

# GUIDELINES FOR THE MPH PRACTICUM

Satisfactory completion of the Practicum module is a compulsory graduation requirement for the Master of Public Health programme.

This guide describes the requirements and other information regarding:

1. Practicum Project, in general
2. Practicum Proposal
3. Practicum Seminar Series
4. Practicum Progress Report
5. Practicum Final Report

The necessary forms for each component are found in Section C of this handbook.

## 1 MPH PRACTICUM IN GENERAL

### 1.1 Overview

The Practicum project is an opportunity for students to:

- Critically apply public health skills and knowledge (e.g. epidemiologic methods, statistical analysis, health policy analysis, behavioural theories, economic evaluation) to solve health problems or answer research questions relevant to delivery, utilisation, or effectiveness of public health and healthcare policies, interventions, or programmes
- Synthesise and integrate knowledge across a variety of disciplines in public health
- Identify, assess, and critically appraise public health information (e.g. published literature, policy documents)
- Communicate public health information both orally and writing in a logical, clear, and concise manner

### 1.2 Co/Pre-requisites

Students may register for the C05210 Practicum module only upon satisfactory completion of the following modules: C05102 Principles of Epidemiology and C05103 Quantitative Epidemiologic Methods. Students on a one-year, full-time programme may register for these two modules as co-requisites for C05210 Practicum. These students should register for the practicum module at the beginning of their first semester.

### 1.3 Areas of study

The practicum project must address an issue of public health relevance. Students should work with their academic advisors to identify an area of study that is of interest to them, and which would allow them to address questions and issues likely to be encountered in public health practice and apply competencies acquired in the programme.

The project should involve analysis and interpretation of information to address a public health question. Students may utilise information and data from both primary and secondary sources. *If the study involves human subjects, please note that ethics approval may be required in some cases, and should be included in the research plan.*

### 1.4 Types of acceptable practicum projects

Several different types of projects may fulfil the requirement:

**Descriptive study:** This is a qualitative or quantitative study to describe, and measure the size, scope, and variability of a public health problem and its relationship with associated factors.

**Analytic study:** This may take the form of a case-control study, a cohort study or an experiment.

**Programme evaluation:** A programme evaluation is a systematic way to address specific questions about a health programme. Using scientific methods, the evaluation can measure the extent in which the programme was able to accomplish its goals and also explore the underlying factors driving the programme.

**Policy analysis:** Policy analysis typically utilises a variety of information sources to answer a specific policy question. Collected information is rationally and systematically organised to bring about comprehensive understanding, evaluation, and discussion of the public health policy issue and the key policy options, including implications.

### 1.5 Time taken for completion and suggested timeline

The practicum project usually takes two semesters to complete. Approval is required for extension of duration. The work done for the practicum should be equivalent to a 120-hour workload in order to qualify as a 4 MCs module. Please bear in mind that this project will run concurrently with other coursework modules.

<b>Activity</b>	<b>Approximate Duration/Timeline</b>
<b>Selection of project</b>	<b>1-2mths</b>
<b>Preparation of proposal</b> <ul style="list-style-type: none"> <li>• Draft proposal</li> <li>• Review of proposal by supervisor/co-supervisor</li> </ul>	<b>1-2mths</b>
<b>Submit practicum proposal to MPH office</b>	<b>After registering in practicum module</b>
<b>Obtain institutional approvals if required</b>	<b>1-2mths</b>
<b>Conduct project</b>	<b>1-4mths</b>
<b>Submit progress report to MPH office</b>	<b>For every semester enrolled in the practicum module after the first semester</b>
<b>Preparation of the Final Report</b> <ul style="list-style-type: none"> <li>• Draft report</li> <li>• Review by supervisor/co-supervisor</li> <li>• Revisions</li> </ul>	<b>1-2mths</b>
<b>Submit Final report to MPH office</b>	<b>At the end of the semester</b>
<b>Total</b>	<b>5-12mths</b>

### 1.6 Financial support

The school provides some funding for supporting the practicum. This is up to SGD 500 for local and SGD 1000 for regional projects.

Please note that the maximum claimable amount for both ISM and practicum is SGD 1000 per student and should be taken into consideration when planning the utilisation of funds.

Details about what and how to make claims are found in Section C.

### 1.7 Student’s Responsibilities

Initiate and co-ordinate meetings with supervisor/co-supervisor/other relevant individuals. Please note that meetings may need to be scheduled some weeks in advance as supervisors, as faculty members, also have other work obligations that they need to attend to.

Students should also develop a feasible work-plan and timeline, taking into consideration their coursework load and if applicable, other work commitments, in conjunction with the supervisor/co-supervisors.

Students are required to monitor and keep to the planned timeline and submit the necessary presentations, reports and forms as and when required. Please also note that students should submit these documents for supervisor’s review in a timely manner and to allow for this in the timeline.

Students should inform supervisors at an early stage of deviations to the timeline in order to discuss possible options and solutions.

### 1.8 Supervisor's Responsibilities

Supervisors should, at a minimum, meet students on at least 3 occasions. These are to:

- i. Discuss the practicum project and proposal
- ii. Review the presentation
- iii. Review the draft practicum report

Most supervisors will meet more often than this depending on the project and level of supervision required by the student.

Meetings should be complemented by contact via email, teleconference, or Skype. In some instances it is acceptable, if agreeable to both student and supervisor, for these modes to replace face-to-face meetings.

### 1.9 Co-Supervisors

In consultation with their advisor/supervisor, students may propose the appointment of a co-supervisor who is agreeable to lend their expertise, guidance and support to the project.

Potential external co-supervisors may include, but are not limited to:

- Faculty members at SSHSPH
- NUS faculty members whose primary appointments are at other faculties or departments
- Faculty/staff from other universities or public health/healthcare or other institutions

If the co-supervisor is external to NUS, a brief curriculum vitae should accompany the request so that an official letter of appointment can be extended.

### 1.9 Biostatistics support

In addition to supervisor/co-supervisor support, students will also have access to a biostatistician.

All practicum proposals will be reviewed by a biostatistician, and students will be contacted if there are any concerns about the data analysis plan.

In addition, any student is welcome to seek advice about data analysis for their project in advance of submitting proposals or soon thereafter. However, it is expected that the role of the biostatistician is to provide advice and guidance, and the student will be analysing the data themselves.

## 2.0 Ethics Approval

Ethics review and approval is required for all research that:

- i. Involves human subjects and/or tissues
- ii. Research that involves vulnerable groups (minors, pregnant women, and prisoners)
- iii. Research funded by NUS or other agencies once in principle approval of funding has been received.
- iv. If approval is required by external funding agencies, external collaborators or journals

The student may apply for IRB approval as the principal investigator or the co-investigator, while the supervisor must be at least the co-investigator.

In order to apply for ethics review, students are also required to complete Collaborative Institutional Training Initiative (CITI) Programme certification. The CITI Programme is an international web-based research ethics education programme, designed for training in protection of human subjects in research. The CITI Programme offers Basic and Refresher courses in Human Subjects Protections, Good Clinical Practice and Health Information Privacy and Security (HIPS). More information on the CITI Programme can be found here: <https://www.citiprogram.org/>

Ethics review and approval may take between several weeks and several months, depending on the project. This time should be factored into the practicum project work-plan timeline. The School strongly encourages all students to apply for IRB approval as early as possible.

More details on NUS ethics review procedures can be found at the NUS IRB website: <http://www.nus.edu.sg/irb/>

## 2.1 Other Useful Resources

- i. *Scientific writing*
  - Writing scientific papers – a guide by *Nature*:  
<http://www.nature.com/scitable/ebooks/english-communication-for-scientists-14053993/writing-scientific-papers-14239285>
  - A guide to scientific writing by American Scientist magazine:  
<http://www.americanscientist.org/issues/pub/the-science-of-scientific-writing/1>
  - Follow the Vancouver style of referencing. For examples of proper referencing, refer to any of the articles published on this web site or go to  
[http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html).
- ii. *Writing about public health for a public audience*
  - US Centres for Disease Control (CDC) Health Literacy online training series - "Writing for the Public":  
<http://www.cdc.gov/healthliteracy/writing-course/index.html>

- iii. *Effective oral presentations*
- Effective oral presentations – a guide by *Nature*:  
<http://www.nature.com/scitable/topicpage/effective-oral-presentations-13906743>
  - “How to prepare and deliver an effective oral presentation – by BMJ Careers:  
[http://careers.bmj.com/careers/advice/How\\_to\\_prepare\\_and\\_deliver\\_an\\_effective\\_oral\\_presentation](http://careers.bmj.com/careers/advice/How_to_prepare_and_deliver_an_effective_oral_presentation)
  - “Ten Simple Rules for Making Good Oral Presentations” by Philip E Bourne, *PLoS Computational Biology* 2007:  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1857815/>
- iv. *How to create and deliver an effective presentation*
- Microsoft Office’s tips for effective PowerPoint presenting:  
<https://support.office.com/en-sg/article/Tips-for-creating-and-delivering-an-effective-presentation-f43156b0-20d2-4c51-8345-0c337cefb88b?ui=en-US&rs=en-SG&ad=SG>
  - “Simple rules for creating effective PowerPoint presentations” by Joyce Fried, UCLA:  
<http://dgsomdiversity.ucla.edu/workfiles/lectures/Fried-Mar-2010.pdf>

***Examples of good practicum projects are available for viewing by students on request from the MPH office.***

## **2. PRACTICUM PROPOSAL**

In most cases, the academic advisor will also be the student’s practicum supervisor. However, students may browse the faculty directory and the research section of the school website to understand other faculty interests and identify an alternative practicum supervisor who may be willing to supervise them.

Students should consult their academic advisor/supervisor early in their candidature so that they can begin to identify and plan their practicum project. The project to be selected should be of interest to the student. However, the project should also be feasible to carry out given the available resources and within a reasonable period of time. Once a project is identified, it is essential to discuss the scientific and practical aspects of the project with the supervisor.

In the semester in which they register for the module, students should submit a Practicum Proposal Form (see section C) and **2-3 page outline of the proposed project**, which will need to be endorsed by their advisor/supervisor.

The proposal should cover:

- i. Background/Introduction and Public Health Significance:

*This section should provide a review of the relevant literature. At a minimum, you should provide the background information that a reader with no prior background knowledge on your topic of choice would require to understand the topic of your project and the rationale for the proposed work. The public health significance of the project should also be explicitly stated in the proposal.*

- ii. Specific Aims/Hypotheses/Objectives/Research question or statement of the issue to be addressed

*This section should include a statement about the aims, objectives, or research question that you wish to address. It should be written in a clear, succinct, and focused manner.*

- iii. Methodology

*This section tells the reader exactly “how” you are going to achieve your aims and/or answer your research questions. The methods section should cover, as appropriate to your research project: study design, study setting (include location and dates), study subjects, sample size calculations and/or study power, how data will be collected, laboratory and other methods where relevant, data analysis, ethical, safety, and other considerations. It is important to be as specific as possible to allow faculty to determine the feasibility and scientific rigor of the research to be done.*

- iv. Relevant references
- v. Comments on feasibility, if there are any conditions to be fulfilled (e.g. Ethics IRB approval, approval from other organisations) before the project can be conducted
- vi. Timeline and work plan: from proposal submission to practicum report submission
- vii. Budget (see financial support above)

After submission to the MPH office the practicum proposal will be reviewed and approved by the Practicum module co-ordinator. All proposals are also reviewed by a faculty member from the Biostatistics domain.

In some instances, students may be asked to provide further justification, clarification or other details of the proposed project. This is to ensure successful completion of the project and is done in the best interest of the student.

### **3 PRACTICUM SEMINAR SERIES**

#### **3.1 Background**

The practicum seminars are held during the day, usually twice a week, throughout the academic year beginning on approximately the sixth week of the semester.

All students are required to:

- Complete a practicum presentation
- Attend other peer practicum project presentations

**Failure to attend at least 10 other practicum seminar days (excluding briefing and faculty taught sessions) over the two semesters will result in a lower grade.**

### 3.2 Practicum Presentation

Students may be scheduled to conduct their presentations at different stages of their projects and not necessarily at its conclusion. The decision as to when to present is determined by the student and supervisor. Presenting the project at an earlier stage has the advantage of allowing input from other faculty members and students which may be helpful. This will also help reduce your workload as you approach graduation.

The student's presentation should be approximately 35mins followed by 10mins of Q&A.

All students should present an, as up to date, progress of their project and include main areas, such as:

- i. The background and design of the study, or of the public health issue to be analysed
- ii. An in-depth discussion of the methodological (e.g. design or analysis) or practical (e.g. management, ethical, fiscal) issues relevant to the project
- iii. Findings and interpretation
- iv. A summary of the project upon completion
- v. The public health relevance of the project and potential ways forward (e.g. future research, future scale-up or programme or project)

Although there is no specific format for the presentation, it is suggested that you use a standard software package (e.g. PowerPoint) to develop your talk.

You should submit a copy of your slides to your supervisor (and co-supervisor, if any) in a timely manner (e.g. 2-3 weeks before the presentation date) for their comments. A meeting to practice your talk at least once with them should also be scheduled. Additional presentation practice sessions with other students or colleagues can also be helpful. You should be able to present your work without, or with minimal reference, to written notes and be prepared to answer questions from the audience. It is also important to complete your presentation in the allotted time.

Please submit your final deck of slides to the MPH Office **latest by Thursday 5pm before the week of your presentation**. A pdf version of your slides will also be made available on IVLE for seminar attendees by Friday afternoon. A copy will also be sent to a faculty member, with relevant expertise, to evaluate your presentation and ask questions (see assessment below). The faculty evaluator will

subsequently provide written feedback to you and the supervisor.

**A detailed response to the practicum presentation faculty evaluator's feedback must be included in the final practicum report.**

### 3.3 Seminar Schedule

A list of available dates for practicum seminar presentations will be circulated at the start of each semester. Students are responsible for arranging for a suitable date, in consultation with their supervisor, who will chair the session. Full-time students enrolled in the one-year programme and those who are in the final semester of studies will be given priority in scheduling of their presentations.

**Failure to attend at least 10 other practicum seminar session days will result in a lower grade.**

## 4 PROGRESS REPORT

All practicum students are required to submit a brief one-page practicum progress report for each semester that they are enrolled in the practicum module.

This will be reviewed by the supervisor and practicum module co-ordinator to ensure that the student is progressing as expected. Any problems should be highlighted to allow faculty to intervene and assist as required.

Students will be notified via email of the submission period. Upon receiving the email, students should submit their practicum progress report promptly to allow their supervisor and module coordinator to read through and provide any feedback and recommendations.

## 5 PRACTICUM FINAL REPORT

This will take the form of a written report of approximately 4,000 to 6,000 words, (excluding references). The exact structure will depend on the nature of the project. The style of the report will be at the discretion of the supervisors, who will endorse the final version.

Students should submit a draft version of the final report to supervisors to review and comment in a timely manner. In most cases, about a month is required for review and several revisions to be made to come up with the practicum final report.

Students should submit the **endorsed** final report to the MPH Office by the deadline which will be announced for each semester, in order to meet requirements for completing the module.

The practicum proposal submitted earlier will provide the starting point for the practicum final report. However students may need to update the background section to reflect any new developments in the field. In addition students may

need to expand and/or revise the methods section to accurately reflect the procedures that were used. Students will also need to write the sections that were not included in the proposal (eg results and discussion) and update your references.

### Suggested format for Practicum Final Report

The structure of the final report will depend on the nature of the project. The following outline should serve as a guide:

- i. Table of Contents
- ii. Abstract (300 words)
- iii. Background and significance of the project/programme (*previously described in practicum proposal*)
- iv. Literature review of the topics to be addressed, with accurate and systematic referencing
- v. Objectives / Aims of the study / Goals of the programme (*previously described in practicum proposal*)
- vi. Methods to be employed / Description of the programme (*previously described in practicum proposal*)
- vii. Results  
*This section should clearly and logically describe your findings and accomplishments, without comment or discussion. Findings may be presented in tables and figures as well as text.*
- viii. Discussion/Conclusions/Recommendations/ Implications for public health or for your area of work  
*This section should discuss the results of your project relative to what is already known about the topic. It should also highlight novel findings. In addition the conclusions and/or recommendations that can be made based on the results of the project should be stated. Finally the strengths and limitations with discussion on effect on study findings should be addressed.*
- ix. Issues raised during the Practicum Presentation, and what was done to address these issues
- x. References
- xi. Appendices (if any)

## 5 ASSESSMENT

Students will be graded for both their seminar presentations (30%) and practicum final report (70% - graded by both their supervisor and practicum module coordinator)

### Seminar presentation

This evaluation will be based on:

- Scientific merit of the study (including the methods, analysis and interpretation of results where relevant)
- Demonstration of public health relevance
- Organization and clarity of presentation

- Student's grasp of the topic matter and ability to answer questions.

### Practicum Report

As a guide, primary research findings should be of a standard acceptable for journal publication and an analytical paper should stand up to scientific scrutiny in a real world setting.

The evaluation will thus be based on:

- Originality of research
- Relevant background and literature review
- Clarity of aims, methods and presentation of results
- Ability to critically evaluate and synthesise findings with current knowledge with demonstration of public health significance
- Good understanding of the limitations and strengths of the work done, showing application of knowledge obtained from relevant MPH modules, with discussion on impact of findings
- Overall presentation, report structure, and writing is clear, succinct, logical, and coherent