

# Workshop Report

## Workshop on Research Design, Methodology and Proposal Writing on Infectious Diseases of Poverty



29 November to 3 December 2010  
Manila, Philippines



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**REPORT**

**WORKSHOP ON RESEARCH DESIGN, METHODOLOGY  
AND PROPOSAL WRITING ON INFECTIOUS DISEASES OF POVERTY**

Convened by:

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR THE WESTERN PACIFIC

Manila, Philippines

29 November to 3 December 2010

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## NOTE

The views expressed in this report are those of the participants of the Workshop on Research Design, Methodology and Proposal Writing on Infectious Diseases of Poverty and do not necessarily reflect the policies of the World Health Organization.

This report has been prepared by the World Health Organization Regional Office for the Western Pacific for governments of Member States in the Region and for those who participated in the Workshop on Research Design, Methodology and Proposal Writing on Infectious Diseases of Poverty, which was held in Manila, Philippines from 29 November to 3 December 2010.

## TABLE OF CONTENTS

### SUMMARY

1. INTRODUCTION .....	1
1.1 Background information.....	1
1.2 Objectives .....	2
1.3 Participants .....	2
1.4 Organization of the workshop .....	2
1.5 Learning methods .....	2
2. PROCEEDINGS.....	4
2.1 Summary of presentations .....	4
2.2 Workshop outputs.....	7
2.3 Wrap-up session .....	7
2.4 Next steps .....	7
3. CONCLUSIONS AND RECOMMENDATIONS .....	7
3.1 Conclusions .....	7
3.2 Recommendations .....	8

### ANNEXES

Annex 1 -	WORKSHOP AGENDA
Annex 2 -	LIST OF PARTICIPANTS, TEMPORARY ADVISERS, CONSULTANT, REPRESENTATIVES, OBSERVERS AND SECRETARIAT
Annex 3 -	LIST OF DOCUMENTS IN WORKSHOP BINDER
Annex 4 -	LIST OF DOCUMENTS IN USB
Annex 5 -	WORKSHOP OUTPUTS
Annex 6 -	WORKSHOP EVALUATIONS

Keywords:

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## SUMMARY

The Workshop on Research Design, Methodology and Proposal Writing on Infectious Diseases of Poverty was jointly organized by the Malaria, other Vectorborne and Parasitic Diseases (MVP) and Stop TB and Leprosy Elimination (STB) units of the WHO Regional Office for the Western Pacific, and convened by the Research Institute for Tropical Medicine (RITM) of the Department of Health, Philippines. The workshop was held from 29 November to 3 December 2010 at the RITM Training Center.

The objectives of the workshop were:

- 1) to build the capacity of participants on operational research methods and design and on preparing proposals for research grants;
- 2) to update participants on various research grant opportunities and potential funding sources; and
- 3) to strengthen collaboration between academic and/or research institutions and disease control programmes in conducting operational research.

The workshop was attended by 28 participants, namely, senior technical officials of ministries/departments of health and representatives of research and/or academic institutions, who are respectively responsible for disease control programmes and involved in research pertaining to tuberculosis (TB) or malaria, other vectorborne and parasitic diseases (MVP). At least two participants were sent from Cambodia, China, Fiji, the Lao People's Democratic Republic, Mongolia, the Philippines, Papua New Guinea and Viet Nam. Solomon Islands and Vanuatu each sent one. Participants were encouraged to work in pairs on one research proposal. A professor from the University of Texas Health Sciences Center served as a temporary adviser. Two observers, one from the University of Nagasaki and one from the Department of Health, Philippines, also attended the workshop. WHO Regional and Country Office staff and representatives from the Special Programme for Research and Training in Tropical Diseases (TDR) in Geneva served as the Secretariat.

The learning methods used to achieve the objectives were: lectures for technical input; writeshops or independent writing; consultation sessions between participants and their mentors; and presentation of workshop outputs during the plenary sessions. A total of 14 research proposals were developed during the five-day activity: seven on tuberculosis, four on dengue, one on malaria, one on schistosomiasis, and one on yaws.

The main conclusions of the workshop were:

- 1) The capacity-building opportunity provided by the workshop appeared to be well appreciated by the participants, relevant to the country programme needs and useful in strengthening collaboration between research institutes and disease control programmes.
- 2) The methodology used in the workshop, a combination of lectures and writing sessions, was appropriate for improving the knowledge and skills of the participants in research proposal writing, and for producing concrete draft proposals within the limited time available.
- 3) Joint programming efforts between disease control programmes and collaboration with external organizations (e.g. RITM, TDR, and South-South Initiative for Infectious Diseases of Poverty) were found to be highly beneficial in organizing cross-cutting capacity-building activities, such as this workshop, to improve resource efficiency and quality of work.

- 4) The varying capacities of participants in terms of language proficiency, computer literacy and technical knowledge was a challenge for organizing the workshop, determining an appropriate level of technical content, providing the effective mentorship, and setting a standard for final products.

The recommendations of the workshop were as follows:

- 1) To further promote research activities in the Region, continue to provide capacity-building opportunities such as this workshop to Member States in a cross-cutting and collaborative manner.
- 2) Strengthen collaboration with partners, particularly with training centers in developing countries, such as RITM, in order to increase regional resources and ensure sustainability for research capacity-building.
- 3) Explore potential new partners in jointly organizing research capacity-building activities in the Region.
- 4) Follow up finalization of research proposals developed during the workshop; assist participants in seeking grant opportunities so they can implement their research; and encourage them to publish their research results.
- 5) Explore ways of enrolling the most suitable candidates from Member States in future workshops so participants can optimize the intended benefits and for management efficiency.
- 6) Explore the possibility of conducting similar workshops in countries to target specific local needs for research capacity-building.

## 1. INTRODUCTION

### 1.1 Background information

Substantial programmatic gaps exist in the prevention and control of infectious diseases of poverty.<sup>1</sup> Such gaps include insufficient service coverage, vulnerable and marginalized groups with limited access to adequate diagnosis and care, and slow adaptation and adoption of available technology and care delivery innovation. Operational research is required to address these gaps. However, the quantity as well as the quality of operational studies on these diseases is still insufficient in the Western Pacific Region.

One of the challenges is strengthening the capacity among researchers and disease control programme staff, especially in the less developed countries, in designing and conducting operational research that addresses programmatic gaps. Insufficient training opportunities have prevented researchers and disease control programme staff from developing competitive research proposals. Despite existing grant opportunities, many of them have been unsuccessful in accessing funds. Furthermore, collaboration between the academic and/or research institutions and disease control programmes is weak. Only a few operational research projects that effectively involve both disease control programmes and academic and/or research institutions are available. Strengthening collaboration is crucial to effectively link research and programmes for evidence-based policies and programmes.

The World Health Organization (WHO) has prioritized the generation of quality and relevant research to back its policies and strategies on different public health programmes including infectious diseases of poverty. In the Western Pacific Region, a draft Regional Research Plan of Action on Infectious Diseases of Poverty for 2010–2015 was developed collaboratively by the Malaria, other Vectorborne and Parasitic Diseases (MVP) unit, the Special Programme for Research and Training in Tropical Diseases (TDR), the Stop TB and Leprosy Elimination (STB) unit and partners within and beyond the Region. The draft Plan of Action aims to fill programmatic gaps in the prevention and control of infectious diseases of poverty. One of its expected results is to strengthen the research capacity of academic and/or research institutions and disease control programmes in Member States. Research capacity-building and disease-specific operational research needs are also addressed in WHO's regional action plans for malaria, dengue, tuberculosis and neglected tropical diseases. TDR also prioritizes research capacity-building as one of their priority areas.

With this, the MVP and STB units of the WHO Western Pacific Regional Office jointly organized a workshop on research design, methodology and proposal writing on infectious diseases of poverty. The workshop was part of the capacity-building cycle for strengthening research in the Region, beginning with: (1) support for proposal/grant writing; (2) grant support; and (3) training on scientific writing to disseminate research results. This cycle can be used as a model for other public health programmes such as non-communicable diseases and maternal and child health.

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<sup>1</sup> Infectious diseases of poverty include Chagas diseases, dengue, helminthiasis, human African trypanosomiasis, leishmaniasis, leprosy, lymphatic filariasis, malaria, onchocerciasis, schistosomiasis, sexually transmitted infections, tuberculosis and TB/HIV co-infection.

## 1.2 Objectives

The objectives of the workshop were:

- 1) to build the capacity of participants on operational research methods and design and on preparing proposals for research grants;
- 2) to update participants on various research grant opportunities and potential funding sources; and
- 3) to strengthen collaboration between academic and/or research institutions and disease control programmes in conducting operational research.

## 1.3 Participants

The workshop was attended by 28 participants, namely, senior health officials responsible for TB and MVP control programmes and representatives of research and/or academic institutions involved in TB and MVP research. At least two participants were sent from Cambodia, China, Fiji, the Lao People's Democratic Republic, Mongolia, the Philippines, Papua New Guinea and Viet Nam. Solomon Islands and Vanuatu each sent one participant. Pairs of participants were encouraged to work on one research proposal. A professor from the University of Texas Health Sciences Center served as a temporary adviser. Two observers, one from the University of Nagasaki and one from Department of Health, Philippines, also attended the workshop. WHO Regional and Country Office staff and representatives from TDR in Geneva served as the Secretariat. A list of the workshop participants, temporary adviser, observers and Secretariat members are found in Annex 2.

## 1.4 Organization of the workshop

The Research Institute for Tropical Medicine (RITM) of the Department of Health, Philippines, conducted the five-day workshop. Lecturers, workshop facilitators and mentors were scientists and research staff of the Institute.

## 1.5 Learning methods

### 1.5.1 Selection of participants

Collaboration between academic and/or research institutions and disease control programmes is weak in this Region. Only a few operational research projects that effectively involve both disease control programmes and academic and/or research institutions are available. As such, participants for the workshop were strategically selected to encourage these two groups to collaborate and work together in identifying gaps in TB, MVP and neglected tropical disease (NTD) prevention and control programmes. Invitations sent to the Ministries or Departments of Health encouraged them to nominate two participants, one from an academic and/or research institution and one from a disease control programme. Workshop organizers believed this type of collaboration would strengthen the crafting of evidence-based policies and programmes in the Region.

### 1.5.2 Participants' preparation

The WHO Regional Office communicated with all of the country participants before they came to the Philippines. Grouped by country, the participants were encouraged to communicate with each other to agree on a singular research topic. They were each provided an advance copy of the disease research priorities as a means of inspiring them to think of a research topic. They were then requested to send their research topic to the organizers so that RITM could identify a suitable mentor to assist and facilitate them in their work.

### 1.5.3 Preparation of workshop agenda

The final workshop agenda is found in Annex 1. The workshop included didactics, independent writing sessions and mentoring sessions. Agreement on the final agenda was reached after several consultations and discussions between the WHO Regional Office and RITM. Topic selection was based on the technical input that would be required to write specific sections of a proposal. Ample consideration was also given to the timing of the lectures, scheduling of the writeshops in relation to technical input, and the timing of consultations and mentoring sessions. For instance, it was deemed important to have the participants present their research title, rationale and objectives for critique on Day 1; this early presentation and critique allowed for more effective writing of the succeeding parts of the proposal.

### 1.5.4 Lectures

The presentations and lectures provided technical input on what the proposal should contain and how it should be written. Hard copies of the PowerPoint presentations were provided to the participants. A demonstration on the benefits of referencing software was made by Dr Nobuyuki Nishikiori. Dr Jane Kengeya Kayondo, TDR, WHO Headquarters, emphasized the significance of operational research studies. She was very helpful in distinguishing operational, implementation and health services research from one another, as she visited the different teams during the writing sessions.

### 1.5.5 Writeshops, consultation and mentoring sessions

Immediately after a set of lectures, the participants took part in writeshops (i.e. three to four hours of independent writing). During these sessions, the teams discussed and agreed on what should be included in each section of the proposal; when agreements were made, these were then written down as part of the proposal. Soon after the independent writing sessions, the participants met with their mentors and discussed their output, for at least two hours.

Each team was provided with one mentor, who worked with them throughout the workshop and until the completion of their proposal. The mentors were senior scientists of RITM with varying disease expertise. The mentors were assigned to teams that would benefit from their technical expertise. Thus, for instance, the team working on a dengue research proposal was assigned a dengue expert as their mentor.

During the consultation and mentoring sessions, mentors discussed the work of the team, commented on and critiqued their output, and assisted them in ensuring that the technical content was accurate, correct and appropriate, and that there was cohesiveness and continuity from one section to the next. Immediately after the mentoring sessions, the teams revised the document if they saw fit and appropriate. In all, there were four writing and three mentoring sessions.

In addition to the mentors, RITM's epidemiologist and biostatisticians assisted and guided the teams in writing the methods section of the proposal. This section, which consists of a description of the study design, sampling procedures and sample size calculation, required the valuable input of these technical staff.

### 1.5.6 Plenary sessions

The workshop had also two plenary sessions: the first session required participants to present the title of their research proposal, its rationale and objectives; the second plenary session required the teams to present the whole proposal, i.e. from the rationale of the study up to its ethical considerations. In both sessions, the teams received peer and mentor critique and suggestions for the improvement of their proposal.

### 1.5.7 Learning materials

Two sets of materials were provided to the participants: one set of printed materials was put together in a binder (Annex 3) and another set of electronic reference materials was saved on USBs (Annex 4). The binders contained the research agenda for TB and MVP and the presentation materials. The USBs contained reference materials that may be used during the workshop or in the future. Both materials were distributed to the participants at the start of the workshop.

## 2. PROCEEDINGS

### 2.1 Summary of presentations

#### 2.1.1 Priority topics in infectious diseases of poverty: tuberculosis

Dr Nobuyuki Nishikiori, STB, WHO Regional Office for the Western Pacific, started with an explanation of the significance of operational research. He showed graphically why operational research is critical for TB control programmes. Today, TB control in the Region is in a stage of stagnation after the significant progress in TB control in the past 10 years. It is critical to invest in research to develop and experiment with innovative approaches for TB control that will result in success in the coming decade. He also informed the participants that, in terms of scientific publications, the contribution of the Region to the global TB control knowledge is relatively small despite the fact that the Region has four countries with a high burden of tuberculosis. He proceeded to present the strategic research agenda for the Western Pacific Region and to introduce available WHO TB operational research grants.

#### 2.1.2 Priority topics in infectious diseases of poverty: malaria, other vectorborne and parasitic diseases

Dr Jun Nakagawa, MVP, WHO Regional Office for the Western Pacific, informed the participants that there are regional strategic plans for the control and elimination of malaria, dengue and tuberculosis and draft plans for neglected tropical diseases (NTDs) and for research. Similarly, he noted that there are regional research priorities for malaria, dengue and NTDs, which have been identified by regional researchers and stakeholders.

#### 2.1.3 Where do research topics come from?

Dr Veronica Tallo, Department of Epidemiology and Biostatistics, RITM, talked about the different sources of possible research topics. She stressed, however, that for researches to be relevant and responsive to gaps in disease programme implementation, monitoring and evaluation reports are valuable sources. She added that the identification of a problem required the availability of a specific set of information. Since several research questions may emerge out of these reports, she provided a list of criteria by which research questions may be prioritized or selected. She also provided tips on how selected problems may be analysed and dissected. This is valuable in writing the background and rationale of the study and could be used as a guide in doing literature review.

#### 2.1.4 The research proposal: contents

While there may be several formats of a research proposal, Dr Fe Esperanza Espino, Parasitology Department, RITM, discussed the WHO structure for operational research used in its TDR Small Grants Programme. She described in detail what each section should include and how it should be written.

#### 2.1.5 Formulating the research objectives

A well-written research question, including general and specific objectives, is required to write the succeeding sections of the research proposal. Thus, Dr Socorro Lupisan, Assistant Director, RITM, clearly expounded on how the general objectives were to be written and presented examples of them. She clarified the need to break down the general objective into small manageable parts that would form the specific objectives. She added that the specific objectives would guide the researchers in choosing their study design. She also gave suggestions on how to develop a hypothesis, if this was necessary.

#### 2.1.6 Conducting a literature review

Dr Luz Acosta, Immunology Department, RITM, states what a literature review is and is not. She stressed that a well-written literature review would be among those factors that may convince reviewers of the significance of the study. She provided tips on how to read and review materials that may provide similarities and/or differences with the study being proposed. She also stressed the significance of citing the references reviewed.

#### 2.1.7 Introduction to reference management software for effective literature storage and use

The management of scientific literature and materials used in writing the study proposal, i.e. books, publications, reports, is critical to ensure that all of these are appropriately cited and listed. It has also been a common practice that researchers build and keep their own bibliographical database so that browsing, reviewing and referencing literature can be done efficiently. Dr Nishikiori informed the group that software packages are available for such purposes. As examples of such packages, he introduced two solutions: one commercial package (Endnote) and one free online package (Mendeley). He demonstrated how the software could be used to facilitate not only the writing of the proposal and manuscript, but also the literature search and systematic reviews. He cited technical similarities and differences between the two software solutions to guide participants in choosing the right one for their purposes.

#### 2.1.8 Study methods and design

The methods section of the proposal consists of a description of the study design, the sampling method, the sample size calculation, a description of the data collection tools to be used and, if indicated, a detailed description of the study procedures, i.e. as in the case of an intervention. This is a technical section and will need input from either an epidemiologist or a biostatistician.

Mr Alvin Tan, an epidemiologist, discussed this topic. He described the different study designs and gave examples of when a specific study design may be applicable. He compared the advantages and disadvantages of the different study designs. He also discussed the considerations when selecting a specific study design.

#### 2.1.9 Data collection procedures and tools

Ms Christine Joy Dureza, a biostatistician, approached this topic by looking at whether the research would require the collection of primary or secondary data and their corresponding advantages and disadvantages. She explained the data collection techniques necessary for the source of the data to be obtained and the appropriate tools which need to be developed. She proceeded to discuss the data collection tools that need to be developed if the researcher was obtaining information directly from study participants vs. the tools applicable for data collection from existing records, reports and detailed how a questionnaire would be done.

#### 2.1.10 Sampling and sample size

Ms Marianette Inobaya, a biostatistician, discussed the different ways by which a sample may be estimated and the requirements for each estimation. She then proceeded to present applications of the estimation methods. She stressed that the research objective was an important factor in estimating the sample for a study. She also mentioned that sample size estimation may be done using software such as EPIINFO and STATA, as long as the researcher knows what information to input into the software. She also stressed that the sample size estimation should be done during the planning stage of the study and should already involve the input of a biostatistician.

#### 2.1.11 Data management and analysis

Data management, according to Ms Inobaya, refers to the processing, consolidation and organization of the information collected by the study – a process which commences when the data collection tools are developed and ends when the data are cleaned and validated in readiness for data analysis. She also mentioned that although studies continue to collect information on paper forms and then transfer them to an electronic database, there is already the possibility of electronic data capture. She included an overview of basic data analysis which may be done using statistical software, such as EPIINFO, SPSS, STATA and SAS.

#### 2.1.12 Ethical considerations

Studies involving human subjects require a discussion of the ethical considerations relative thereof. Dr Gemiliano Aligui, RITM Institutional Review Board, presented a historical background of research ethics and relevant aspects of the Declaration of Helsinki, the guidelines on the conduct of biomedical research by the Council of International Organization of Medical Sciences (CIOMS) and that of the International Conference on Harmonization – Good Clinical Practice (ICH-GCP). He discussed the significance of ethical review and gave a detailed description of how to obtain ethics committee approval – from the submission of documents up to notification of approval. He also detailed the information that should be included in documents used to obtain informed consent from research participants.

#### 2.1.13 The grant proposal: What should it include?

Since participants were expected to submit their proposals for funding to a donor agency, the workshop included a presentation on the components of a grant proposal. Dr Philip LoVerde, University of Texas Health Science Center, stated that proposals should be well written as was discussed in the previous sections, and should include discussion of the expected outcomes from the study, the anticipated pitfalls, problems and limitations of the study, alternative approaches to the study and a proposed study budget (the latter was described in detail). He advised the participants that submissions should comply with the requirements of the donor agency, i.e. number of pages, font size, margins and the like. He also gave the participants an idea on how donor agencies evaluate and assess submissions.

#### 2.1.14 Research grant and funding opportunities

Dr LoVerde gave the participants an overview of several agencies that provide funding support for research studies. For each donor agency, he explained the purpose of the grant, described the nature of the research they funded, and cited the website where more information could be obtained. He strongly advised participants to comply with and adhere to the submission requirements of the funding agency.

## 2.2 Workshop outputs

The participants submitted two outputs: (1) a draft research proposal in Microsoft Word format; and (2) a 15-slide PowerPoint presentation that summarized the whole proposal and was presented in a plenary session. During the five-day activity, 14 proposals were produced: seven on TB, four on dengue, and one each on malaria, yaws and helminthes. Details of the workshop outputs can be found in Annex 5.

## 2.3 Wrap-up session

Representatives of the participants presented an overall impression of the workshop. Generally, they found the workshop to be very useful. They appreciated the technical input of the lecturers and mentors as this greatly helped in writing their proposals. The participants said that the lectures were organized in a logical manner and that the materials provided were relevant to the topics presented. The participants further commented that the workshop provided them with skills on proposal writing that they could apply in the future and in training junior researchers. A detailed evaluation of the workshop is in Annex 6.

## 2.4 Next steps

All teams working on MVP research topics were requested by Dr Nakagawa to complete their draft proposals after the workshop and submit them to the MVP unit of the WHO Regional Office for review. He also encouraged them to submit their proposals to various research funders such as the TDR Small Grants Programme.

Similarly, Dr Nishikiori encouraged the TB participants to complete their proposals and apply for funding if they wanted to.

They were informed that if they needed further technical assistance, arrangements could be made with RITM, through the WHO workshop organizers.

# 3. CONCLUSIONS AND RECOMMENDATIONS

## 3.1 Conclusions

The main conclusions of the workshop were as follows:

- 1) The capacity-building opportunity provided by the workshop appeared to be well appreciated by the participants, relevant to the country programme needs and useful in strengthening collaboration between academic and/or research institutions and disease control programmes.
- 2) The methodology used in the workshop, a combination of lectures and writing sessions, was appropriate for improving the knowledge and skills of the participants in research proposal writing, and for producing concrete draft proposals within the limited time available.
- 3) Joint programming efforts between disease control programmes and collaboration with external organizations (e.g. RITM, TDR, and South-South Initiative for Infectious Diseases of Poverty) were found to be highly beneficial in organizing a cross-cutting capacity-building activities, such as this workshop, to improve resource efficiency and quality of work.
- 4) The varying capacities of participants in terms of language proficiency, computer literacy and technical knowledge was a challenge for organizing the workshop, determining an

appropriate level of technical content, providing the effective mentorship, and setting a standard for final products.

### 3.2 Recommendations

The main recommendations of the workshop were as follows:

- 1) To further promote research activities in the Region, continue to provide capacity-building opportunities such as this workshop to Member States in a cross-cutting and collaborative manner.
- 2) Strengthen collaboration with partners, particularly with training centres in developing countries, such as RITM, in order to increase regional resources and ensure sustainability for research capacity-building.
- 3) Explore potential new partners in jointly organizing research capacity-building activities in the Region.
- 4) Follow up finalization of research proposals developed during the workshop; assist participants in seeking grant opportunities so they can implement their research; and encourage them to publish their research results.
- 5) Explore ways of enrolling the most suitable candidates from the Member States in future workshops so participants can optimize the intended benefits and for management efficiency.
- 6) Explore the possibility of conducting similar workshops in countries to target specific local needs for research capacity-building.

## WORKSHOP AGENDA

Day	Activity	
<b>DAY 1/ Nov 29</b>		
8:30	Registration of Participants	Secretariat
9:00	Opening Programme	
9:45	Photo shoot and Coffee Break	
10:15	Introduction of Participants and Faculty	
10:45	Workshop Mechanics	Veronica L. Tallo, PhD Head, Department of Epidemiology and Biostatistics, RITM
11:00	Where do research topics come from?	Veronica L. Tallo, PhD Head, Department of Epidemiology and Biostatistics, RITM
11:30	Priority Topics in Infectious Diseases of Poverty : Tuberculosis	Nobuyuki Nishikiori, M.D., PhD., DTM&H Stop TB and Leprosy Elimination, World Health Organization - WPRO
12:00	Priority Topics in Infectious Diseases of Poverty : Malaria, other Vector Borne and Parasitic Diseases	Jun Nakagawa, PhD/Glenda Gonzales, MPH Malaria, other Vectorborne and Parasitic Diseases, World Health Organization – WPRO
12:30	LUNCH	
1:30	The Research Proposal: Contents	Fe Esperanza J Espino, M.D., PhD Head, Parasitology Department, RITM
2:15	Formulating the Research Objectives	Socorro P Lupisan, M.D., MSc Assistant Director, RITM
2:45	Coffee Break	
3:00	WRITESHOP 1/CONSULTATION WITH MENTORS OUTPUT:	
	(1) Title of Research,	
	(2) General and Specific Objectives	
4:30	Plenary Session (Break-up Groups) : Presentation of Writeshop Outputs	TB Group : Dr Vickee L Tallo MVP Group : Dr Fe Espino
6:00	Close of Day 1 Session	

Day	Activity
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**Day 2/ Nov 30**

8:30	Recapitulation of Day 1 Activities	
8:45	PLENARY : Presentation of Revised Topic Titles and Objectives	Veronica L. Tallo, PhD Head, Department of Epidemiology and Biostatistics, RITM
9:30	Conducting a Literature Review	Luz P Acosta, PhD Head, Immunology Department, RITM
10:00	COFFEE BREAK	
10:15	Introduction to Reference Management Software for Effective Literature Storage and Use	Nobuyuki Nishikiori, M.D., PhD., DTM&H Stop TB and Leprosy Elimination, World Health Organization - WPRO
11:15	Study Methods and Design	Alvin G Tan, MSc Epidemiologist, RITM
11:45	Data Collection Procedures and Tools	Christine Joy Dureza Biostatistician, RITM
12:30	Lunch	
1:30	Sampling and Sample Size	Marianette T Inobaya, MSc Biostatistician, RITM
2:15	WORKSHOP 1: Conducting a Literature Review	
3:00	COFFEE BREAK	
3:15	WRITESHOP 2 : Output : (1) Introduction and Rationale (2) Study Design Section to include: Methods, Study Procedures, Study Population, Description of Study Tools (3) Reference Section	
5:30	Submission of Writeshop Outputs	
6:00	Close of Day 2 session	

Day	Activity
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**Day 3/Dec 1**

8:30	Consultation Meeting with Mentors	
12:00	Lunch	
1:00	Data Management and Analysis	Marianette T Inobaya, MSc Biostatistician, RITM
1:30	Ethical Considerations	Gemiliano D. Aligui, M.D., PhD Chair, RITM Institutional Review Board
2:00	The Grant Proposal: What should it include?	Philip T. Loverde, Ph.D Professor, University of Texas Health Science Center, San Antonio, Texas
3:00	Coffee Break	
3:15	Research Grant and Funding Opportunities:	Philip T. Loverde, Ph.D Professor, University of Texas Health Science Center, San Antonio, Texas
4:00	WORKSHOP 2: Search for Funding Agencies to Which Proposal may be Submitted to	
5:30	Close of Day 3 Session	

Day	Activity
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**Day 4/Dec 2**

8:30	Recapitulation	
8:45	WRITESHOP 3: OUTPUT :	
	(1) Revisions to parts of the proposal already commented upon by mentor;	
	(2) Data Management and Statistical Analysis	
	(3) Ethical Considerations, including Safety Considerations, Follow-up and Quality Assurance	
	(4) List of funding agencies the proposal may be submitted to.	
11:00	Submission of complete proposal	
12:00	Lunch Break	
1:00	Consultation with Mentors / Preparation of Proposal Presentations	
5:00	Close of Day 4 Session	

Day	Activity
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**Day 5/ Dec 3**

8:30	Proposal Presentations (Break-out Groups)	TB Group : Dr R Ditangco MVP Group : Ms Edelwisa Mercado
12:00	Lunch	
1:00	Course Evaluation	Alvin G Tan, MSc Epidemiologist, RITM
1:30	Closing Programme	
	Course Impressions .....	Course Participants
	Course Impression .....	Philip Loverde, PhD. Mentor
	Presentation of Workshop Outputs.....	Veronica L Tallo, PhD
	Message .....	Catharina Van Weezenbeek, M.D./Eva Christophel, M.D. World Health Organization - WPRO
	Closing Remarks .....	Remigio M Olveda, M.D. Director, RITM
4:00	Close of Workshop	

LIST OF PARTICIPANTS, TEMPORARY ADVISER, CONSULTANT, REPRESENTATIVES,  
OBSERVERS AND SECRETARIAT

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Rosanna Ditangco, M.D. Head, HIV /AIDS Research Study Group	Beatriz P Quiambao, M.D. Chief, Clinical Research Division
Christine Joy Dureza, MPH Candidate Biostatistician	Mari Rose A De Los Reyes, M.D. Head, Medical Department
Fe Esperanza J Espino, M.D., PhD Head, Parasitology Department	Charissa Fay Tabora, M.D.
Mariannette T Inobaya, MPH Biostatistician	Veronica L Tallo, PhD Head, Department of Epidemiology and Biostatistics
Mario Jiz, PhD	Alvin G Tan, MPH Epidemiologist

Jennifer Luchavez, PhD Candidate

*\* invited but were not able to attend*

## LIST OF DOCUMENTS IN WORKSHOP BINDER

- 1 List of Participants, Temporary Adviser, Representatives/Observers and Secretariat
- 2 Workshop Agenda
- 3 Presentations and Reference Materials
  - 3.1 Where do research topics come from?
  - 3.2 Priority Topics in Infectious Diseases of Poverty : Tuberculosis
  - 3.3 Priority Topics in Infectious Diseases of Poverty : Malaria, other Vectorborne and Parasitic Diseases
  - 3.4 Operational Research Needs in Malaria, Dengue, and Neglected Tropical Diseases in the Western Pacific Region
  - 3.5 Contents of a Research Proposal
  - 3.6 Formulation of Research Objectives
  - 3.7 Conducting a Literature Review
  - 3.8 Getting Started with Mendeley
  - 3.9 Research Methods and Study Design
  - 3.10 Data Collection Techniques
  - 3.11 Sampling Designs
  - 3.12 Sample Estimation
  - 3.13 Data Management and Analyses
  - 3.14 Ethical Considerations
  - 3.15 Components of a Grant Proposal
  - 3.16 Grant Opportunities

## LIST OF DOCUMENTS IN USB

WHO PROPOSAL WRITING REFERENCES:

1. Declaration of Helsinki Oct 2008
2. Framework for Operation Research
3. Lessons Learned in Malaria Home Project
4. Operational Guide Global Fund Supported Research
5. Operational Research in Tropical Diseases
6. Practical Guide Health Researchers
7. TDR Guidelines for Implementation Research Proposals
8. TDR Guidelines Grant Proposal Writing SEB Research
9. TDR Implementation Research Conceptual and Operational Framework
10. WHO Recommended Format for a Research Protocol
11. Writing Protocol

REFERENCES

1. Malaria Regional Plan for Control and Elimination
2. Dengue Strategic Plan for the Asia Pacific Region
3. Draft NTD Regional Strategic Plan
4. Draft Regional Research Plan of Action Plan
5. WHO Practical Guide for Health Research
6. WHO Health research Methodology
7. Disease Specific Research Needs Revised
8. Operational Guidelines for Ethics Committees that Review Biomedical Research
9. Framework for OR and IR in Health and Disease
10. Guide to Operational Research in Programmes Supported by GFATM
11. Research Agenda for Childhood Tuberculosis
12. Treatment of TB Guidelines 4th Edition

ENDNOTE

1. Endnote Getting Started
2. Endnote Installer
3. Endnote PDF

MENDELEY

1. Mendeley Getting Started
2. Mendeley Installer
3. Mendeley Teaching Presentation

JUN NAKAGAWA's PRESENTATIONS

1. Overview of the Course
  2. Operational Research Priorities for Malaria, Dengue and Neglected Tropical Diseases

## WORKSHOP OUTPUTS

**TB Research Proposals**

- |     |   |   |
|-----|---|---|
| (1) | Country<br>Proponents<br>Mentor<br>Title of Research<br>General Objective | Cambodia<br>Dr Kien Sorya, Dr Tan Kundara<br>Dr Veronica L Tallo<br>Improving referral compliance rates for TB diagnosis in urban Cambodia<br>To develop strategies to improve referral compliance rates of TB suspects from the private sector to the public DOTS facility.  |
| (2) | Country<br>Proponents<br>Mentor<br>Title of Research<br>General Objective | China<br>Dr Fei Yan, Dr Zhang Hui<br>Dr Rosanna Ditangco<br>Do transportation subsidy and living allowance improve treatment completion among internal migrants TB cases in Shanghai, China?<br>To determine if transportation subsidy and living allowance improve treatment completion among internal migrant TB cases in Shanghai, China.  |
| (3) | Country<br>Proponents<br>Mentor<br>Title of Research<br>General Objective | Lao People's Democratic Republic<br>Dr Kongkham Sayalath, Dr Sakhom Suthepmany<br>Dr Mari Rose de los Reyes<br>Factors influencing community participation in TB case detection during a TB prevalence survey in Laos: implications for future policy decisions<br>To determine the factors that affect participation of community in TB case detection during prevalence survey in Vientiane Capital and Vientiane Province. |
| (4) | Country<br>Proponents<br>Mentor<br>Title of Research<br>General Objective | Mongolia<br>Dr Enkhzaya Taznaa, Dr Dashdavaa Dorjma, Dr Oyuntsetseg Purev<br>Dr Charissa Fay Tabora<br>Analysis of treatment outcomes of pulmonary TB among prisoners in Mongolia<br>To determine treatment outcome of pulmonary TB among prisoners in Mongolia   |
| (5) | Country<br>Proponents<br>Mentor<br>Title of Research<br>General Objective | Papua New Guinea<br>Sister Okotai Travertz, Dr Joseph Bana-koiri<br>Dr Socorro P Lupisan<br>Reduce default rates among TB patients referred to their catchment public clinics for treatment PNG<br>To reduce referral default rate of newly diagnosed TB patients seen at PMGH and sent back to their respective public clinics.  |
| (6) | Country<br>Proponent<br>Mentor<br>Title of Research<br>General Objective  | Philippines<br>Dr Lalaine Mortera<br>Dr Celia Carlos<br>Factors affecting the implementation of a hospital DOTS referral system in private hospitals in the Philippines and its policy implications.<br>To determine the factors affecting the implementation of a hospital DOTS referral system in private hospitals in the Philippines  |

- (7) Country Vietnam  
 Proponents Dr Dang Minh Sang, Dr Vu Van Hoan  
 Mentor Ms Mariannette Inobaya  
 Title of Research National TB Program strengthening for migrants in Ho Chi Minh City  
 General Objective To understand characteristics, determinants of treatment outcome and needs of migrant TB patients in HCM City for National TB Programme to provide effective TB care for migrant TB patients .

### **MVP Research Proposals**

- (1) Country Cambodia  
 Proponents Dr. Teng Srey, Dr. Yenn Roumany  
 Mentor Dr Beatriz P Quiambao  
 Title of Research The use of mobile phones for dengue reporting at health center level in Takeo Province, Cambodia.  
 General Objective To determine the effectiveness of using mobile phone on the reporting of dengue cases at Health Center level.
- (2) Country Fiji  
 Proponents Dr. Ilisapeci Samisoni, Dr. Sheetalpreet Singh  
 Mentor Dr Philip LoVerde  
 Title of Research Improving the timely notification of dengue fever in Fiji.  
 General Objective To improve the timely notification of dengue fever in Fiji.
- (3) Country Lao People's Democratic Republic  
 Proponents Dr. Mayfong Mayxay, Dr. Sibounhom Archkhwongs  
 Mentor Dr Fe Esperanza Espino  
 Title of Research Effective approaches to improve dengue diagnosis and treatment in Lao.  
 General Objective To develop an intervention package aimed at improving the application of WHO 2009 dengue diagnosis and treatment guideline in Laos.  
 To implement & evaluate the intervention package aimed at improving the application of WHO 2009 dengue diagnosis & treatment guideline in Laos.
- (4) Country Philippines  
 Proponents Dr Francis Isidore Totanes, Mr Aldrin Reyes, Ms Ma Paz Rostrata  
 Mentor Dr Mario Jiz  
 Title of Research A pilot test on operational integration of mass treatment administration for *S. japonicum* and soil transmitted helminthiasis among school age children in co-endemic areas in the Philippines.  
 General Objective To pilot-test an operational integration of mass drug administration for *S. japonicum* and soil-transmitted helminthiasis in co-endemic areas in the Philippines.
- (5) Country Solomon Islands  
 Proponent Dr Lyndes Wini  
 Mentor Ms Jennifer Luchavez  
 Title of Research The use of simple hemoglobin test as a predictors for G6PD deficiency in *P. vivax* malaria patients in Solomon Islands.  
 General Objective To screen for G6PD deficiency in *P. vivax* malaria patients treated with primaquine by determining hemoglobin level changes and assess the usefulness of this method in rural clinic settings in Solomon Islands.
- (6) Country Vanuatu  
 Proponent Dr Len Tarivonda  
 Mentor Dr Luz Acosta  
 Title of Research Determining the extent of yaws resurgence in Vanuatu  
 General Objective To estimate the prevalence of yaws in Vanuatu in order to guide appropriate operational treatment and elimination strategies .
- (7) Country Vietnam

Proponents	Dr Tham Chi Dung, Dr Tran Van Ban
Mentor	Ms Edelwisa S Mercado
Title of Research	Improvement of the targeting of dengue control in Vietnam through vector mapping
General Objective	To improve the targeting of dengue control in Vietnam through vector mapping using GIS technology.

## WORKSHOP EVALUATION

### Workshop Evaluation Process

The participants were requested to do two sets of evaluation – (1) on lectures presented and (2) on the overall workshop methodology and organization. In addition to the standard evaluation rating scales, there were also open ended questions eliciting opinions on those parts of the workshop which participants can do away with, and those which were not included in the agenda but was perceived as necessary to generate the output required.

### Evaluation of the Lecturers/Lecturettes

The presentations were evaluated based on the following criteria in a scale of 1-5, with 5 being the highest score.

- a Lecture was clear and understandable
- b Lecture was presented in an organized and logical manner
- c Examples are clear and helpful
- d Time allocated for lecture is adequate
- e Lecture materials provided are relevant and helpful
- f Lecturer was knowledgeable about the topic presented
- g Lecturer answered questions satisfactorily

There were 14 lectures provided. On the average, the participants generally ‘agreed’ that the different technical inputs were clear, understandable, were presented in an organized and logical manner and that they were helpful for the output they had to deliver. They further agreed that materials provided were relevant to the topics presented and useful and that the lecturers and mentors generally were knowledgeable about the topics they talked about and responded to the queries raised satisfactorily.

A few participants commented that the time allocated for the following lectures were ‘inadequate’: (1) Study methods and design, (2) Data Management and Analysis, (3) Ethical Considerations, and (4) Funding Opportunities.

### Evaluation of the Workshop Methodology

This section of the report states the value of the activity according to the participants.

Majority of the participants identified that the most positive value of the workshop relate to the clarity of the workshop objectives and the workshop output expected of the participants, that the four day duration of the workshop was adequate, and that the consultation meetings with the competent mentors were helpful and effective. Majority of the participants strongly agreed that the mentorship strategy for the workshop were appropriate and effective and that the mentors were competent and helpful.

The workshop experience was expected to provide the participants with some confidence to complete the research proposal they have started during the workshop or applying and transferring the same skills in writing other proposal in the future. Workshop evaluation also shows that majority of the participants agreed and strongly agreed that they can write nearly all the parts of the proposal with confidence; a few however, expressed that this may not be the case for the sections on Study Design, Sampling, Data Management and Data Analysis Plan. This is however, understandable since writing these sections of the proposal will require the inputs of a biostatistician.

## Responses to Open Questions

Some 26 comments were asked on what they considered were most valuable and helpful to the workshop. These are summarized as follows:

- 12 of the comments pertain to the significance and appreciation of the technical inputs to be able to complete a draft proposal.
- 6 commented on the valuable assistance of the mentors, the mentoring process, and the help they received relative to the completion of their draft proposals.
- 6 of the comments considered valuable that they were able to complete a proposal and that they will now be better equipped to help junior researchers.
- 1 comment pertain to the appreciation of awareness of the reference management software.
- 1 comment also was on increased awareness of ethical considerations in the conduct of research.

The question on what was least helpful to the accomplishment of the workshop objectives yielded 6 comments which were generally related to the topics included in the curriculum. The topics which were regarded as least helpful are: (a) problem identification (1 comment), (b) contents of the research proposal (2 comments), (c) sampling and sample size (1 comment), (d) data analysis (1 comment); (e) and funding opportunities (1 comment).

Ten participants stated that they will recommend this course to their fellow researchers, should it be conducted in the future.

The participants were also asked to respond to some open questions as a basis for obtaining additional information to improve the course. Nearly all participants commented that all technical inputs were most helpful; 3 participants stated that the lecture on "Research Grant and Funding Opportunities" was not necessary, 1 participant each said that (a) there should be more discussions to differentiate operational, implementation and evaluation research; (b) it will be helpful to see other proposal formats, not only the standard one, for comparison purposes; (c) that sample proposal should have been developed to illustrate how the different parts were put together; and (d) they should have had more time to use the reference management software.

To make workshops of this nature more effective, 16 comments were offered: (a) that more examples on proposal writing should be given and that it would have been better if there was a sample, model proposal that was referred to progressively by all the lecturers, such that after all the lectures, there was this one proposal developed (5 comments), (b) that it would have been useful when the lectures were followed with small group discussions (3 comments), (c) that there should have been a more in-depth discussion of sampling, sample size calculation and data analysis (2 comments), (d) that the workshop duration should have been longer (2 comments), (e) there should be a demonstration on what happens after proposal approval (1 comment) and that (f) the lecture materials should have been provided to the participants earlier to allow for interactive sessions (1 comment).

## Evaluation on the Overall Value of the Workshop

	Criteria	Strongly Agree (%)	Agree (%)	Neither Agree nor Disagree (%)	Disagree (%)
1	Mechanics of the Activity				
1.1	Objectives of the activity was clear from the start	66.7	33.3	0	0
1.2	Objectives of the activity are achievable within the duration of the workshop	39.1	56.5	4.4	0
1.3	Mechanics of the workshop, i.e. lectures, writeshops, consultations, are appropriate strategies to achieve objectives.	43.5	52.2	4.4	0

1.4	Writeshops were relevant and helpful	45.8	50.0	4.2	0
1.5	Workshop time was adequate.	62.5	33.3	4.2	0
1.6	Internet access was adequate.	33.3	58.3	8.3	0
1.7	Writeshop time was adequate.	29.2	50.0	16.7	4.2
1.8	Consultation sessions with mentor were helpful and effective.	54.2	45.8	0	0
1.9	Mentors are competent and helpful.	54.2	41.7	4.2	0
1.10	Time allocated for consultations was adequate	37.5	45.8	16.7	0
2	When I go back home, I feel confident to do the following :				
2.1	Problem identification	37.4	58.3	4.2	0
2.2	Literature review	20.8	75.0	4.2	0
2.3	Introduction of Background of the Study	47.8	47.8	4.4	0
2.4	General and specific objectives	33.3	66.7	0	0
2.5	Describe the study design	37.4	41.7	20.8	0
2.6	Select and write about the data collection techniques	33.3	54.2	12.5	0
2.7	Data collection tools	29.2	62.5	8.3	0
2.8	Sampling and sample size	17.4	56.5	26.1	0
2.9	Data Management	33.3	45.8	20.8	0
2.10	Data Analysis Plan	25.0	54.2	20.8	0
2.11	Ethical Consideration	30.4	60.0	8.7	0
2.12	Study Budget	20.8	50.0	25.0	4.2

### Lessons Learned by the RITM Organizers, Lecturers and Mentors

The RITM has a long history of organizing national and regional meetings, conferences and workshops; nevertheless every event has its unique characteristics and provide lessons which contribute to improvements and enhancements of the conduct of similar activities in the future. These lessons take on a distinct meaning and implications since the Institute was selected by TDR/WHO as the TDR Regional Training Center for Good Health Research Practices for the Western Pacific Region in December 1, 2010.

For this specific training workshop, the following were cited as lessons learned from the experience:

(1) The mentors are seasoned scientists and researchers of the institute; some have completed their post-graduate degrees. Thus, their working knowledge on protocol writing come from experience, didactic exposures or both; these may also be skills which they take for granted. Despite this, some of the mentors expressed the need to refresh their own knowledge on concepts in writing the different parts of the proposal so that they can translate their skills and experience into the concepts necessary for mentoring.

(2) All of the participants were asked to come to the workshop with their research topics. However, the ensuing discussion of the research questions revealed that the topic was not fully developed. Although it was the function of the workshop to facilitate the crystallization of their plan into a proposal, the mentors had some difficulty trying to guide them through the process, leading eventually to what they really wanted to do. The mentors learned that for them to be effective, they should have a concept paper about the topic the participants will work on before hand, so that they can prepare better and update themselves about the topic. This highlights the need to develop appropriate criteria required of those who apply as participants to workshop of this nature and will necessitate the submission of a one to two pages concept paper.

(3) Working in a multi-lingual setting is challenging. Since some of the participants could not communicate well in English, it was quite difficult for mentors to appreciate what they really planned to do or whether they understood the questions, suggestions posed to them. Mentors learned to be doubly patient in their discussions and explanations with their groups; for some, these necessitated not only talking but writing down some of their discussions.

(4) Although majority of the participants were computer literate, a few were truly not. Given these situation, mentors learned that they have to be prepared to assist or even perform some of the writing for the participants. This may be difficult because the writing may reflect that of the mentor's ideas and not those of the participant's.

(5) Some mentors reported that a few participants were not able to submit the deliverables as expected. They believed that since these participants are senior officials in their organizations, they may not be used to this type of writing activity, or that this was a reflection of the inability of the pair to reach a mutually acceptable decision on some issues, considering that they were dissecting the problem from different perspectives. Mentors learned to be diplomatic and tactful and realized that they also mediated to ensure that outputs were made.

(6) The mentors perceive that some of the participants will not be able to follow-through the research topics they were working on. Since some of the topics will truly beneficial to the programme, there should be some way of ensuring commitment to seeing their research topic at least submitted to a donor agency for funding. On the other hand, the mentors' exposure to the disease control programmes of other countries, broadened and expanded their own perspective – leading to a critical reflection not only of their own work but also renewed interest in the issues and research questions raised by the disease programmes they are currently involved in.