



Menzies School of Health Research

PARTNER TYPE:
Academic Institution

MEMBER SINCE:
2010

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INSTITUTION BACKGROUND

The Menzies School of Health Research is one of Australia's leading medical research institute dedicated to improving the health and wellbeing of Indigenous Australians, and a leader in global and tropical research into life-threatening illnesses. Menzies continues to translate its research into effective partnerships and programs in communities across Australia and the Asia Pacific region. It is a member institution of the Australian Centre of Excellence in Malaria Elimination (ACREME).

PARTNER INSTITUTION ENGAGEMENT WITH APMEN

The APMEN Vivax Working Group (VxWG) is currently supported by the Bill and Melinda Gates Foundation with a 3-year award (2017-2020) administered through Menzies. The aim of the VxWG is to shift the focus from product development to implementation of new tools into policy and practice. Towards this aim country-specific roadmaps were developed at the 2019 annual meeting, for the roll-out of safer and more effective radical cure of *P. vivax* malaria.

VxWG activities are centred around three main themes to ensure the greatest relevance to antimalarial policy and practice: **Diagnostics** and **Surveillance** (of both host and parasite) and **Treatment**.

Diagnostics

The APMEN health Care facility & community assessment to determine populations at **Risk Of** malaria and primaquine-induced haemolysis **S**urveys (ACROSS) are being undertaken in Bangladesh, Bhutan, China, India, Indonesia, Lao PDR, Nepal, Pakistan and Viet Nam. These include quantitative assessments on diagnostic performance and qualitative studies of perceptions and practice from patients, healthcare providers and policymakers on new point-of-care and ultrasensitive diagnostics for *P. vivax*, *P. falciparum* and G6PD deficiency.

VxWG supports two regional reference centres for G6PD testing at the Eijkman Oxford Clinical Research Unit (EOCRU) in Indonesia and icddr,b in Bangladesh. VxWG also supports capacity building workshops and training material to promote standardized approaches to field testing novel G6PD diagnostics and complementary social science and economic assessments. The aim is to generate comprehensive information relevant to policymakers and healthcare providers regarding G6PD testing and diagnosis of malaria.

Surveillance

Menzies facilitates parasite and host surveillance gathering data from clinical trials, cohorts, cross-sectional surveys and national reports from APMEN countries. Parasite surveillance data are collated in collaboration with the Malaria Atlas Project (MAP) Parasite genotyping is being developed to identify drug-resistant parasite and the origin of infections. Data of G6PD prevalence and variants are also being collated. These data are being analysed and mapped to inform local national malaria programs of populations at risk of malaria and drug-induced haemolysis.

VxWG is working with partners in China, Indonesia, Thailand and Vietnam to develop standardised protocols and bioinformatics pipelines to facilitate in-country parasite molecular analysis. A genotyping workshop in Indonesia was recently conducted, attended by multiple APMEN country representatives.

Treatment

Menzies through VxWG conducts clinical efficacy and effectiveness trials to optimize primaquine treatment regimens. Working with partners at the Institute of Tropical Medicine in Antwerp, they are developing ways to elucidate patient and caregiver perceptions of malaria, reasons for non-adherence and develop strategies to promote adherence to a full course of primaquine treatment.

In 2019 two major clinical trials transformed the radical cure landscape 1) DETECTIVE study which demonstrated that tafenoquine was non-inferior to 14-day supervised low dose primaquine and 2) IMPROV study in Afghanistan, Indonesia and Viet Nam which demonstrated that a short course high dose primaquine regimen over 7 days had similar efficacy as the same total dose spread over 14 days. In 2019 and 2020 the VxWG is supporting clinical trials capacity in Bangladesh, Cambodia, Indonesia and Nepal. They held training workshops to explore country partner priorities for delivering a safe and effective radical cure.

CORE EXPERTISE AND FUNCTIONS

Technical Support, Training and Operational Research

The Menzies malaria research program works on all five *Plasmodium* species that cause human malaria, with focus on *P. falciparum*, *P. vivax* and *P. knowlesi* in the Asia Pacific. Their expertise spans a broad range of research activities aimed at both prevention and treatment:

- Epidemiology
- Diagnosis
- Pathophysiology
- Immunology
- Molecular parasitology
- Clinical trials
- Evaluation of the impact and cost-effectiveness of public health interventions

The Menzies program offers their expertise in case management to country partners that need research to address operational questions from national malaria programs.