

A GUIDE FOR STUDENTS AND SUPERVISORS ON WRITING A 60 ECTS THESIS FOR THE DEGREE *MASTER OF PHILOSOPHY IN GLOBAL HEALTH*

Introduction

The Master's programme in Global Health is a two-year full time post graduate degree at the Centre for International Health (CIH), Department of Global Public Health and Primary Care, University of Bergen (UiB).

Benchmarks:

- Preparation of research proposal starts in December during the first semester and is due in the second semester, by 20th May.
- For those doing fieldwork, it should be scheduled to start at the end of the first/beginning of the second year of the study (May – August). Its duration may vary, and students should plan to return to the Centre for international health by October/November of the second year to allow for sufficient time to analyse the data and write the thesis.
- The thesis should be submitted by 15th May in the last semester of the second year
- The final exam is scheduled for June of the second year, on a date set by the Centre for International Health. The application deadline to sit for the final exam is 1st May.

The core courses and the agreed elective courses must be successfully fulfilled before the student can apply to sit for the exam.

There are three possible approaches to the thesis work:

- Narrative literature review, combined with new data collection and data analysis.
- Semi-systematic literature review, combined with minimal or no data collection, but with analysis of existing research data
- Systematic or scoping literature review on a topic with a solid rationale and including a detailed evaluation of each paper's methodological strengths and weaknesses.

Data collection

The choice of research methods for a field study depends on the identified study objectives. Research methods might include quantitative data collection tools (for example surveys or trials), qualitative methods (for example interviews or focus group discussions) or a combination of both. Students may also use secondary data (hospital records, registers etc.). Due to relative time constraints and limited financial resources, it might be difficult to plan a large-scale quantitative survey or a long-term in-depth study. However, a limited field-study might serve as a pilot where new issues are explored or where the study takes place in a limited geographical setting. Several practical issues need to be considered when planning a field-study: research/study permission from the relevant authorities, funding, transport, the need for interpretation, ethical issues etc.

Thesis requirements

The thesis must:

- Be concerned with a global health research problem, and should be clearly formulated and justified
- Have clear objectives/research questions
- Be based on relevant and appropriately described materials and methods
- Present results in a clear and balanced way
- Present a relevant and critical discussion of materials, methods and results and relate this to pertinent literature within the field

- Fulfil the usual formal demands for scientific presentations and include a title page, a table of contents, an abstract, list of references, and correct use of language and good structure or layout.

- All use of AI must be declared in a separate statement with an appropriate sub-heading explaining how and how much AI has been used and which tools that were used. AI tools can be used for the following purposes

- A. General activities (e.g. generation of search strings) as long as AI content is not copied directly into the text
- B. "Editing" and "improvement" of your work – change the wording, more specific.
- C. Support for visual representations that is not part of your own results.

(see <https://www.uib.no/en/med/174309/use-artificial-intelligence-ai-faculty-medicine> for further details).

- It is also important to adhere to UiB's statements on Academic Integrity and Cheating (<https://www.uib.no/en/sa/165062/academic-integrity-and-cheating>). Non-adherence will be judged as cheating.

Writing up the thesis

Students may choose between two formats:

1. Monograph

A monograph should be between 40-80 pages in length, written with 1.5-line space (corresponding to 12,000 to 24,000 words). This excludes tables, figures, references, and annexes.

The thesis structure should include what is listed below. It is also recommended to report according to the appropriate guidelines (e.g. STROBE, PRISMA, COREQ) or similar when relevant:

- e) Cover page with title of project, name of student and supervisors (see template)
- f) Content list
- c) Foreword (voluntary), including acknowledgements
- d) Abstract (maximum 500 words)
- e) Introduction/background
- f) Aim/objectives
- g) Methods including study design, data collection, analysis and theories underpinning the choice of methods and analysis when relevant
- h) Findings/results with in-depth analysis of the phenomena under study
- i) Discussion, including the strengths and limitations of the study, recommendations.
- j) Conclusions
- k) Reference list
- l) Annexes

Relevant documents can be included as annexes, such as guidelines from the journal, details of methods (like questionnaire, interview guide), informed consent form, ethical clearance.

2. A scientific paper with a short thesis/"cover story"

The thesis can comprise of a scientific paper and a "cover story". Total number of pages including the paper should be 30-50 (corresponding to 9,000-15,000 words), excluding tables, figures, references and annexes. One paper is sufficient, and it may have more than one author. However, the student must be the first author or have shared first authorship. The goal of the "cover story" is to put the paper into a larger context. Please note that the "cover story" should *not include repetitions of text* that is included in the paper. It should just include elaborations of the background, the research field, theoretical frameworks and the

methodology that go beyond the text in the article and could not fit in the paper due to space limitations. The idea is that the “cover story” will add details that are expected in a thesis.

The paper-based thesis should be organized as follows:

i. The “cover story”

- a) Title page
- b) Content list
- c) Foreword (voluntary), including acknowledgements
- d) Introduction, including
 - A more extensive literature review than what is possible in a paper,
 - The contribution of the paper to the research field,
 - Mentioning which journal the paper is targeted towards.
- e) Methods and methodological considerations: including a thorough description and justification of methods, discussion of strengths and weaknesses of the methods and the data with a particular focus on validity and reliability or trustworthiness, and, if relevant, a more in-depth presentation of models and theories related to the work
- f) Reference list

NB! See the section “What should each section of the thesis contain?” below for more details about what each of the listed chapters should include.

ii. The paper:

The paper (including abstract, any tables and figures, and reference list) should be written for publication in an international journal with peer-review and following the format asked for by the specific journal chosen. The manuscript should be prepared as for submission and should include a description of the use of AI. Double line spacing should be used.

iii. Annexes:

As above

What should each section of the thesis contain?

Title:

- Should be informative and descriptive, reflecting aim, study design and main outcomes/phenomena under study

Abstract:

- Should concisely describe background, aim, method, results and conclusions
- The conclusion should be clearly connected to the aim

Introduction

- Describe the national and global public health relevance of the topic and support the text with relevant literature.
- Describe the research problem/area through a literature review based on relevant and up to date publications.
- If relevant, present a theoretical framework or conceptual framework.
- Study justification: Describe the rationale for the study and link it to an existing body of knowledge and current knowledge gaps.

- Make sure the research question(s) are clear and relevant in relation to the rationale and the design of the study.

Aim

- Clearly describe the overall aim and specific objectives and structure it properly (specific, measurable/researchable, achievable, relevant, and time bound, i.e. SMART). Ensure it is linked to the introduction and study rationale, research question and study design.

Methods

- Describe the methods for data collection and analyses in sufficient detail to allow the reader to understand exactly how the data was collected, support the description by references to methodological literature where relevant and justify the choices you have made. Describe any deviations from the plans.
- Where relevant, calculate sample size.
- Describe any ethical considerations/problems relevant for the study with a focus on guidelines for research ethics.
- Describe potential risks/benefits of the study.

Results

- Present the findings in a systematic manner, logical order and in accordance with the stated research tradition. They should be relevant to the aims of the study.
 - Quantitative:
 - Ensure the titles of tables and figures are informative.
 - Summarize the results of the tables/figures concisely, without unnecessary repetition.
 - Qualitative:
 - Explain categories and subcategories/themes and sub-themes, ensure that labels of categories/themes correspond to the content.
 - Include rich, thick quotes or cases validating the text.
 - Literature reviews:
 - Present tables and figures with information about selection, characteristics of included studies and risk of bias.
 - Describe the most important findings from the included studies.

Discussion

- Discuss the findings in accordance with the aim of the study, research tradition, context and theoretical framework (if relevant), and recent and relevant scientific publications.
- Reflect on strengths and weaknesses of the methods and the various sources of information you have used and discuss the uncertainties, reliability and validity/trustworthiness of findings.
- Discuss future implications and recommendations for policy and research of the research findings, as well as consequences for society / patients. Do not make recommendations that are not based on your own findings, and avoid generic recommendations that could be based any data set.

Conclusion

- Ensure the conclusion reflects *your* findings, answers the research question and is not generic.
- Describe the implications of the findings in relation to the aim of the study.

References

- Use the same reference style throughout.
- Ensure the reference list is complete, i.e. with all the required details to allow others to find the references including page number.
- Ensure that the majority of the references are peer reviewed publications.
- Make sure that statements that do not refer to common knowledge are supported by references.

For systematic and a scoping literature reviews, students can choose between an individual or a joint thesis

The thesis is in most cases written individually. However, both conducting a systematic and a scoping literature review can be a demanding exercise, and ideally the screening of papers and the extraction of information should be done by two investigators in parallel. Students who opt to do a systematic or scoping literature review may therefore collaborate with another student, and they can write a joint thesis. It is a requirement that both students take part in designing the objectives of the review; the search strategy and the inclusion and exclusions criteria; the screening of titles and abstracts; the assessment of full text papers and decision on which papers to include; the extraction of findings; and the quality assessment of the included papers. Both students should also contribute to writing the Introduction, Methods, Results/Findings and Discussion parts, but may share different subsections of these between each other. The total length of a joint thesis is expected to be between 40-110 pages.

When the students write a joint thesis, each student should write a confidential authorship statement indicating which parts they wrote and their proportionate contribution to each section. The supervisor should also fill in a confidential statement to the examiners which clearly describes what each of the students have done.

For those students who do a review alone, we will accept (as a minimum) that the screening and extraction is only done by one person, that the search is only done in one database, and that it is limited to publications in one language.

Submission

The Master thesis should be submitted through Studentweb within the deadline of 15th May in the fourth semester of study.

In addition, the confidential authorship statement prepared by the student(s) should be uploaded in Studentweb. The supervisor's statement about co-authorship should be sent via email to the student advisor Linda.Forshaw@uib.no.

PS! The authorship statements by the student and by the supervisor(s) include information on how independently the student has worked with the thesis. The statements are confidential, which implies that the student(s) and supervisor should not share the authorship statements with each other, only with the examiners.

Supervision

The Master thesis is written up under the supervision of a scientific employee, usually from the Faculty of Medicine. Dependent on needed expertise/specialisation one or more co-supervisors may also be appointed. Such co-supervisors could be specialists working in other parts of the university, other universities, research institutions, or international organisations. In some cases the main supervisor may be external, and in such cases there must be a co-supervisor from UiB.

The Faculty of Medicine provides no payment to external supervisors for master supervision. At least one of the supervisors must have a PhD.

Identification of supervisors

Supervisors will be identified for each student in the first semester. Each student has generally a right to 40 hours of supervision during the second year, on average about one hour per week. This includes group supervision, and the time supervisors need to read drafts. If a student has more than one supervisor, the 40 hours will be divided, with the majority of the hours normally being assigned to the main supervisor.

Roles and responsibilities

Both the student and the supervisor should be familiar with and adhere to Ethical guidelines for relations between supervisors and students at the University of Bergen

<https://www.uib.no/en/student/112539/ethical-guidelines-relations-between-supervisors-and-students-or-candidates#6-conflicts-between-the-supervisor-and-the-student-or-candidate>

As a student, you are expected to:

- If undertaking primary research, discuss with the supervisors any ethical issues associated with it and secure ethical approval from relevant bodies
- Produce work in accordance with the schedule agreed with your supervisors
- Ensure that material is presented in sufficient time to allow for comments, discussion and alterations before proceeding to the next stage
- Keep a record of meetings with supervisor and agreed action points
- Share drafts of the thesis text *before* each of the four writing workshops (focusing on the Aims & Methods, Results, Introduction, and Discussion parts, respectively) and review the drafts of two other students before each of the workshops,
- Take part in the writing workshops to give and receive feedback from peers and scientific staff.
- Participate in dissemination workshop

Be familiar with:

- Research ethics guidelines
- Referencing guidelines
- Rules about plagiarism

Feedback on supervision and plan for next meeting:

After each meeting with the supervisor, the student should write a short summary of the major points discussed and agreed upon, and a confirmation of the next meeting. This can be shared with the supervisor through e-mail. You are of course free to agree on other arrangements with your supervisor(s).

Make sure you meet the submission deadlines!

Supervisor(s) are expected to:

- Assist the student in choosing a relevant study subject and research questions
- Assist in the appointment of (an) appropriate co-supervisor(s)

The main supervisor will be responsible for:

- Discussing the type of guidelines and form of contact that would best suit the student, and agree on a schedule of meetings
- Advising the student on the plan of work
- Providing guidance in the chosen field of study, including application for ethical approval
- Advising on data and literature sources
- Supervising the student on data collection/acquisition and data analysis
- Supporting the student in the preparation of presentations for two research seminars (one in the first year about the proposal and one in the second year about the findings) and be present at these two research seminars
- Suggesting specialists whom the student may consult for additional advice
- Providing the supervisory sessions as contracted
- Giving advice on the necessary completion dates of successive stages of the work in order to meet the thesis submission deadline
- Reading through drafts and giving feedback
- Assessing whether the thesis is acceptable for submission
- Agree on a date and time for the thesis defence
- Finding an internal and external examiner to evaluate the thesis
- Fill in supervisor's confidential statement

Assessment:

The student will be required to sit for an oral exam to defend the thesis. See guidelines for examiners for details.

When two students write a joint thesis, the same committee will evaluate the thesis and examine both students on the same day. The students will give a joint presentation where the students talk for 15 minutes each. After the presentation, separate oral exams will be conducted for 45 minutes with each of the students (without the other student present).