South West Pacific Malaria Meeting: 14–17 July 1997

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Introduction

The South West Pacific Malaria Meeting (SWPMM) brought together over eighty participants interested in malaria or malaria control from Vanuatu, Solomon Islands, Papua New Guinea, Indonesia (Irian Jaya and Jakarta), Philippines, Singapore and Australia, to discuss common concerns. Partner organisations were well represented.

The meeting was held over four days, the main program occupying the first three days and taking place in the Bancroft Centre at the Queensland Institute of Medical Research. On the final day participants joined with those attending the Australian Tropical Health & Nutrition Conference at the Crest Hotel in Brisbane. The aims for days 1 to 3 were:

- to review malaria control programmes, especially the use of impregnated bed nets
- to review the present status of drug resistance in malaria
- to review drug policy for malaria in the light of drug resistance
- to evaluate new malaria diagnostic tests
- to review the status of malaria vaccines
- to set training priorities for malaria control personnel
- to develop a network for collaboration in malaria training
- to review cross-border issues, especially exchange of information on outbreaks and drug resistance
- to explore the role of non-government organisations in malaria control
- to review health education programs.

To address these aims, the meeting was organized around a series of sessions each of which focused on a major issue affecting malaria control in the southwest Pacific. Unlike previous SWPMM, this meeting was more like a scientific meeting in the way it was organized with a wide range of speakers, not just country representatives as has been the pattern in the past.

The short opening ceremony consisted of remarks by Dr Kevin Palmer, representing WHO and Professor Ian Riley from the Australian Centre for International & Tropical Health & Nutrition, The University of Queensland.

Drug resistance and national drug policy – time for review?

Professor Karl Rieckmann (Australian Army Malaria Institute), presented an excellent overview of the current status of parasite resistance to antimalarial drugs. This was followed by presentations from Vanuatu, Solomon Islands, Papua New Guinea, and Indonesia which highlighted the wide variation in knowledge about the current status of drug resistance in the four countries. It was agreed that chloroquine resistance to falciparum malaria is widespread in all four countries but knowledge about distribution and levels of resistance varies greatly. Less is known about the sensitivity to other drugs such as sulfadoxine/pyrimethamine, quinine, and mefloquine.

Vanuatu and Papua New Guinea have no recent information on the levels or distribution of drug resistance in *Plasmodium faceiparum*. The last large scale study in Vanuatu was done in 1989 and in Papua New Guinea only a few small studies have been done since 1976. In Solomon Islands a network of microscopists trained to carry out *in vivo* drug testing has been created and over 600 tests were done between 1994 and 1996 showing that 83% of cases tested by the modified 14 day WHO test were sensitive or RI resistant, 8% were RII resistant and 9% RIII resistant.

RI resistance is defined as the clearance of asexual parasitaemia at day 7 followed by recrudescence at day 14 or 21, RII as a reduction of asexual parasitaemia to 25% or less of the pretreatment level at day 2 and asexual parasitaemia at day 7, and RIII as a reduction of less than 75% (that is, to a level higher than 25% of the pretreatment level) at day 2 and asexual parasitaemia at day 7.

Presentations from Dr David Fryauff (US Naval Medical Research Unit #2) and Mr Leonard Boaz (Solomon Islands Medical Training & Research Institute) described the methods for studying resistance in *Plasmodium vivax* malaria. Dr

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Fryauff in Irian Jaya showed 26 % of cases tested were resistant. Mr Boaz reported that, following Dr Fryauff's protocol, 15% of cases in Solomon Islands were resistant. Together their data indicated that resistance to chloroquine in vivax malaria is widespread in the two countries; it probably also exists in Papua New Guinea and Vanuatu. This has major implications for treatment

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New diagnostic methods for malaria

A panel with representatives from Becton Dickinson, ICT Diagnostics, and Flow Inc. presented and discussed the rapid diagnostics methods currently available or under development. Those currently on the market (Becton Dickinson Parasight f test, and ICT Diagnostics) detect only *P. falciparum* parasites. They have been field tested and are being used on a very limited basis by malaria control programmes. Papua New Guinea has begun limited distribution to selected clinics and health centres. In Solomon Islands the ICT test system was field tested and some kits have been provided by Rotary Against Malaria.

It was agreed by the meeting that the test systems have the potential to improve and expand the scope of malaria diagnosis but the main problem is cost. Both the Becton Dickinson and ICT tests cost between US$1 and $2 dollars each. This puts them outside the means of the national malaria control programmes. When tests for both falciparum and vivax malaria are available they might be a more viable alternative to conventional malaria microscopy.

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Results of a field test done in the Philippines using the Parasight F test was presented by Dr Belazario (College of Public Health, Manila). He showed that the test was both highly selective and highly sensitive and that it could be carried out by health workers at the clinic level. The Flow test for both falciparum and vivax malaria is not yet on the market. No information was provided about the possible cost.

All four country programmes as well as partners are at a point where decisions will have to be made on the cost effectiveness of the rapid diagnostic test systems and how they can best be used in each country setting. Before such decisions can be made more comparative information is needed. The relative cost of a diagnostic service based on these new methods should be evaluated, compared to the cost and utility of a conventional microscopy service, (initial training and retraining, equipment costs, consumables, salaries of microscopists, accuracy of results etc.) In areas with a low incidence of malaria, a combined falciparum/vivax test may be more cost-beneficial than conventional microscopy, despite the relatively high unit cost.

Negotiations with the suppliers on price of the test systems are needed to reduce the per test price below US$1.00. This might be possible with bulk ordering.

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Border issues

Discussions focused on malaria along the border between Papua New Guinea and Irian Jaya. There are no established channels of communication between health workers on either side of the border. All information has to pass through the two central governments with the result significant information on malaria or other disease outbreaks in border areas is not passed to health officers in the field.

There has been a regular flow of information between Solomon Islands and Vanuatu through regular contacts between malaria programme staff at the national level. Although contacts with Papua New Guinea have not been as regular.

Southwest Pacific malaria meetings have provided one of the few forums where malaria control programme staff from all four countries come together. It was suggested that the frequency of such meetings be increased and possibly the scope expanded to include other vector borne diseases.

The need for management training for all levels of malaria control staff was identified by all four countries as their greatest training need.

It was also suggested that a network using the Internet be established for the regular exchange of information on malaria and other vector borne diseases. This could take the form of a "list" that would allow active discussion in addition to providing a means of exchanging reports and other formal communications. Irian Jaya should be included in all future meetings and regional training sessions.

Training

A major discussion on training highlighted the need to share resources. An informal training network has existed for a long time between Solomon Islands and Vanuatu. This was expanded through the collaboration of the Pacific Vector Borne Diseases Project to include Fiji. A large number of courses will be offered under that collaboration during the next few years. Representatives from Papua New Guinea and Irian Jaya expressed a strong desire to participate in the shared training activities.

The need for management training for all levels of malaria control staff was identified by all four countries as their greatest training need. Opportunities for higher level training for national level programme managers and others are needed. It was agreed that Papua New Guinea and Irian Jaya would be invited to participate in future regional training.

Options for providing management training making use of existing short courses offered by Australian institutions will be explored. Such courses may be combined with other more specialized training specific to disease control programmes. The diploma and certificate courses to be offered by the Australian Centre for International and Tropical Health and Nutrition, The University of Queensland, are possible choices.

Funding of a regional management course through partners will be explored.

Scientific updates

Scientific updates were presented on progress on malaria vaccines and vector identification.

The control projects on Aneityum Island, Vanuatu, and in Honiara, Solomon Islands, were presented and discussed as two examples of successful control strategies. Aneityum is an example of malaria control on a small island utilizing a combination of mass drug administration and insecticide treated bed nets. Malaria has been virtually eradicated from Aneityum since 1991. Honiara on the other hand is an example of an urban control project that used a mix of many control methods including insecticide treated bed nets, residual house spraying, mass drug administration, larval control, improved diagnosis and treatment as well as intensive surveillance. Since 1992 malaria incidence has dropped by 60%.

The role of partners in malaria control

Rotary Against Malaria (RAM) presented the results of its collaborative activities primarily with insecticide treated bed net projects in Vanuatu, Solomon Islands and Papua New Guinea. The various RAM representatives explained the way RAM functions, and that individual clubs are free to initiate and fund their own projects. Other NGO, such as Dusaka and Solomon Islands Development Trust described their activities in relation to malaria control programmes, particularly in health education using street theatre.

Health promotion for malaria control

Reports on health promotion were presented by each country. The Solomon Islands Development Trust also discussed their health promotion work in the Solomon Islands Provinces in which they emphasized the need to involve communities. The meeting enabled the problems of the malaria programmes in all the countries to be discussed. The next meeting will be held in Papua New Guinea in 2001. □