Select an appropriate analysis tool.*
* *Think about how you would present your final results.*
	+ *What convincing evidence would you present?*
	+ *What could you measure and report that would demonstrate clinical/economic impact?*
* *Make table shells (these do not need to be included in the proposal).*
	+ *How will you present the data from your study?*
	+ *What features of your patients would you need to describe in a manuscript?*
	+ *How will tests of significance or models be presented? Comparison of means? Comparison of rates or proportions?*

*Sample Size Estimates: Inference**Inference* * *In research, we usually can’t measure everyone.*
* *Forced to make inferences regarding “true” or underlying characteristics of a population on the basis of data collected from a sample.*
* *The more subjects we use or measure, the more accurate our estimates will be.*
* *If we measure too many, we will waste resources. If we measure too few, we won’t be able to detect effects of interest.*

*Sample Size Calculations**Keys to success:* *– Justify the elements that you put into your calculation.* *For example:* * *…control group is expected to have this response based on literature (eg. meta-analysis)"*
* *….we’d like to detect this response in the intervention group based on previous literature and clinical significance*
* *…..the standard deviation around the change is based on the literature…*
* **Mechanisms to assure the quality of the study – e.g. control of bias, safe storage of data**
* **Study period - Timetable for completion of the project**
* Participants in the study – all people involved in the study, and the role they play, should be identified.
* Ethical considerations

Keys to success – Describe the recruitment procedures – Describe procedures for maintaining subject privacy – Follow the guidelines for your organisation (consent form templates) – Describe harms and benefits – Describe alternatives to study participation – If asking for a waiver of consent, justify explicitly why you cannot get consent (HIA) * **Strength and Weakness of the study** [What are the limitation of your study design? how have you tried to mitigate them? What are the strengths, why are they relevant? ]
* **Budget and Motivation** [Resources required for the study, including budget if applicable]
* **References**
* **Appendices** (copy of questionnaires, consent forms, etc.)
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| TYPE THE TITLE OF YOUR PROJECT HERE |
| **INVESTIGATOR NAME:** Type your name here**DEPARTMENT:** Type in KSU affiliated department**SUPERVISOR:** Type your supervisor’s name here**DATE OF SUBMISSION:** DD MM 20YY |

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| INTRODUCTION |
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| Sub HeadingUse Heading 2 from the selection of styles on the menu bar above. Do NOT use all capitals, but write as is shown above. Do not use anything else as the Table of Contents has been automated to include this style for a subheading.Sub-Sub-HeadingUse Heading 3 from the selection of styles on the menu bar above. Do NOT use all capitals, but write as is shown above. Do not use anything else as the Table of Contents has been automated to include this style for a sub-subheading.ReferencingWhen doing your referencing, use the automatic system provided by Microsoft Word. To use this, from the Menu bar, go to Insert > Reference > Footnote. Now select Endnote > end of document. For the options, select Number format > 1, 2, 3; Custom mark > leave blank; Start at > 1; Numbering > continuous. If you do this, you will see a superscript inserted at the point of your cursor, as in this example, with the cursor automatically going to the end of your document for you to insert your reference details[[2]](#endnote-1). This keeps a continuous numbering system as you progress through your proposal. Once you are done, you could move this from the last page to the last page before the Appendices. |

| PROBLEM STATEMENT |
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| OverviewResearch Question/Hypothesis |

| RELEVANCE/ RATIONALE |
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| BACKGROUND AND SIGNIFICANCE |
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| This is your literature review. Use Headings 2 and 3 to provide sub headings in your review |

| OBJECTIVES AND AIMS |
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| Overall ObjectiveSpecific Aims |

| RESEARCH DESIGN AND METHODS |
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| OverviewUse headings 2 and 3 as appropriate, and use these headings if appropriate.Population and Study SampleSample Size and Selection of SampleSources of DataCollection of DataData ManagementData Analysis StrategiesEthics and Human Subjects IssuesTimeframes |

| STRENGTHS AND WEAKNESSES OF THE STUDY |
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| BUDGET AND MOTIVATION |
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| REFERENCES |
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| APPENDICES |
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| Appendix 1: Questionnaire |

| **APPENDICES** |
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| Appendix 2: Mock Table 1 |

**Acknowledgement:**

*This template is adapted from following resource:*

1. *The University of Freiburg's Department of Informatics' Research Proposal Template:* <https://diuf.unifr.ch/main/is/sites/diuf.unifr.ch.main.is/files/Proposal_Template.doc>.
1. *The wording of the section summaries is copied from following resource:*

*Centre for Advancement of Health, Knowledge Into Action (K2A), Health Research Proposal Writing, Tips for Writing Quantitative Research Proposals, Calgary Health Research:* [*http://www.albertahealthservices.ca/Researchers/if-res-proposal-writing.pdf*](http://www.albertahealthservices.ca/Researchers/if-res-proposal-writing.pdf) [↑](#footnote-ref-1)
2. Naidoo R. Showing you how to do automatic referencing. Proposal Template. 2008 [↑](#endnote-ref-1)