

APMEN

Research Grant Program

Round 1 (Vivax)



GUIDELINES FOR APPLICANTS

Introduction

APMEN is composed of ten Asia Pacific Country Partners (Bhutan, China, Democratic People's Republic of Korea, Indonesia, Malaysia, Philippines, Republic of Korea, the Solomon Islands, Sri Lanka, and Vanuatu) that are pursuing malaria elimination, as well leaders and experts from key multilateral and academic agencies. The mission of this diverse but cohesive Network is to collaboratively address the unique challenges of malaria elimination in the region through leadership, advocacy, capacity building, knowledge exchange, and building the evidence base.

At the inaugural meeting of the APMEN (APMEN I) in Brisbane in February 2009, presentations from all national malaria control programs highlighted *Plasmodium vivax* (*P. vivax*) as the major challenge for malaria elimination in the region. The ultimate goal of the global elimination of malaria will not be achieved without a better understanding of the biology of this complex and resilient parasite, and new tools for its assessment, prevention and treatment. However major advances in rationalising malaria control programs are feasible through the use of existing tools, and a major collaborative approach between country programs, researchers, and policy makers.

Background to *P. vivax* Elimination

The global efforts towards the control and elimination of malaria are based upon two key strategies: early diagnosis and prompt treatment (EDT) and a reduction in transmission of infection from the mosquito host. The deployment of artemisinin combination therapy (ACT), impregnated bed nets and strengthening of healthcare infrastructure, have led to significant reductions in the burden of malaria reported in many parts of the malaria endemic world. These successes have been documented mainly for infection with *Plasmodium falciparum* (*P. falciparum*). Outside of Africa, the transmission intensity of malaria is generally low, however *P. falciparum* almost invariably co-exists with *P. vivax*, the most widely transmitted of the human plasmodia. *P. vivax* threatens almost 40% of the world's population and causes more than half of all malaria cases outside of Africa with an estimated 132 - 391 million clinical episodes of vivax malaria each year. The public health importance of *P. vivax* is usually underestimated.

Effective control of falciparum malaria in vivax endemic areas usually reveals a substantial hidden burden of vivax malaria. Indeed in areas where intensive control measures have been implemented, the relative proportion of malaria due to *P. vivax* usually increases compared to that from *P. falciparum*. *Plasmodium vivax* is notoriously difficult to eliminate. Our ability to prevent and treat vivax malaria is limited by a poor understanding of the fundamental biology, pathogenesis, transmission, and management of *P. vivax*, which lags far behind that of *P. falciparum*. Under-diagnosis and ineffective treatment impede effective control and clinical management of vivax malaria. Immediate critical challenges for control of *P. vivax* are increasing resistance to chloroquine, with the emerging threat of multidrug resistance, a limited ability to provide radical cure of dormant liver stages, and a poor epidemiologic assessment measures.

APMEN Vivax Working Group (VxWG)

The APMEN Vivax Working Group (VxWG) consists of representatives from the ten APMEN Country Partners National Malaria Control Programs, partner research institutions, WHO and the APMEN Secretariat. The VxWG will collaborate with APMEN Partner Research Institutions and other key organisations which will ensure that knowledge generated by VxWG will be synthesised and interpreted within the wider context of regional malaria control programs and associated stakeholders.

The overall goal of the APMEN VxWG is to provide an evidence base to inform decision making about optimal vivax surveillance, prevention, and case management. Research to inform better use of existing tools will result in considerable progress on the road to ultimate elimination of malaria. Because of the burden of *P. vivax* associated morbidity in infants and pregnant women, the proposed agenda will have direct relevance towards achieving the Millennium Development Goals 4, 5 and 6. The proposed agenda is also in alignment with the Global Malaria Action Plan, which encourages support of countries pursuing elimination through collection and dissemination of best-practice approaches, research & development for new tools, and funding and technical assistance by partners.

The aim of the VxWG is to develop and coordinate operational research that will provide the evidence base for the successful control and ultimate elimination of *P. vivax* in APMEN countries and the greater Asia-Pacific. The following have been identified as current objectives:

- Identify knowledge gaps and operational research priorities necessary for the optimal control and elimination of vivax malaria
- Share research and operational experience between APMEN countries to maximise synergistic activities and minimise unnecessary duplication
- Fund catalytic research projects to address key knowledge gaps, and facilitate their implementation, analysis and feedback to the Network
- Develop partnerships with key stakeholder involved in the regional elimination for vivax malaria (including but not limited to WHO, MAP, WWARN, MEG, FIND, Asian Vivax Network, research institutions, funding bodies), in order to:
 - Facilitate surveillance strategies to define, monitor, and collate the burden of vivax in APMEN Country Partners
 - Provide evidence for rational diagnostic and treatment guidelines for *P. vivax*
- Work with APMEN countries and partner groups to develop a series of integrated translational research programs, apply for external funding and facilitate their implementation
- Work through APMEN to advocate for improved funding of *P. vivax* control and research activities
- Promote collaborative research partnerships amongst APMEN Country Partners

The VxWG, in close collaboration with the VxWG Coordinating team based at Menzies School of Health Research, will facilitate applicants from the ten APMEN countries to undertake research in the area of vivax malaria as part of the APMEN Research Grant Program.

About the APMEN Research Grant Program

The VxWG has an annual indicative budget of AUD\$300,000 to support small to midsize operational catalytic research projects. Proposals can be submitted from individuals/organisations from the ten APMEN Country Partners (Bhutan, China, Democratic People's Republic of Korea, Indonesia, Malaysia, Philippines, Republic of Korea, the Solomon Islands, Sri Lanka, and Vanuatu) and must be endorsed by their respective country's National Malaria Control Program.

In 2010, there will be three funding bands for the Research Grant Program:

- Grants up to AUD\$10,000 (to be completed within 6 months)
- Grants between AUD\$10,001 – AUD\$49,999 (to be completed within 18 months)
- Grants for greater than AUD\$50,000 (to be completed within 2 years)

Round 1 (Vivax) Research Priorities

The following research priority themes have been identified for Round 1 (Vivax) of the APMEN Research Grant Program. Research proposals should address at least one of these research priorities:

- Optimizing the treatment of blood stage
- Understanding relapse and achieving radical cure
- G6PD deficiency - Risks, prevalence and diagnostics
- Diagnostics for case management and population surveillance
- Public Health, Monitoring and Evaluation

Please refer to annex 1 – Research Priority Themes

APMEN Research Grant Program Application Process for Round 1 (Vivax)

All applications should be developed in consultation and approval with the respective National Malaria Control Program representative or delegate.

Applications to the APMEN Vivax Research Grant Program will be considered up to two times per year. The research grant pre-proposal application deadlines for the inaugural round of funding are July 2010 and January 2011 (anticipated).

The review and selection process has been designed to be a constructive and crucial element of APMEN's capacity development objective. The APMEN VxWG Coordinating Team will engage with applicants during the application process to strengthen proposals. The VxWG Coordinating team will also work with unsuccessful applicants to develop and improve applications for future rounds.

Applicant Requirements (relative to opportunity):

Essential:

- Research active as evidenced by recent research activities and outcomes and meeting attendance

Desirable:

- Preferably at least two refereed publications per annum, averaged over the last three years
- evidence of competitive grants being sought

The funding process, review and grant allocation will adhere to the APMEN directives as laid out in this document.

Applications for Round 1 (Vivax) of the APMEN Research Grant Program will follow a 3-step review process, as outlined below:

1. Soliciting pre-proposals

Applicants must submit a completed APMEN Research Grant pre-proposal form, provided on the APMEN website at www.apmen.org. Applicants must provide on this a summary of the proposal to be conducted in the coming 12 months which must include the following details:

- Title
- Theme the project will address. Provide information on how your project relates to at least one priority theme as outlined in annex 1

- Institution/Collaborative Partners
- Contact person (email)
- Outline of the proposal (400 words)
- An indicative budget for your proposal. A more detailed budget may be required in the full proposal. All grant recipients will be required to complete a financial acquittal on the completion of their project, with an itemized list of expenses, with receipts.

Pre-proposals should be sent to the APMEN VxWG Coordinator at apmenvivax@menzies.edu.au. The coordinating team will assure that as many research priority themes as possible will be addressed and that as many of the Country Partners as possible can participate.

2. Requesting further development of proposals

Initial feedback on each proposal will be provided by the VxWG Coordinating team within one month of the closing date of receiving the pre-proposals.

The VxWG coordinating team will recommend and assist in the further development of priority proposals.

The format for the **full proposal** will follow the approved APMEN Research Grant format, (maximum of 6x A4 pages, including budget and budget justification) which will be made available shortly on the APMEN website.

Submission of Full research proposals should include the following:

- Description of the intended activity and expected outcomes
- Description of project including research question, justification
- Methodology and projected outcomes
- Justification of funding required
- A timetable to start in 2010

In addition to the 6 pages the application must contain a concise CV outlining previous research programs and the results of that research.

3. Review process

Proposals will be reviewed by selected members of the APMEN Vivax Working Group. Proposals will be reviewed by two reviewers: one from an APMEN country partner, and the other from a partner research institution or a member of the coordinating team. The allocation of reviewers to proposals will be coordinated so as to match the most suitable reviewers with proposals while avoiding conflicts of interests.

The proposals will be reviewed differently for the three funding bands.

- Grants up to AUD\$10,000 can be approved directly by the 3 members of the VxWG Coordinating Team
- Proposal requesting AUD\$10,001 to AUD\$49,000 will be reviewed by 2 internal VxWG members (one Country Partner and one Partner Institution)
- Proposals requesting greater than AUD\$50,000 will be reviewed 2 internal WG reviewers (one Country Partner and one Partner Institution) and at least one external content specialist who may be a non APMEN participant.

Applications will be graded 1-5 by the Vivax Working Group reviewers based on the below criterion. The composite score from the reviewers will be used by the research review panel to prioritise funding.

The Research Review Criteria (refer to *Annex 2 – Criterion Assessment*) covers the following areas:

- Policy Relevance
- Significance
- Capacity Building
- Research design and Methods
- Research team
- Communication and Engagement
- Budget

4. Approval Process

Once the review process is complete the recommendations will be forwarded to the Research review panel which consists of Menzies- Vivax working Group Chair (Ric Price,) APMEN Project Co coordinator-Director (Maxine Whittaker) Vivax Working Group Clinical Coordinator (Lorenz von Seidlein).

This panel will review the reviewer's recommendations in light of available funds, distribution of research grants within the network and make the final decisions. The review panel will endeavour to fund all themes that fulfil the criteria funding permitting. Where this is not possible because the budget is not sufficient the VxWG Coordinating team will work with applicants /countries to develop proposals for external funding.

If there is lack of consensus amongst the research review panel, the APMEN Advisory Board may be consulted for advice and dispute resolution.

Applicants will be informed of the outcome of their application by the Vivax Co-coordinating Team.

Application process and timeline:

Step 1 – Return a completed pre-proposal form to apmenvivax@menzies.edu.au by 23 July 2010

Step 2 – Based on the number of applicants for each round of funding and the agreed level of priority given to each research agenda, applicants will be notified if their application is invited to develop a final proposal. The VxWG Coordinating team will provide assistance in drafting the full proposal and ensuring maximum synergism between APMEN countries

Step 3 – Final proposals must be submitted by 3 September 2010

Step 4 – Independent Review of research proposals will be conducted and notification of results will occur by 1 October 2010

Applicants will be informed of the outcome of their application by the Vivax Co-coordinating Team.

The closing date for pre-proposals for Round 1 (Vivax) of the APMEN Research Grant Program is Friday 23 July 2010.

Applications must be submitted via email by the closing date to the Vivax Working Group Project Coordinator at: apmenvivax@menzies.edu.au

Late or incomplete applications may not be accepted.

Annex 1

Research Priority Themes

The lines shaded in grey have been recognised as top priorities for funding within the APMEN Vivax Working Group

Theme 1. Optimizing the treatment of blood stage
In vivo efficacy studies of first line treatment
In vitro efficacy studies
Seed funds to develop larger clinical trials
Chemoprophylaxis in high risk groups
Theme 2. Understanding relapse and achieving radical cure
Defining relapse patterns in each country
Genotyping to determine relapse from new infection
Primaquine safety & tolerability
Seed funds to develop PQ efficacy and effectiveness studies
Mass primaquine administration
Theme 3. G6PD deficiency - Risks, prevalence and diagnostics
Review pros/cons of available rapid G6PD deficiency tests
Compare G6PD deficiency test results -rapid, phenotypic assays, and genotyping
Define G6PD deficiency prevalence
Theme 4. Other Diagnostics
<i>Case management</i>
Review the performance of different RDTs
Evaluate sensitivity and specificity of high potential RDTs using microscopy and PCR (prospective studies in different settings)
<i>Population Surveillance</i>
Use of high throughput PCR to identify infective asymptomatic carriers
Genotyping to look at allele diversity
Role of serology to inform transmission intensity and asymptomatic carriers

Theme 5. Public Health, Monitoring and Evaluation

Monitoring and Evaluation

Mapping Pv transmission at country level and among APMEN countries

Standardising protocols for demographic and prevalence surveys

Mathematical models for assessing interventions and predicting optimal elimination strategies

Burden of disease, disease severity

Pv economic burden

Characterize Pv disease severity

Annex 2

Criterion Assessment Notes

		Criteria	Documentation	Rationale
1	Policy Relevance	<p>Topic is malaria elimination focused There is a demonstrated demand and/or a need for research on this topic within the APMEN Country Partners</p>	<p>Clear description of elimination focus in research proposal.</p> <p>Endorsement by NMCP.</p>	<p>That it meets the APMEN objectives of malaria elimination and in country elimination relevance.</p>
2	Significance	<p>The research addresses an important elimination problem.</p> <p>Anticipated outcomes will advance the knowledge base of the discipline and are applicable to other APMEN Country Partners and settings.</p> <p>The project aims and concepts are novel and innovative.</p> <p>New methods or technologies will be developed.</p>	<p>Clear description in proposal that describes the alignment with Home country NMCP.</p> <p>Clear description that research will meet the aims and objectives of least one of the identified research priorities of the relevant Working Group.(i.e. refer to 2010 research priorities Vivax Research Grant guidelines)</p>	<p>That the research is applicable to other settings</p> <p>That the research project meets WHO criteria and has in-country approval</p>
3	Capacity building	<p>The knowledge and/or skills obtained through the research are in line with the National Malaria Control Program in their home country and will benefit and/or bring about further research opportunities.</p> <p>The activity will generate opportunities for developing country researchers or early career researchers to strengthen their international research experience.</p>	<p>Evidence of collaborative – more than one APMEN country involved in research proposal.</p> <p>CV's of researcher team.</p>	<p>That awarding a research grant will strengthen the research capability in their home country.</p> <p>That a new generation of leaders and health care professionals will be developed to guide malaria elimination in the future.</p>

4	Research Design and Methods	<p>The conceptual framework, design, methods and analyses are well developed, integrated and appropriate to the aims of the project.</p> <p>The research approach is clearly justified and the methodology is highly likely to result in meaningful findings.</p> <p>The design combines robust qualitative and/or quantitative methods with innovative thinking.</p> <p>Useful outputs will be produced that will keep all key stakeholders informed of progress during the life of the project.</p> <p>A logical and feasible work plan is presented and capacity to complete project within the timeframe.</p>	<p>Completed the following areas;</p> <p>Objectives and rationale Design and methods Outlines clinical /Lab /Field studies (as relevant) Work plan Ethical Considerations documented Budget Justification</p>	<p>Scientific quality Sound research design and methodology Feasible work plan</p>
5	Research Team	<p>The track record of all research team members supports the proposed activity.</p> <p>Capacity to undertake and manage the proposed research is shown.</p> <p>Evidence of strong in-country collaboration.</p> <p>The activity will generate opportunities for developing country researchers or early career researchers to strengthen their international research experience.</p> <p>Candidates/Organizations have a strong research background as well as experiences and accomplishments that reflect a commitment to malaria elimination in their country</p>	<p>Completed CV 's and Application Form.</p>	<p>That Country Partners and Partner Institutions will be strengthened by research grant.</p> <p>That a new generation of leaders and health care professionals will be developed to guide malaria elimination in the future.</p>
6	Communication and Engagement	<p>Demonstrated commitment to malaria in home country The communication and engagement strategy is innovative, plausible and achievable.</p> <p>The strategy targets specific audiences and outlines methods for meaningfully engaging each audience</p>	<p>Clear description of what communication and engagement activities the Research intends to undertake upon.</p> <p>Communication activities are included in the budget</p>	<p>That Country Partners and Partner Institutions will be strengthened by research grant.</p>

7	Budget	Appropriate Use of Research Grant Funds The proposed budget is appropriate and offers value for money	Preliminary Budget Summary and Final Budget completed in application form	Budget should support proposed research activity
		Cost-sharing-	There are other partners involved in the activity who are making either financial or in-kind contributions The Administering Organisation is contributing to the project or has been approached to contribute.	
		In-kind contributions	There were efforts to engage other partners to be involved in the activity who may make either financial or in-kind contributions	
		Potential for leverage of additional funds	Potential leveraging issues discussed in proposal	