THESIS TEMPLATE

Special Postgraduate Program of
Implementation Research on
Tropical Diseases

Faculty of Medicine
University of Gadjah Mada

2016

FOREWORD

This thesis template has been produced to assist students in writing their research thesis and to assure students follow all the guidelines that has been provided for writing a thesis. Guidelines in this thesis template describe the meaning and aims of each chapter and section in a thesis. Examples were provided for each section.

The template is fit with the thesis requirements in the master program in Public Health. Use of this template will assure students follow the general requirements of thesis produce by master of Public Health in the Faculty of Medicine, Universitas Gadjah Mada. The template is designed for students in Implementation Research program, however students from all other department undertaking master or doctoral study can also take advantage of it. Tutors and thesis advisors are also expected to have and to understand the template, thus they will have common understanding of the expected thesis output. On succesful completion of this module, students are expected to have a good quality of thesis

Manager of Academic Affair
Special Postgraduate Program
of Implementation Research
on Tropical Diseases,
Faculty of Medicine UGM

CHAPTER I. INTRODUCTION

A. Background

This section should be approximately 2-5 pages of background narrative, citing literature as appropriate as needed. You have two purposes in this section: (a) grab your readers' attention and (b) enlighten your readers about the importance of the study.

This section should provide: (1) scientific background information, specifically a brief description of the setting and context, socioeconomic and cultural characteristics, an overview of the state of health, the healthcare system, the policy, programme, or service (including how long it has been in place, how it is managed); (2) a concise description of the nature of the problem and of its size, distribution, severity (who is affected, where, since when, and what are the consequences for those affected or the services) and why it warrants research and reporting of finding; (3) a brief description of interventions that have been tried in the past, how well they have worked and why further research are needed, (4) the implementation barrier that is resulting in

poor performance of the programme, the underlying systems failure that is causing the implementation barrier, as well as a description of how the knowledge generated by this research will contribute to addressing the failure in the system. (5) a brief description of the proposed intervention (if any). Specify who or what triggered the decision to make changes. Describe why research locations are selected, and why now? Describe mechanism or strategies, by which components of intervention were expected to cause changes (Hales, et.al., 2016).

You will be able to expand on how the knowledge will be used and implications of the project in the literature review, but please be sure to demonstrate the logic of how the knowledge relates to the implementation barrier and systems failure here.

First Subheading Subheading has the first letter of each word uppercase, except single syllable conjunctions and prepositions (and, with, respectively). Heading and subheading are written without full stop. First sentence is written in the same line with the subheading (IKM, 2012)

Second Subheading Subheadings visually represent how information is organized and informed the reader what is in each section. Use subheading when necessary.

B. Relevance

Research relevance describes the level of societal significance of the research. Relevance of research for IR program can be described using two perspectives, i.e. implementation research relevance and public health relevance. Relevance to Implementation research is assessed using principles of implementation research. Relevance to public health issue can be assessed using these questions: Does the research address important public health issue? Will the research generate new knowledge? How can the research be operationalized into clinical or public health practice? What are the possible public health benefits of the research? Is the research conducted within designated priority area?

C. Problem Statement

The research problem is at the center of your project and directly related to your goals and the associated hypothesis and/or research questions. The problem statement provide the context for why your research is necessary and potentially valuable to the discipline. It defining the quality or care gaps between what should be happening and what is actually happening in real life. There should be a clear explanation of

the role of stakeholders or multidisciplinary approach in solving the problem.

D. Research Objective

Research objectives describe what we expect to achieve by a project, which is changes or improvement in processes and outcomes. Research objectives should be closely related to the statement of the problem and summarise what you hope will be achieved by the study. Research objective can be general and specific.

1. General objective

   It is a broad statement of the knowledge the research hopes to generate and alludes to how the knowledge may be used to inform implementation. The general objective can be broken down into smaller components called specific objectives.

2. Specific objectives (sample)
   a. Specific objectives are simple statements of the specific information that will be collected through different research activities of the study.
   b. The specific objectives should cover different aspects of the problem and its contributing

factors in a coherent way and in a logical consequence

c. It should be clearly phrased in operational terms, specifying exactly what you are going to do, where, for what purpose and realistic considering local condition.
d. Use action verbs that are specific enough to be evaluated, i.e. to explore, to describe, to influence, to explain, to predict, to determine, to verify, to establish, etc. Avoid use of vague words, i.e. to understand, to study, to appreciate, etc.

E. Research Impact

Research impact(s) is the demonstrable potential contribution that excellent research makes to academic, economic, society and the health system. In this section, the researcher should explain who will benefit from this research and how will they benefit from this research. The impact of research can include: (1) instrumental impacts (influencing the development of policy, practice or service provision, shaping legislation and altering behaviour); (2) conceptual impacts, contributing to the understanding of policy issues,

reframing debates; and (3) capacity building through technical and personal skills development (France J, et,al., 2016).

F. Originality

The presence of originality and the significance contribution to an existing body of knowledge is important to assess quality of a theses. Philips and Pugh (1994) define several criteria which may merit originality, i.e. “presenting a major piece of information in writing for the first time, extending, qualifying or elaborating on an existing piece of work, undertaking an original piece of work designed by someone else, developing a new product or improving an existing one, reinterpreting an existing theory, maybe in different context, demonstrating originality by testing someone else’s idea, carrying out empirical work that has not been done before, using a different methodological approach to address a problem, synthesizing information in a new or different way, providing new interpretation using existing/known information, repeating research in other contexts, applying existing ideas to new areas of study, taking a particular technique and applying it in a new area.

Developing a new research tool or technique, taking a cross disciplinary perspective, developing a portfolio of work based research, adding to a knowledge in a way that has not been done before, conducting a study on a previously unresearched area or topic, and producing a critical analysis of something not previously examined.”

CHAPTER II LITERATURE REVIEW

A. Literature Review

A literature review aims to show the readers that you have read and understand the important published works related to your research topic or questions. It is not only a summary of findings, but also a synthesis and analysis in the form of critical discussion, showing insights and awareness of different findings, theories, and approaches.

A literature review should compare and contrast different authors views on an issue, group authors who draw similar conclusions, identify mainstream and alternative views, critise aspects of methodology, highlight areas in which authors are in disagreement, highlight gaps in research, show how your study relates to previous study, and conclude by summarizing what the literature says (Caulley, 1992).

It is recommended to include not more than 40 new published references in literature review from trusted sources. References should be cite using Harvard style or APA style, which is an (Author, Date) based style.

Table should contain analyzed quantitative and/or qualitative data. Raw data can be show in the appendix, if necessary. A

table should be simple, efficient and self-explanatory. Table numbers and title must appear above the table. Text inside the table should be written in single spacing text. Table header should be repeated if a table continue to the next page. However, avoid to use lengthy table. Information for abbreviated text, specific terms or source of data should be given at the bottom left of a table.

Table 1. Example of table presentation

Characteristics	Number	%
Population		
Village 1	540	34.5
Village 2	357	22.8
Village 3	667	42.6
Number of HCWs		
Village 1	15	19.7
Village 2	21	27.6
Village 3	40	52.6

HCWs: Health Care Workers

Map, charts, framework, hand-drawn illustration, or picture must be listed as figure. Picture presentation must comply to ethical guideline on picture publications. Figure title must appear below the figure. Picture should not split into more than 1 page. Scale and axis in a chart presentation must be clear and easy to understand.

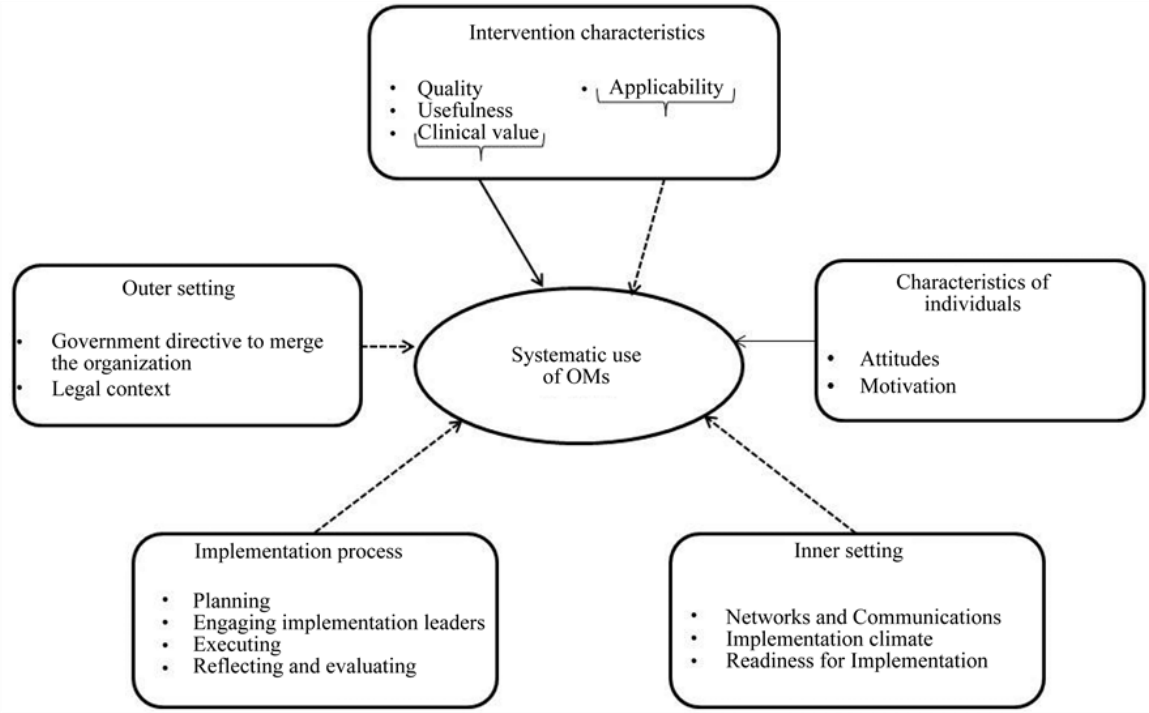


Figure 1. Summary of positive and negative factors associated with the systematic use of outcome measures. Solid arrow indicate positive association and dotted arrow indicate negative association

Consider quoting a passage from your sources if (1) the language of the passage is particularly elegant, powerful, or memorable, (2) you wish to confirm the credibility of your argument by enlisting the support of authority on your topic, (3) the passage is worthy of further analysis, (4) presenting spoken words for explanation, (5) presenting discourse as the matter of inquiry, (6) using quotation to deepen

understanding, and (7) using spoken words to enable voice of participants. Do not include too much quotation (Corden A and Sainsbury R, 2006).

B. Theoretical Framework

A theory may be defined as a set of analytical principles or statement designed to structure our observation, understanding and explanation of the world (Wacker, 1998). A good theory provides a clear relationships between the variables with specific predictions and explanation of how and why they may lead to specific events (Nilsen, 2015). Theoretical framework may consist a single theory or combination of theories. Source of theory should be clearly identified in the framework. Figure 2 presents an example of a theoretical framework.

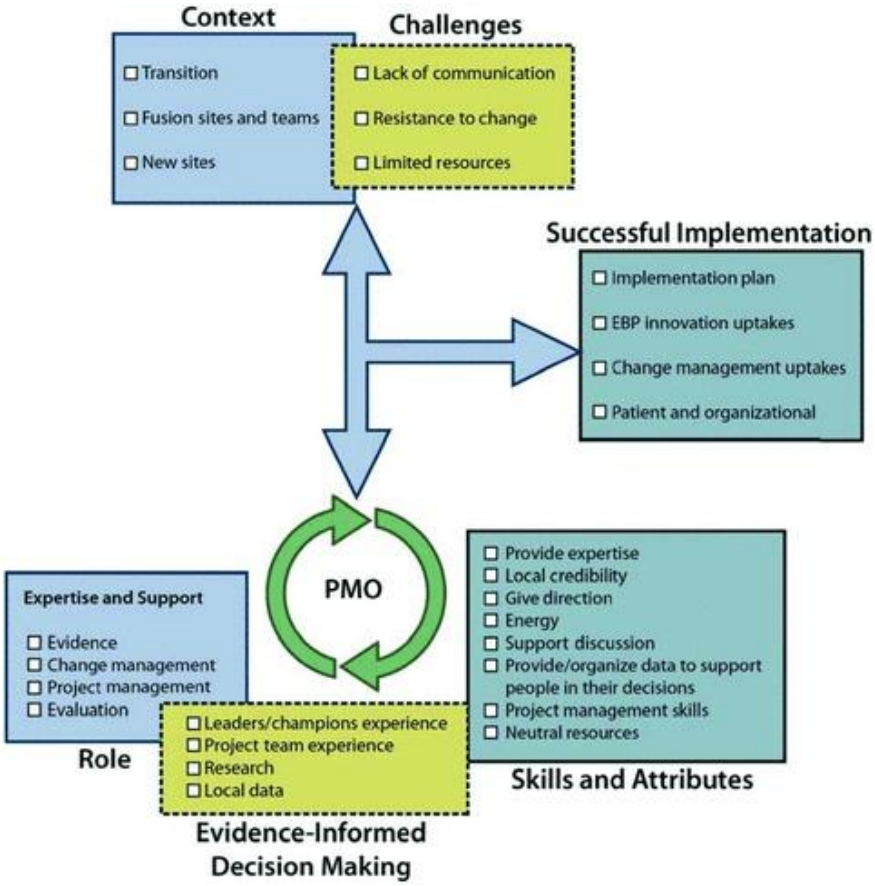


Figure 2. Theoretical framework of the contribution of a project management office (PMO) toward successful implementation of evidence-based practice in the context of a redevelopment project in healthcare organization (Lavoie-Trembley, 2012)

More details about theoretical framework for implementation research can be found here: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4406164/#CR29

C. Conceptual Framework

Conceptul framework underlie a research study. It identifies research constructs, variables and clarifies relationship between variables. Compare to theoretical framework, conceptual frameworks are usually more elaborate and detailed, particularly when the topic studied have long scholarly history (William, et al., 2001). A conceptual framework provides interpretative approach to social reality. Conceptual framework should be build based on existing multidisciplinary literature or theories (Jabareen, 2009).

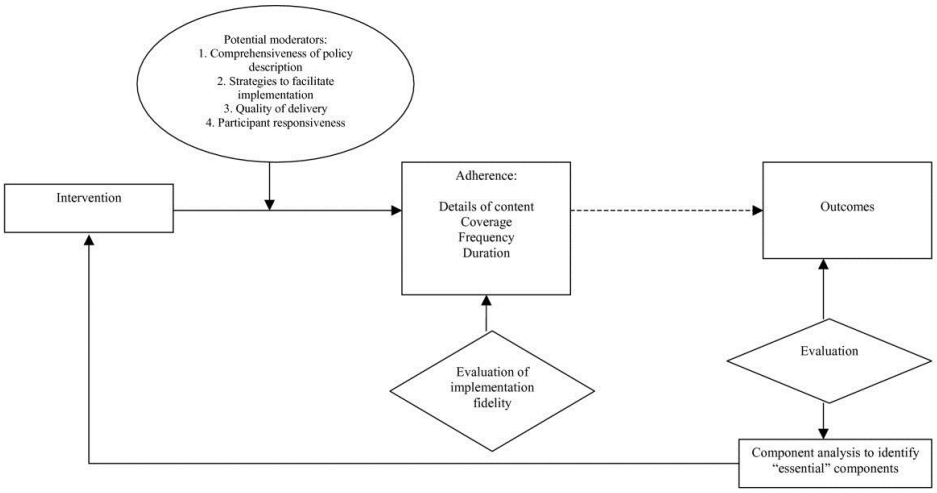


Figure 3. Conceptual framework for implementation fidelity (Caroll, et al., 2007)

D. Hypothesis and Research Questions

Students can opt to use hypothesis or research questions or both. The purpose of hypothesis testing is to make inference about the population of interest on the basis of random sample taken from the population. Hypothesis should be stated as “null” hypothesis., where there is no difference in the outcome, and alternate hypothesis where there is a difference in the outcome. The null hypothesis is then statistically tested and if the findings are not statistically significant then we can not reject the null hypothesis (Farrugia et al, 2010).

Research questions arise out of a perceived knowledge deficit within a subject of field of study. The challenge in developing an appropriate research question is in determining which uncertainties need to be studied and determining the need for study. Number of research question will affect and potentially increase the complexity of the study. FINER (Feasible, Interesting, Novel, Ethical and Relevant) criteria can be used to develop a good research question because its outline important aspects of the question. PICOT (Population of interest, Intervention being studied, Comparison group, Outcome of interest and Timing) format can be used to form a question: (Farrugia et al., 2010).

CHAPTER III. RESEARCH METHOD

A. Research Type and Design

Describe on your implementation research type and design. For example, you can state that the research type is implementation research with quantitative or qualitative or mixed methods approach. Put some sentences to describe briefly about implementation research. For the research design, you can mention relevant implementation research designs, such as: cohort study, explanatory experimental study, pragmatic trials, effectiveness-implementation hybrid trials, etc. If you conduct IR with mixed methods approach, explain what kind of study design of each quantitative and qualitative approach. The design should appropriate to address the research objective. When you use mixed methods approach, explain which objectives relate to the quantitative approach or qualitative approach.

If applicable to your study objectives and design, give description about the implementation strategy you would like to test. Explain methods used to assure data quality

B. Research Settings and Time

Describe the settings of study location, relevant dates for implementation, periods of data collection and follow up. In the implementation research context, you should give description about policy/program/service related with the focus of your study.

C. Intervention (if any)

Describe the intervention. The amount of detail given should be sufficient to allow replication of the study. For well established study, it is sufficient to refer to previously published studies. Give a description of the implementation strategy: frequency, duration, intensity, including how and when interventions were actually implemented.

D. Research Subjects

1. Population

State about your study population in this section. Put inclusion and exclusion criteria to define your study population. The criteria should conform the objective of the study. The inclusion criterion is the first selection that allows subjects relevant to your study. Put some contraindications (if any) as exclusion criteria to exclude the subjects who conformed the inclusion criteria out from the study population.

2. Sample Size

If you plan to conduct quantitative approach, you should demonstrate sample size calculation relevant to your study designs. Describe assumptions you used for sample size calculation. When you do not take sample of study population, i.e. you select all population members to your study, you should explain about number of population members, and the reason for including all study population in your study.

If you plan a qualitative approach, you should explain how many subjects you plan to include. State about data saturation as an approach to define your final number of participants.

If you conduct mixed methods approach, you should have description of sample size on both quantitative and qualitative approach.

3. Sampling Technique

Describe on your sampling technique relevant to the study design.

If you conduct quantitative approach, you should think about random sampling (i.e. simple random sampling, systematic sampling, stratified random sampling, cluster sampling and

multistage sampling) as a priority of sampling approach rather than non-random approach. If you plan for matching, you should mention it including the reason of conducting matching.

If you conduct qualitative approach, you should mention about qualitative sampling technique such as criterion sampling, homogenous sampling, maximum variation sampling etc.

If you conduct mixed methods approach, you should explain the sampling technique of each approach.

E. Identification of Research Variables

This section presents research variables. For the quantitative approach, you should mention about the variable's function, including independent variables, dependent variable(s), intervening variable(s), moderator variable(s) or potential confounding variable(s). For the qualitative approach, you only need to mention all variables/issues you would explore in your study. In the context of implementation research, you should mention implementation research outcome as research variables.

F. Operational Definition of Variables

This part should contain explanatory description of each study variable in practical terms, how it will be measured/explored. For

quantitative approach, you can use this following table to structure the operational definition of variable:

Table X. Operational Definition of Variables

Type of Variables	Variable Name	Operational Definition	Measurement	
			Scale	Scoring
Independent				
Dependent				
Moderator				
Potential confounding				

For the qualitative approach, it is sufficient to present practical definitions of the variable, how and to whom it will be explored.

G. Data Collection and Research Instrument

Explain about data collection plan relevant to your variables. The data collection should include how data will be collected, where, when, by whom, and how.

Explain about research instruments you plan to use in the study. Explain about how you ensure about the validity and reliability of the instruments. If you plan to conduct the try-out and validity/reliability tests of your study instruments, explain about when, methods, subjects, and expected results of your pilot study.

H. Data Analysis Plan

Explain about data analysis plan for your research approach. For the quantitative approach, explain about statistical analysis technique appropriate to your study objective(s) and type of data. You can breakdown your data analysis plan into some objectives of data analysis – e.g. "to compare variable X between Group A and Group B". The data analysis objective should relevant to your study objective.

For the qualitative approach, you should mention analysis steps of your narrative data, e.g. content analysis, grounded theory, thematic analysis, etc. You should elaborate the process of transcripts writing, coding process and any techniques to improve the validity of your analysis (such as member checking, reference group checking, peer debriefing).

I. Research Ethics

Describe about your approach to conform research ethics. The description should cover potential risks and your mitigations related to principles of research ethics: respect for person, beneficence and justice.

1. Respect for person: is related to informed consent process, authority, anonymity and confidentiality.
2. Beneficence: is related the balance between benefits and potential risks of conducting implementation research to individuals or communities assessed. Possible risk in IR includes individual and collective risks of physical, financial or physiological burden.
3. Justice: is related to fairness in participant selection. Implementation research on vulnerable population e.g. people with low social-economic, students, prisoners, and other people with lacking of authority for making consent, should be carefully address ethical issues.

J. Research Plan

Describe all stepwise activities and the schedule in a Gantt chart. The following is an example of a research plan:

		2016		2017										
No	Activity	11	12	1	2	3	4	5	6	7	8	9	10	11
1	Proposal Seminar													
2	Ethical Clearance													
3	Other administrative process in the study area													
4	Research proposal dissemination													
5	Data collection													
6	Research Monitoring													
7	Data analysis													
8	Report writing													
9	Report Seminar													
10	Thesis Examination													
11	Graduation													

K. Research Team

Describe all individual who will be actively involved in your research project as part of research team. The principal investigator is the student. Co-investigators are people who involved directly with the research and contribute significantly to the selection of research design, method, and will also contribute to discuss the finding. The principal investigator may select research assistants as needed.

Table X. Research team's summary profile

1	Principal Investigator	Student's name
	Qualification	
	Institution	
	Position	
2	Co-investigator 1	
	Qualification	
	Institution	
	Position	
3	Co-investigator 2	
	Qualification	
	Institution	
	Position	
4	Research Assistant 1	
	Qualification	
	Institution	
	Position	
5	Research Assistant 2	
	Qualification	
	Institution	
	Position	

REFERENCES

Make a list of all references you cited in the all chapters of the proposal here. Some examples of the part of the proposal, which needs to put citation of reference, are: all information from other sources, data, theory or arguments from others, picture/graph from other sources. The reference list should conform the Harvard referencing systems. The following is an example of a reference list:

Carrol C, Patterson M, Wood S, Booth A, Rick J, Balain S. (2007) A conceptual framework for implementation fidelity. *Implementation scienc*e. Vol 2: 40.

Caulley, D. N. (1992). *Writing a Critical Review of the Literature*. La Trobe University: Bundoora.

Corden A and Sainsbury R. (2006). *Using verbatim quotations in reporting qualitative social research: researchers' view*. Social Policy Research Unit. The University of York.

Farrugia P, Petrisor BA, Farrokhyar F, Bhandari M. (2010) Research questions, hypothesis and objectives. *Can J Surg*. 53(4):278-281

France J, Rajania A, Goodman R, Ram M Longhurst R, Pelka V, et.al. 2016. *Evaluating the impact of the ESRC-DFID Joint Fund*

for Poverty Alleviation Research. Institute of Development Studies. UK

Hales S, Lesher-Trevino A, Ford N, Maher D, Ramsay A, Tran N. 2016. Reporting guidelines for implementation and operational research. *Bulletin of the World Health Organization,* 94:58-64

IKM. 2012. *Panduan Tesis*. Program Studi Ilmu Kesehatan Masyarakat. Fakultas Kedokteran UGM.

Jabareen, Y. 2009. Building a conceptual framework: Philosophy, Definitions and Procedure. *International Journal of Qualitative Methods*. Vol 8(4)

Lavoie-Trembley M, Richer M, Marchionni C, Cyr G, Biron AD, Aubry M, et.al. (2012) Implementation of evidence based practices in the context of a redevelopment project in a canadian healthcare organization. *Journal of Nursing Scholarship*, 44:4, 418-427

McGaghie WC, Bordage G, Shea JA. (2001) Problem statement, conceptual framework, and research question. *Academic Medicine*. Vol 76, Issue 9, p923-24.Phillips, E.M. & Pugh, D.S. (1994). How to get a PhD. USA: Open University Press

Wacker JG. A definition of theory: research guidelines for different theory-building research methods in operations management. *J Oper Manag*. 1998;16:361–85.

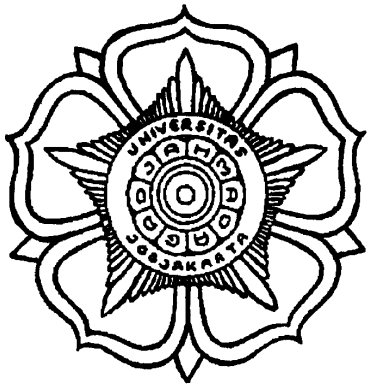
APPENDIX

Put any supporting data which is relevant to background, results and discussion in the appendix if those are not essential to show in the main body of proposal.

PROPOSAL TITLE
(Identify as implementation research in the title)

Proposal
To Fulfill Requirements Achieving Master Degree

WHO/TDR Special Postgraduate Programme of Implementation Research on Tropical Diseases



Submitted by
Students Name
NIM:

To

POSTGRADUATE PROGRAM
FACULTY OF MEDICINE
UNIVERSITY OF GADJAH MADA
YOGYAKARTA
YEAR

PROPOSAL

PROPOSAL TITLE

(Identify as implementation research in the title)

Submitted by

Student Name
NIM:

Approved by:

Advisor 1

Name of Advisor 1 Date

Advisor 2

Name of Advisor 2 Date

CONTENTS

LIST OF EXHIBITS, FIGURES, TABLES, AND PHOTOS

LIST OF ABBREVIATIONS

WHO	World Health Organization
TDR	Tropical Disease Research

ABSTRACT

(*max: 200 words*)

Background: *include study context and rationale*

Objectives:

Methods: *include research design and settings*

Keywords:

CHAPTER I. INTRODUCTION

A. Background

B. Relevance

C. Problem Statement

D. Research Objective

a.

E. Research Impact

F. Originality

CHAPTER II LITERATURE REVIEW

A. Literature Review

B. Theoretical Framework

C. Conceptual Framework

D. Hypothesis and Research Questions

CHAPTER III. RESEARCH METHOD

A. Research Type and Design

B. Research Settings and Time

C. Intervention

D. Research Subjects

1. Population

2. Sample Size

3. Sampling Technique

E. Identification of Research Variables

F. Operational Definition of Variables

Table X. Operational Definition of Variables

Type of Variables	Variable Name	Measurement	
		Scale	Scoring
Independent			
Dependent			
Moderator			
Potential Confounding			

G. Data Collection and Research Instrument

H. Data Analysis Plan

I. Research Ethics

L. Research Plan

		2016		2017										
No	Activity	11	12	1	2	3	4	5	6	7	8	9	10	11
1	Proposal Seminar													
2	Ethical Clearance													
3	Other administrative process in the study area													
4	Research proposal dissemination													
5	Data collection													
6	Research Monitoring													
7	Data analysis													
8	Report writing													
9	Report Seminar													
10	Thesis Examination													
11	Graduation													

M. Research Team

Table X. Research team's summary profile

1	Principal Investigator	Student's name
	Qualification	
	Institution	
	Position	
2	Co-investigator 1	
	Qualification	
	Institution	
	Position	
3	Co-investigator 2	
	Qualification	
	Institution	
	Position	
4	Research Assistant 1	
	Qualification	
	Institution	
	Position	
5	Research Assistant 2	
	Qualification	
	Institution	
	Position	

REFERENCES

APPENDIX