Pacific Malaria Initiative Independent Progress Review

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Glossary of Abbreviations

AAMI/AMI	Australian Army Malaria Institute
ACD	Active Case Detection
ACT	Artemisinin combination therapy
AIR	Annual incidence rate
Alu+Art	Artemether Lumefantrine
API	annual parasite incidence
BCC	Behaviour change communication
CCM	Country Coordinating Mechanism
CM	Community mobilisation
DHS	Demographic and Health Survey
G6PD	Glucose 6 Phosphate Dehydrogenase
GF	Global Fund to Fight AIDS, Tuberculosis and Malaria
GIS	Geographic Information System
GPS	Geographic Positioning System
HF	Health facility
HIS	Health information system
HP	Health promotion
HSS	Health system strengthening
HSSP	Health Sector Support Program (SI)
IMCI	Integrated Management of Childhood illness
IPR	Infant Positivity Rate
IPTp	Intermittent preventive treatment (pregnancy)
IRS	Indoor residual spraying
ITN	Insecticide treated nets
JICA	Japan International Cooperation Agency
LLIN	Long lasting insecticide impregnated nets
M&E	Monitoring and evaluation
MACEPA	Malaria Control and Evaluation Partnership in Africa
MAP	Malaria Action Plans
MBS	Mass Blood Survey
MDA	Mass drug administration
MHMS	Ministry of Health and Medical Services (Solomon Islands)
MICS	Multiple Indicator Cluster Surveys
MIS	Malaria information system
MMFO	Management for Malaria Field Operations
MOH	Ministry of Health (Vanuatu)
MRG	Malaria Reference group
MSC	Malaria Steering Committee
MTEF	Medium-term expenditure framework
NGO	Non-governmental organisation
NHSP	National Health Strategic Plan

OR	Operational research
PacMI	Pacific Malaria Initiative
PacMISC	Pacific Malaria Initiative Support Centre
PATH	Program for Appropriate Technology and Health
PDA	Personal digital assistant
PHC	Primary health care
PMSO	Program Management Support Officer
PPMSO	Provincial program management support officer
PQ	Primaquine
QA	Quality assurance
RAM	Rotary Against Malaria
RBM	Roll Back Malaria
RCC	Rolling continuation channel (Global Fund)
RDT	Rapid diagnostic tests
SCA	Save the Children Australia
SI	Solomon Islands
SIMTRI	Solomon Islands Malaria Training and Research Institute
SOP	Standard Operating Procedures
SP	Sulfadoxine-pyrimethamine
SPC	Secretariat of the Pacific Community
SPR	Slide Positivity Rate
TA	Technical assistance
TOR	Terms of Reference
UQ	University of Queensland
VBDCP	Vector Borne Disease Control Program
VSAT	Very Small Aperture Terminal
WHO	World Health Organization

Executive Summary

Australia's Pacific Malaria Initiative (PacMI) commits up to A$25 million[1] over four years to combat malaria in the Solomon Islands and Vanuatu (2007-2011). PacMI supports the implementation of national malaria programs in Solomon Islands and Vanuatu based on a single consolidated malaria workplan that utilizes the combined resources of the Ministries of Health (MOH), the Global Fund to Fight AIDS, Tuberculosis and Malaria (GF), the World Health Organization (WHO) and AusAID. An important component of PacMI is the funding of the Pacific Malaria Initiative Support Centre (PacMISC). PacMISC is a consortium comprising the University of Queensland's School of Population Health (lead entity), the Queensland Institute of Medical Research, and the Australian Army Malaria Institute (AMI). PacMISC became operational in the first half of 2008. Specific PacMI targets are to:

- Reduce malaria incidence in the Solomon Islands by 65% (from 128 per 1,000 in 2007 to 46 per 1,000 population by 2014) and by 70% in Vanuatu (from 23 per 1,000 in 2007 to 7 per 1,000 population by 2014);
- Reduce the malaria mortality rate by 95% in the Solomon Islands (from 7 per 100,000 in 2007 to <0.1 per 100,000 population by 2014), and by 100% in Vanuatu (from 3 per 100,000 population in 2007 to zero deaths by 2014);
- Eliminate malaria from Temotu and Isabel (Solomon Islands) and Tafea (Vanuatu) by 2014.

This review was conducted between March and June 2010, including a field trip between April 12 and May 7 by the three-person team to Vanuatu and Solomon Islands, participation in a meeting of the Malaria Reference Group, and discussions with PacMISC staff in Brisbane.

Objectives of the review

a. Review progress to date on program activities, outputs and outcomes;

b. Assess the degree to which the initiative is aligned with partner government systems and harmonised with other donors;

c. Assess the relationship among different stakeholders involved in the implementation of PacMI, including the effectiveness of the coordination mechanisms;

d. Provide recommendations for improving overall program performance and continued AusAID support.

Progress

There is solid evidence of a steady decline since 2003 in annual malaria incidence and slide positivity rates in Vanuatu and the Solomon Islands although there was a relative plateau of rates in both countries during 2009. It is too soon to directly attribute an impact on malaria incidence to PacMI support. However, the flexible nature of PacMI funding helped fill the financing gap created by delays in Global Fund grant disbursement in 2008 and 2009. This enabled the procurement of critical commodities and a timely rollout of interventions in late 2009 and early 2010.

In a relatively short period of time, the Vector Borne Disease Control Program (VBDCP) staff in each country have recorded significant achievements in a logistically challenging environment which are all the more remarkable given the serious human resource constraints, especially in Vanuatu. It is expected by the end of 2010 that national coverage of households with adequate numbers of long-lasting insecticide impregnated nets (LLIN) will reach 80% in Solomon Islands and 90% in Vanuatu. In addition, indoor residual insecticide spraying has been accomplished in 94% of target households in Tafea Province of Vanuatu, which is targeted for malaria elimination.

[1] A further A$5 million was contributed by the SI HSSP

Findings

We believe that the significant outcomes achieved by PacMI are a result of the flexible funding mechanism, which was invaluable during the hiatus in GF resources, the high priority accorded to malaria by both national governments, the team approach taken among partners through the mechanism of the MSCs, and the advocacy efforts of the MRG.

However, there is no overall PacMI strategic framework, design document, or concept paper that clearly describes the program logic and the underlying theory of change intended to achieve ambitious goals in contexts where local institutions are relatively weak. This was a challenge for the reviewers because there was not a clear road map against which to evaluate progress. It is an important lesson for future AusAID initiatives that derive from high-level announcements of resource allocations. All major Australian aid initiatives require a foundation document specifying goals, strategies, and implementation principles.

The program has been hindered by a number of operational constraints in the absence of a clear strategy for institutional strengthening. There was no comprehensive baseline assessment of institutional capacity to achieve the objectives of the Malaria Action Plans (MAP). This is particularly important in Vanuatu, which faces a severe human resource shortage and lacks substantial donor assistance in the health sector.

We found evidence that policy-makers view malaria elimination as a priority, albeit not their top health priority. However, in SI, and to a lesser extent Vanuatu, we believe that intensive pre-elimination efforts may have been introduced prematurely while incidence rates remain high in some provinces. We found that the vertical nature of the malaria programs has led to a distortion of health system priorities; for example, malaria program staff will soon comprise a significant proportion of all MOH central staff in Vanuatu.

We recognise that the aid environment has been rapidly evolving globally and, more specifically, within the Australian aid program in the Pacific since the launch of PacMI. Thus, we found inconsistency between PacMI as it was conceived as a vertical program and the broader policy objectives of AusAID's ***current*** Pacific health sector strategy, which focuses on strengthening health system fundamentals rather than disease-specific programs.

Elimination of *P.vivax* malaria is not yet feasible and safe in the two focus countries given the drugs currently available. There is a relatively high prevalence of G6PD deficiency in both countries (almost 20% in Isabel province of SI), which may cause adverse reactions in G6PD-deficient patients to the only drug currently available (primaquine) to eliminate the liver phase of the parasite. Research and development of a safe and effective strategy to eliminate *P.vivax* is a high priority for PacMI.

The interventions being employed for control and elimination are based on solid evidence (except for the elimination of *P.vivax*). However, malaria programs are operating in a vertical manner with benefits to the broader health systems largely confined to the elimination provinces where vehicles and other resources are being shared with other health programs. Even in those provinces, there have been missed opportunities to contribute to the control of other endemic communicable diseases, such as yaws and scrub typhus.

The steady strengthening of operational support by PacMISC over the past 12 months is greatly appreciated in both countries. It has significantly contributed to a growing sense of confidence among national malaria staff and strong working partnerships among key malaria stakeholders. Moreover, the development of consolidated work plans and progress reports has contributed to the development of a single malaria program in each country.

The evolving pivotal role of Malaria Steering Committees (MSC) as genuine decision-making bodies on program policy, strategy, and operations is a major accomplishment and promotes harmonisation. PacMI is to a large extent aligned with government systems including disbursement of funds through MOH accounts. The Malaria Reference Group (MRG) played an invaluable role in

advocacy, strategic direction, and technical advice during the first two years of the program. The MSCs and the evolved PacMISC have in many respects now taken on roles and responsibilities formerly carried out by the MRG.

While the concept of demand-driven technical assistance and operational research is laudable, the reality of undertaking this in Vanuatu and SI has been challenging. Operational research has helped to inform some of the program strategies, but has not always been on the critical path of the program. In recent months, decisions about technical support and research have increasingly been the domain of the MSCs, which is a positive trend.

There remain significant challenges to develop the complete range of program tools required to meet the goals of PacMI. These include the finalisation of M&E plans and manuals and elimination plans, the development of behaviour change communication strategies, and consensus on a clear strategy for managing *P.vivax* in populations with a high prevalence of G6PD deficiency. This last strategy is critical for overcoming a major barrier to elimination.

Recommendations

Longer-term recommendations

1. **AusAID should continue support to malaria programs in Vanuatu and SI beyond 2011**
    - Rather than a regional program, Phase II should be implemented as two bilateral programs, since we see few benefits of a multi-country program arrangement.
    - Ensure that the next phase is guided by an overarching design or, at least, a concept document that clearly articulates the case for strategies, such as elimination, and provides a clear program logic rooted in the actual operational and technical capacity of Vanuatu and the Solomon Islands.
2. More fully **integrate PacMI into health sector-wide programs.** This will involve further progress around policy dialogue, financial aspects including direct financing arrangements, as well as technical cooperation:
    - ***Direct financing:***
        - Integrate tranche payments for malaria into the broad health sector support programs (in place in Solomon Islands; under development in Vanuatu). Any earmarking within sector budget support for malaria resources would be negotiated at a country level in the context of the overall health budget.
        - Ensure that direct financing provided by AusAID contributes to developing, and is appropriately calibrated to, country-level capacity for planning and financial management.
    - Technical Cooperation and Assistance:
        - Formalise country ownership of technical assistance and research.
        - Consider separate contracting arrangements for the provision of technical assistance and operational support, respectively.
        - Continue to work more closely with the MSC, WHO and other technical partners to help countries ensure they have flexible access to the technical support that they need.
        - Continue providing technical cooperation and assistance that is linked into broader SWAp Frameworks (such as the technical cooperation framework in Solomon Islands).
    - Policy dialogue:
        - Engage in sector-level policy dialogue with partner countries, underpinned by appropriate analytical work (supported as necessary through the technical cooperation/assistance modalities or other technical partners) to analyse actual health service costs, burden of disease, and other factors affecting the ranking of priorities, such as the economic benefits of malaria control and elimination.

- This analysis can then support dialogue around budgets and priorities and inform country-led budget allocations and negotiation of earmarking.

3. **Ensure a period of transition including a design process** commencing with a mid-term review of the MAPs and a comprehensive joint assessment of the capacity of implementing partners (planning, HIS, human resources, procurement, logistics, financial management, and BCC), modifying work plans and M&E frameworks accordingly, and developing a clear plan for institutional strengthening.

Short-to-medium term

1. **Be prepared to extend the timeframe for elimination** in the absence of a clear strategy to treat *P.vivax* with primaquine in the context of relatively high prevalence of G6PD deficiency, as well as operational hurdles such as inter-province population movements and serious human resource shortages. Consider modifying the "elimination" objective of PacMI to eliminating *P.falciparum* in the target provinces.
2. We suggest that VBDCPs be encouraged to develop a **10-20 year national elimination strategy,** which could outline a new timeframe that allows for intensified control to "catch-up" in terms of pushing incidence down to far lower levels. We do not suggest abandoning elimination as a goal but rather relaxing the timeframe. Efforts by VBDCP staff to control malaria in high incidence provinces should not be distracted by donor interest in elimination.
3. **Support a mid-term review and revision of the 2008/09 – 2013/14 Malaria Action Plans.** Take stock of activities and studies that have been carried out so far in order to achieve MAP targets. A review should be carried out and revisions made to the overall country strategies based on inputs from provincial and national level teams and facilitated technically by WHO and PacMISC.
4. **Conduct a joint comprehensive human resource capacity assessment** that allows for a realistic timeframe to achieve elimination in the target provinces. The pace of progress towards elimination must be based on local capacity. This assessment should be part of a design process for Phase II of PacMI.
5. **Focus on "getting it right" --** especially basic processes like diagnosis and treatment at the health facility level. Planned elimination activities such as active case follow-up should be put on hold and instead energy directed into ensuring quality diagnosis, treatment, and accurate and timely reporting. Integrating the malaria information system into the national HIS and strengthening integrated PHC (including malaria) supervision at the health facility level will contribute to achieving malaria elimination but in a way that could be more sustainable.
6. **Formalise country ownership of technical assistance and research**. All technical assistance should be contingent on MSC requests (based on VBDCP needs), which should be specified at minimum in a six-month TA plan. Increase emphasis on mentoring of key VBDCP staff, including support to publish data with in-country staff as first authors. Ensure that "high-end" technical initiatives, such as mapping and elimination databases, are balanced with capacity-building in routine information gathering, such as basic field epidemiology training. Ensure that data from studies are promptly shared with VBDCPs.
7. **Make explicit links between operational research (OR) and program strategies**. Carefully analyse how each piece of OR feeds into strategy and operations. Draw on a larger pool of expertise**.** Seek advice and experiences from other international academic institutions, WHO regional offices (e.g. AFRO/EMRO), and organisations such as PSI and the Malaria Consortium with experience in technical assistance and operational research in a programmatic rather than an academic context.

8. **Finalise programmatic tools**, including M&E plans and manuals, community mobilisation strategies, diagnostic algorithms and case management training, as well as a clear strategy to address the constraints in treating (and eliminating) *P.vivax* in the context of G6PD deficiency.

1. Introduction

1.1 Activity Background

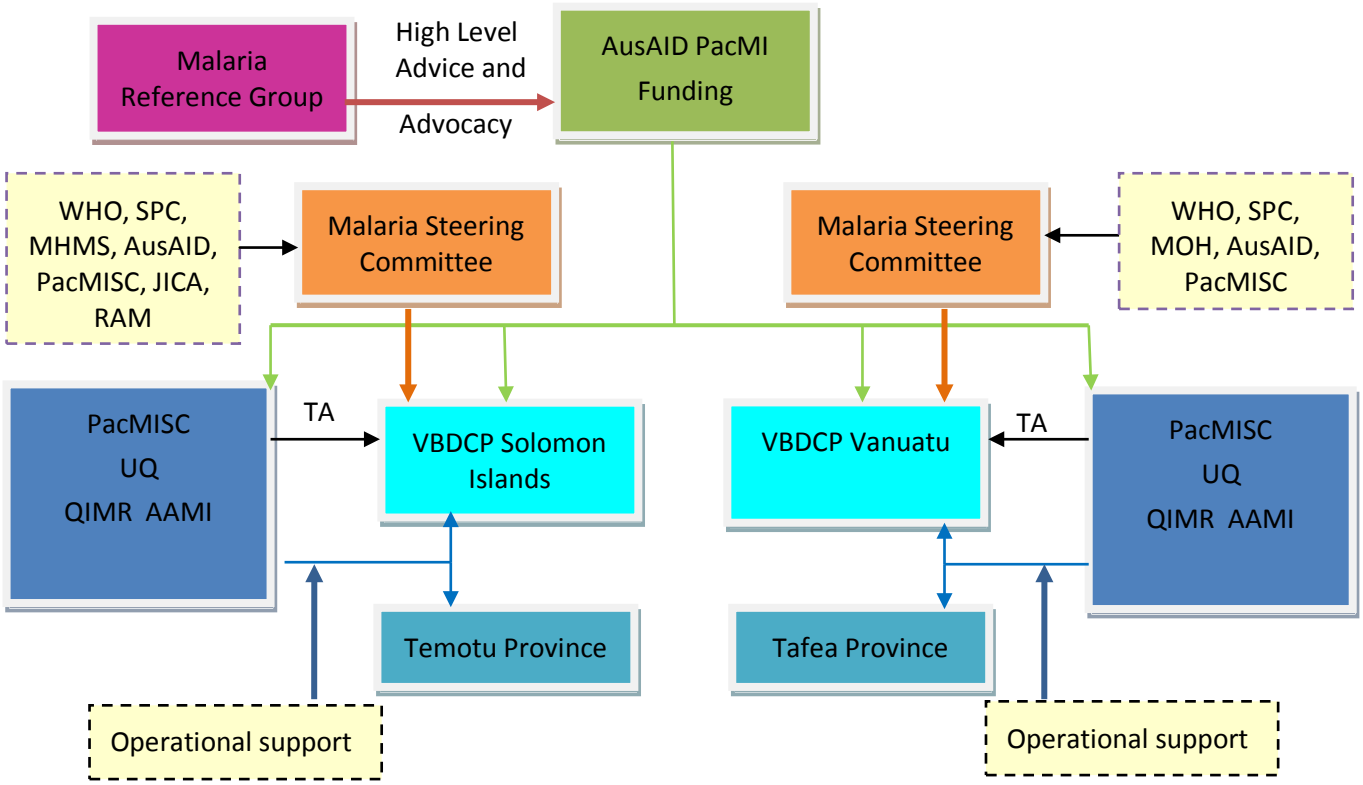
Australia's Pacific Malaria Initiative (PacMI) commits up to A$25 million over four years to combat malaria in the Solomon Islands and Vanuatu (2007-2011). An additional $5 million has been allocated to PacMI by the Solomon Islands Health Sector Support Program (HSSP). Solomon Islands and Vanuatu have among the highest incidence of malaria outside Africa, and malaria is one of the leading causes of morbidity. PacMI supports the implementation of national malaria programs in Solomon Islands and Vanuatu based on a single consolidated malaria workplan that utilizes the combined resources of the Ministry of Health in Vanuatu (MOH) and Ministry of Health and Medical Services in the Solomon Islands (MHMS), the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), the World Health Organization (WHO) and AusAID. Key challenges are to strengthen partner governments' health systems to increase the effectiveness of malaria control and strengthen the capacity to carry out high quality program surveillance, monitoring, evaluation and operational research in a way that maximises concurrent benefits to other areas of the health sector and informs future evidence-based health policy. Country Malaria Strategies and Malaria Action Plans (MAP) have been extensively revised to reflect development partners (AusAID, Global Fund, MOHs, Secretariat of the Pacific Community, WHO) commitments to expanded malaria control and progressive elimination in Solomon Islands and Vanuatu. Specific targets are to:

- Reduce malaria incidence in the Solomon Islands by 65% (from 128 per 1,000 in 2007 to 46 per 1,000 population by 2014) and by 70% in Vanuatu (from 23 per 1,000 in 2007 to 7 per 1,000 population by 2014);
- Reduce mortality rate by 95% in the Solomon Islands (from 7 per 100,000 in 2007 to <0.1 per 100,000 population by 2014), and by 100% in Vanuatu (from 3 per 100,000 population in 2007 to zero deaths by 2014);
- Eliminate malaria from Temotu and Isabel (Solomon Islands) and Tafea (Vanuatu) by 2014.

An important component of the PacMI is the funding for the Pacific Malaria Initiative Support Centre (**PacMISC**). PacMISC is a consortium comprising the University of Queensland's School of Population Health (lead entity), the Queensland Institute of Medical Research and the Australian Army Malaria Institute. AusAID funding for the Support Centre is around A$1.25 million per year. The role of PacMISC is to provide highly flexible, responsive program management support and technical assistance to Solomon Islands and Vanuatu to implement malaria control and elimination.

Another element of the PacMI management model is the Malaria Reference Group (**MRG**), which comprises a number of recognised international malaria experts, as well as the directors of the national malaria programs, representatives of the Vanuatu MOH and Solomon Islands MHMS, WHO technical officers from each country, the Secretariat of the Pacific Community (SPC), and representatives of the consortium that makes up PacMISC. The MRG meets annually and is the peak body for technical direction and program strategy development.

In each country, a Malaria Steering Committee (**MSC**) provides a forum for coordination and technical support to the national malaria programs. Their membership includes VBDCP directors, other MOH/MHMS officers, WHO, SPC, AusAID, PacMISC, and other malaria program stakeholders, such as the Japan International Cooperation Agency (JICA) and Rotary Against Malaria (RAM) in Solomon Islands. The diagram on the following page summarises the various entities involved in the malaria programs in each country.



Summary of roles of various organizations involved in implementing PacMI

While the VBDCP in each country is responsible for implementing malaria activities, the MSC is the coordination mechanism for implementation. PacMISC provides technical and operational support to VBDCPs under a contractual arrangement with AusAID's Pacific Branch in Canberra. PacMISC provides operational support through two program management support officers in each country, as well as additional support on a short-term basis upon request by the VBDCPs. Technical support is provided on a short-term basis upon request – by the VBDCP but endorsed by the MSC. While AusAID officers in each country have been active in the MSCs, they have not played a contract management role for technical and management support. WHO and other malaria stakeholders provide inputs via the MSCs.

1.2 Objectives of the review

a. Review progress to date on program activities, outputs and outcomes;
b. Assess the degree to which the initiative is aligned with partner government systems and harmonised with other donors;
c. Assess the relationship among different stakeholders involved in the implementation of PacMI, including the effectiveness of the coordination mechanisms.
d. Provide recommendations for improving overall program performance and continued AusAID support.

1.3 Scope of the review

1. Assessment of progress against expected program outcomes, including:
   a. Progress towards achieving country specific targets as detailed in the MAP;
   b. Improved capacity of VBDCPs to set policy guidelines, coordinate and manage donor resources and enhance service delivery;
   c. Improved surveillance, information systems, M&E, and epidemic response.

2. Other key issues referred to in the Scope include:
   - The effectiveness of working with partner governments' systems.
   - The effectiveness and quality of the program management model, with a focus on PacMISC and the MRG.
   - Harmonisation of project activities with other donors and technical partners.
   - How effectively AusAID's gender and environment policies have been applied.
   - Lessons learned and recommendations for improving overall program performance to achieve outcomes by 2011 and beyond.

The Terms of Reference for this review may be found at Annex 1.

1.4 Methods

The process began with a review of key documents between mid-March and mid-April and a briefing by AusAID on April 12. In both countries, meetings were undertaken with the Malaria Steering Committees, and directors and staff of the National Vector-Borne Disease Control Programs (VBDCP). Interviews used question guides adapted from the Roll Back Malaria (RBM) needs assessment tools and adjusted to respond to TOR and scope for this review[2]. They covered areas such as policies, strategies and approaches, implementation status, management and partner roles, procurement and logistics, communication and monitoring and evaluation. In addition to the RBM tool, further questions were developed to address the other broad aspects of the review, such as the impact of a single disease initiative within the context of Health System Strengthening and Sector Wide Approach in the Solomon Islands, harmonisation, gender and the environment.

Key informant interviews were held with other relevant departments of the MOH, such as Planning & Finance, Maternal and Child Health, Health Information, and Medical Supplies Management. The processes that led to key strategic decisions taken during the first phase were reviewed. In the Solomon Islands, particular attention was taken to assess the impact – positive and negative - of a vertical program like PacMI on the health sector-wide program. The meetings in each Capital included World Health Organization (WHO) technical staff, and the Secretariat of the Pacific Community (SPC), in their role as Principal Recipient for Global Fund malaria grants. We also met with JICA and Rotary Against Malaria (RAM) in Honiara and Save the Children Australia (SCA) in Port Vila. In Honiara we met with the Honiara City Council VBDCP, responsible for malaria control. In addition the team arranged telephone consultations with Dr Jeffrey Hii (ex-WHO Solomon Islands), the WHO Malaria Coordinator in Manila, and the Director of PacMISC in Brisbane. Quantitative data cited in this report were sourced from VBDCP records at the national and provincial levels. A full list of persons met during the course of the review is included in Annex 2.

The Team divided into two groups during each field visit – two members (always including Caroline Lynch) went to the field while the third member stayed in the capital to continue key informant interviews with stakeholders. Stakeholder group meetings and interviews were undertaken at provincial level during field visits. Each field visit included interviews at two randomly chosen health facilities. Focus group discussions were used to discuss interventions with community leaders in each field site. Verification meetings were carried out at national level after field visits in order to obtain answers to any further questions which were raised during field visits. The team reviewed the issues outlined in section 3.3 of the Scope of the Review (effectiveness and quality of program management model) through review of PacMISC progress reports and interviews with key stakeholders in Port Vila and Honiara (eg, AusAID, VBDCP, relevant NGOs, etc). In addition, we had meetings and interviews with PacMISC staff and members of the MRG in Brisbane. The itinerary for the Review Team may be found in Annex 3.

[2] Roll Back Malaria Toolbox.
http://www.rollbackmalaria.org/toolbox/toolboxsearch.html?keyarea=Program%20Assessments

1.5 Review Team

The Review team comprised Professor Mike Toole, team-leader, a medical epidemiologist and public health physician from the Burnet Institute; Dr Caroline Lynch, a malaria specialist from the London School of Hygiene and Tropical Medicine; and Roberto Garcia, an institutional and management health systems specialist.

2. Review Findings

2.1 Relevance

Is the program contributing to higher level objectives of the aid program?

In this section, we review the relevance of PacMI in the context of (1) Country health development priorities; and (2) AusAID development practice and aid effectiveness policies.

2.1.1 Health Priorities in the Solomon Islands and Vanuatu

Solomon Islands

Malaria is a cause of high disease burden in the Solomon Islands (SI); the annual parasite incidence (API) was as high as 200/1000 nationally in 2003, 406/1000 in Guadalcanal in 2004 and 323/1000 in Honiara in 2003. Malaria is the second most common cause of morbidity in children <5 years of age. Although around 70% of cases are due to *P.falciparum*, malaria is not a major cause of mortality, dropping from 15.7 per 100,000 in 2003 to 2.2 per 100,000 (or 11 deaths) in 2007.

The Malaria Action Plan (2008/09 – 2014) was developed after a consultative process with technical assistance by WHO, PacMISC, and SPC. The MAP includes elimination of malaria in Temotu province by 2014 as a separate objective as "the first stage of elimination of malaria from the country". The choice of Temotu is not well documented and seems to derive from recommendations made in a background paper on malaria in the two countries (Pattison, 2006). However, we were told that it was based on its eastern location towards the Buxton line[3], relatively low malaria incidence, and remoteness from Bougainville where transmission is high. While consultation workshops leading up to the development of the MAP enjoyed participation by a broad range of stakeholders, we have concerns about the degree of national ownership of the final document. For example, the section on elimination is identical to the Vanuatu document and the SI MAP includes data that derive from the Vanuatu plan. The National Health Strategic Plan (NHSP) 2006-10 includes improved service delivery for malaria prevention and treatment as a priority but does not specify focal malaria elimination as an objective. The new NHSP is due to be finalised soon; however, we were unable to determine whether malaria elimination will be included as a national priority. We found only modest enthusiasm for elimination; several senior Ministry of Health and Medical Services (MHMS) expressed doubts about its sustainability without prolonged external assistance. There has been a high rate of turnover at the high level of the MHMS; thus it is possible that previous MHMS officials may have promoted elimination.

Most PacMI resources in SI are focused on elimination in Temotu and Isabel Provinces, although antimalarial drugs are also procured for nationwide use. We cannot find documentation of the decision to include Isabel other than reference to a delegation of provincial leaders to Honiara seeking support for elimination in the 5 Feb 2009 MRG Interim Visit Report. We believe that the support for malaria elimination expressed by VBDCP managers has not come about as a result of an internal analysis of national disease data, a cost-benefit ranking exercise, and the identification of national health priorities. The elimination objective seems to derive from a global renewal of interest in malaria elimination with SI (and Vanuatu) "selected" for elimination because they lie on the global fringe of malaria endemic zones. When asked about the benefits of elimination, government officials invariably cited tourism and the economic benefits of a healthy workforce. However, we saw no studies that tested this assumption. PacMI funds have been intended to complement other funding for malaria control (eg, GF); therefore, they have generally been used to

[3] The Buxton line is 170 degrees east longitude and 20 degrees south latitude. Malaria has never been endemic to the east or south of this line.

support elimination. However, we observed that VBDCP human resources were very much focused on the two elimination provinces where the burden of malaria disease is low while other provinces continue to have an API as high as 155/1000 (Guadalcanal, 2009), an increase over 2008. We do not believe that this work focus is based on sound public health logic, which generally promotes concentrating resources to control a communicable disease in populations where the incidence is high.

Vanuatu

Malaria is a less important cause of morbidity and mortality in Vanuatu compared with SI. The API decreased from 74 per 1000 in 2003 to 15.6 per 1000 in 2009, although these may be under-estimates given that only 10% of health facilities have microscopy and Rapid Diagnostic Tests (RDTs) were only introduced in late 2008. It should be noted that as in SI there was a rapid increase in incidence following the completion of the AusAID-funded Pacific Vector Borne Disease Control program in 2000.

The most explicit evidence for government support for elimination is contained in the Partnership for Development document, which has been endorsed by the prime ministers of Vanuatu and Australia. The Partnership Priority Outcomes in Health include *controlling and progressively eliminating malaria*. The Vanuatu MAP is very similar to the SI document and includes elimination in Tafea Province by 2014. There is little analysis to explain the elimination objective beyond the fact that it was achieved in the 1990s in the small island of Aneityum, which is part of the province. We found modest enthusiasm for elimination in Vanuatu as in SI. Once again, the benefits of elimination were expressed in terms of tourism and a healthy workforce but we saw no evidence of cost-benefit studies.

The Five-Year National Health Master Plan expired in 2009 and the new Health Sector Strategy (2010-2015) is in draft form. We have been informed that the draft strategy does not include a specific objective to eliminate malaria.

2.1.2 Relevance to AusAID policies

The *White Paper on Australian Aid* (2006) highlighted the need to tackle malaria in the Pacific and signalled that a long-term regional initiative would be undertaken with an initial focus on Solomon Islands and Vanuatu. This was followed by a commissioned report by David Pattison that included recommendations to support elimination of malaria in certain island provinces following a situation analysis. During the years since the inception of PacMI, there have been important shifts in the aid environment globally and in Australia. One important trend has been towards a sectoral program approach, especially in health and education, which is reinforced by several documents cited below.

Although there have been practical efforts in the “elimination” provinces to ensure that PacMI benefits broader health service strengthening, the reality on the ground is that malaria control and elimination operates as a vertical program in both countries. A number of recent AusAID review and policy documents suggest that a sector-wide approach is more effective than the “silo” approach. For example, the *Evaluation of Australian Aid to Health Service Delivery in Papua New Guinea, Solomon Islands, and Vanuatu* (June 2009) recommended that support to build health systems should be fully integrated, as part of a broader strategy and plan that addresses other factors critical for performance. The report suggested that AusAID should “…recognise explicitly the limitations of technical assistance, and give more attention to identifying the necessary and sufficient conditions for capacity to be built.” The current PacMI approach, with its sizeable external technical assistance (in the absence of an institutional strengthening plan) seems at odds with this recommendation.

The draft guidance note *Supporting Health in the Pacific – Principles and Strategies for Australian Aid* (April 2010) provides a strong argument to get the fundamentals right. It states that “…efforts to support health system operations, including by capacity development, will only lead to better health outcomes if they recognise and respond to fundamental issues such as inadequate finance, staffing

constraints, difficulties with access to drugs and other necessary supplies (especially outside main urban centres) and deep-seated incentive and institutional problems." This is pertinent to the malaria initiative as one of the main lessons learned from the previous malaria eradication program is that a strong health system is a prerequisite for effective elimination or eradication (Yekutiel, 1981[4]; Bruce-Chwatt, 1984[5]). A health-system based approach also goes some way towards addressing questions raised by MOH personnel about the sustainability of human resource-intensive elimination activities such as mapping, IRS, active case-finding, mass drug administration, slide referrals, and supervision.

The Pacific health guidance note also makes the following important argument: *Australia's role as a development partner is not to specify the health service or disease-based priorities of a particular country – those are primarily for national assessment, judgement and decision.* As AusAID is moving towards programmatic approaches there is a risk that PacMI could become an outlier within its portfolio where disease-specific projects are no longer the norm. However, on a more positive note, the disbursement of PacMI funds through MOH finance systems (while being earmarked for malaria) is consistent with the Paris and Accra principles of using government systems.

AusAID Canberra and the MRG have advocated strongly for integrated public health approaches within PacMI for some time. AusAID co-facilitated a half-day session on improved efficiency during the Solomon Islands Health Financing Workshop in December 2009. The Workshop Report specifically documented integrated primary care and preventive approaches as a core mechanism to gain greater efficiency from disease-specific funding. AusAID and the MRG commissioned a report by PacMISC on how to leverage PacMI resources to strengthen health systems.

In summary, we found evidence that policy-makers view malaria elimination as a priority, although this is not their top health priority. In SI, and to a lesser extent Vanuatu, we believe that intensive pre-elimination efforts may have been introduced prematurely while incidence rates remain high in other provinces. We found that the vertical nature of the malaria programs has led to a distortion of health system priorities; for example, malaria program staff will soon make up a significant proportion of all MOH central staff in Vanuatu. We found inconsistency between PacMI as it was conceived and the broader policy objectives of AusAID's current health sector strategy in the Pacific.

2.2 Effectiveness

Is the Initiative on track to achieve its objectives?

2.2.1 Outcomes

Outcomes are measured against indicators outlined in the 2008/09 – 2013/14 Malaria Action Plans for each country, and where relevant the annual Malaria Action Plan.

Malaria trends

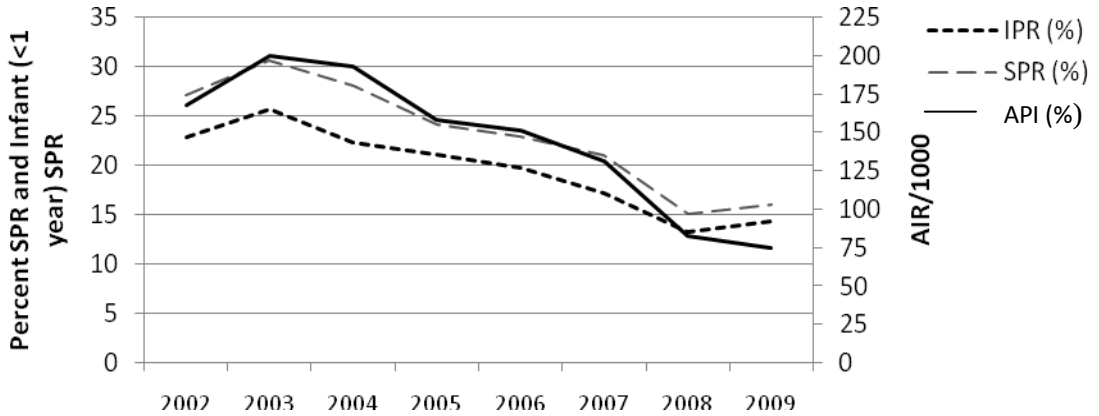
Solomon Islands

The API has steadily declined in SI since 2003. More recently, API dropped from 130/1,000 in 2007 to 75/1,000 in 2009 (*Table 1*). Slide Positivity Rate (SPR) and Infant Positivity Rates (IPR) followed this trend until 2009 when they increased slightly relative to 2008 (*Figure 1*). A breakdown of statistics by province showed that increases occurred in Honiara and Guadalcanal, as well as a plateau in rates in Central, Choiseul, Makira and Western provinces. These trends may be due to climatic factors, a decline in net coverage due to delayed LLIN procurement, or a change in reporting processes.

[4] P. Yekutiel, "Lessons from the big eradication campaigns." in *World health forum*, vol. 2, 1981, 465–490.

[5] L. J Bruce-Chwatt, "Lessons learned from applied field research activities in Africa during the malaria eradication era," *Bull World Health Organ* 62 (1984): 19–29.

Figure 1: Annual Parasite Incidence (API), Slide Positivity Rate (SPR) and Infant Positivity Rates (IPR) in Solomon Islands 2002-2009 (VBDCP Malaria Information System data)



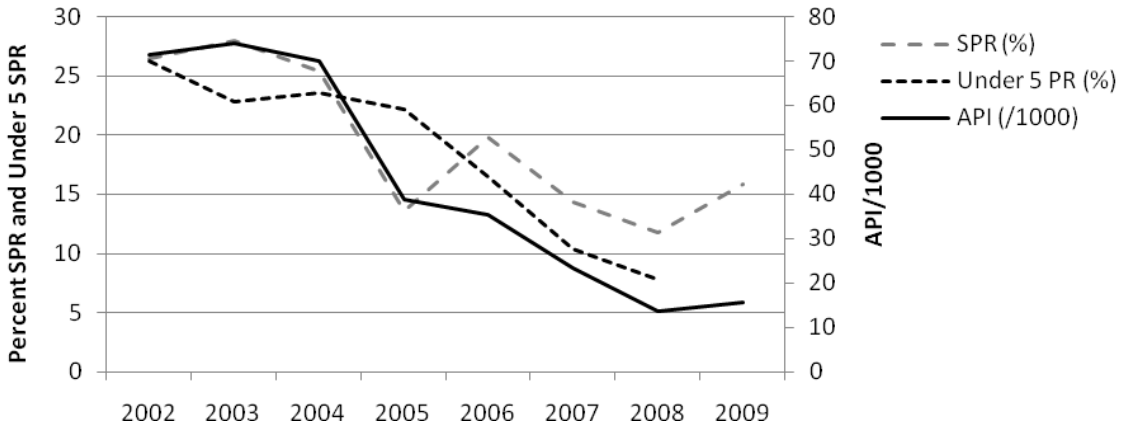
National parasite prevalence, measured through Mass Blood Surveys (MBS), was 5% and 4% in 2008 and 2009, respectively (VBDCP, 2010). However, these are probably overestimates of malaria prevalence as MBS are undertaken in malaria 'foci' as identified by monthly parasite incidence in health facilities.

Table 1: Progress on core measurable indicators outlined in the SI Malaria Action Plan (2008/09-2013/14)

MAP Indicators – Solomon Islands	2006	2007	2008	2009
To reduce the national annual parasite incidence rate (API) in Solomon Islands by 65% from 128 / 1000 population in 2007 to 46/1000 population by 2014	152/1,000	130/1,000	82/1,000	75/1,000
Malaria related death reduced from 7 per 100,000 in 2007 to <3 per 100,000 by 2014	N/A	7/100,000	3/100,000	4/100,000
(Objective 2: MAP) Reduce the annual parasite incidence rate in the highest transmission rate provinces to less than 100/1000 by 2016	203/1,000	177/1,000	111/1,000	106/1,000
Elimination of malaria in Temotu Province by 2014 and commencement of the prevention of reintroduction phase	69/1,000 *Parasite prevalence*	34/1,000 **11%**	51/1,000 **10.3%**	16/1,000 **3.6%**

API in Vanuatu follows a similar trend to that in SI albeit at far lower rates. Recently, API dropped from 23/1,000 in 2007 to 16/1,000 in 2009 (*Table 2*). All three indicators, API, SPR and Under 5 Positivity Rates (PR) declined significantly between 2003 and 2008 after which they increased in 2009 (*Figure 2*). The increase is not uniform throughout the provinces. Three provinces, Malempa, Shefa and particularly Torba, had increased rates of malaria for all three indicators in 2009. It is difficult to draw a conclusion from this one year increase given the range of factors that influence malaria transmission but may in part be due to changes in reporting due to the roll out of RDTs and greater diagnostic capacity and accuracy. While rates had been steadily declining in Shefa and Malempa until 2009, in Torba they have been increasing year on year. In all other provinces (Sanma, Penama and Tafea) API had decreased from 2008. These declines are probably due to steadily increasing net coverage (through Gates and GF grants) but may also be related to climatic factors.

Figure 2: Annual Parasite Incidence, Slide Positivity Rate and Infant Positivity Rates in Vanuatu 2002-2009 (VBDCP Malaria Information System data)



National parasite prevalence is unknown. However, in Tafea province it was 1.8% in 2008.

Table 2: Progress on core measurable indicators outlined in the Vanuatu Malaria Action Plan (2008/09-2013/14)

MAP Indicators - Vanuatu	2006	2007	2008	2009
To reduce the national annual parasite incidence rate (API) in Solomon Islands by 65% from 23/1,000 population in 2007 to 7/1,000 population by 2014	35/1,000	23/1,000	14/1,000	16/1,000
Malaria related deaths reduced from 3 per 100,000 in 2007 to 0 per 100,000 by 2014	1 death	2 deaths	1 death	0
Elimination of malaria in Tanna Province by 2016	18/1,000 0 deaths	28/1,000 1 death	20/1,000 0 death 1.8% prevalence	8/1,000 0 death

2.2.2 Progress towards objectives

Major intervention areas

The key components of malaria programs in both countries include:

- household distribution of long-lasting insecticide impregnated nets (LLIN),
- indoor residual spraying (IRS) in elimination provinces,
- community mobilisation (CM) and behaviour change communication (BCC),
- case management of clinical malaria, prevention and treatment of malaria in pregnancy, epidemic preparedness and response, and
- other activities associated with elimination (such as mass drug administration).

LLINs: The VBDCP MAPs for both countries are aiming for at least 90% coverage of the population with LLINs by the end of 2009 through to 2016. Standard Operating Procedures (SOPs) for LLIN mass distributions were developed for both Vanuatu and SI in March 2010 to facilitate the distribution of Global Fund (GF) RCC Phase I nets. SOPs include LLIN tools for census, distribution and mapping.

However, overall national guidelines which outline LLIN specifications, forecasting, and distribution and replacement strategies have not been developed.

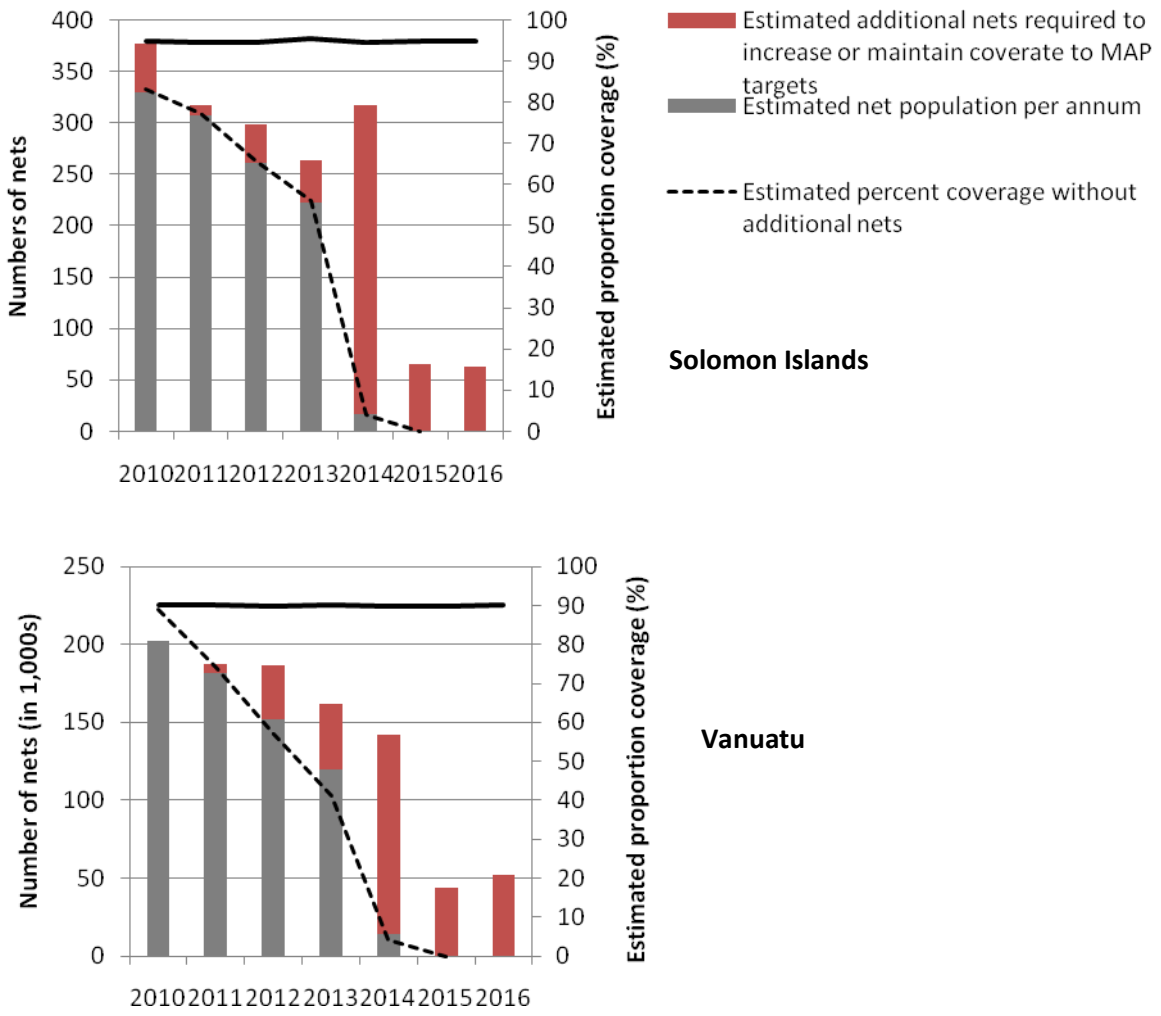
In Vanuatu in 2007, ownership of at least one LLIN was estimated at 68% and Under 5 utilisation 56% (MICS, 2007). In SI, the Demographic and Health Survey (DHS) estimated 49% ownership of ITN and utilisation of 40% by under 5s (DHS, 2007)[6]. Net distributions planned for 2008/2009 did not take place because of procurement delays brought about by funding gaps and net specification issues. However, flexibility in PACMI funding allowed for LLIN orders to go ahead with the result that stocks of nets began to arrive in late 2009. Household distribution began in some provinces of each country in 2009 and is continuing in 2010 via mass campaigns with an estimated completion date of December 2010. LLINs are distributed according to age and household sleeping arrangements.

LLIN coverage will reach approximately 83% in SI and 90% in Vanuatu once all current stocks of nets are distributed in 2010. Coverage will then decline to less than 10% in both countries by 2014 when the next stocks of nets are estimated to arrive under GF RCC Phase II (*Figures 3a & 3b*[7]*).* The gap between MAP targets and estimated coverage between 2011 and 2016 seems to be due to an assumption that LLINs need replacement only after the end of their estimated lifespan (3-5 years). However, net attrition rates conservatively estimated at 15%, together with population growth, means that coverage in both countries will steadily decrease well below MAP targets from 2011. **We have attached an Excel document as a technical reference**, which shows the modelling that is the source of these estimates. No strategies have been outlined which will ensure that MAP targets are maintained (for examples, consult regional WHO office or Zambian MOH/South African MOH websites).

[6] This survey was affected by a number of difficulties thus results may not be representative.

[7] Vanuatu and SI gap analyses for LLINs are annexed (2&3)

***Figures 3 a,b*: Estimated net coverage –LLINs in Vanuatu and Solomon Islands based on numbers of nets planned for distribution (VBDCP data on net distributions and plans)**



IRS: Under the elimination objectives of each MAP, the key expected results are to have "completed two cycles of IRS annually with more than 85% coverage in addition to full coverage of ITN". Both countries have achieved IRS target coverage once rather than twice per year as outlined in the MAPs. SOPs and training manuals for IRS have been developed by PacMI-supported WHO technical personnel to support the roll-out in elimination provinces. However, IRS is also undertaken in malaria foci of "control" provinces with the support of the GF RCC phase I grant. Regardless of this, there are no *national* IRS guidelines or targets in either country. No indicators are set out in the MAPs for IRS in "control" provinces where it is being carried out in SI.

Case Management: MAP targets for case management in SI and Vanuatu were, broadly, to ensure that staff were trained in malaria case management, to expand and increase diagnostic capacity, and to increase the proportion of confirmed malaria cases who received effective treatment. SI aimed to "expand diagnostic coverage with either RDT or microscopy to 95% by 2009" and to ensure that the "proportion of reported malaria cases confirmed either by microscopy or RDT increased to 57% in 2014". In Vanuatu diagnostic targets were to increase "diagnostic service to 100% by 2010".

Artemisinin combination therapy (ACT) was added to the two countries' essential drug lists in 2008 and to SI treatment manuals in the same year. Treatment guidelines were developed for Vanuatu in 2009. Most health facilities have at least one staff member who has been trained at least once (in 2009) in case management of malaria in each country. In general, training in both countries is

undertaken on an *ad hoc* basis depending on the funding available. Integrated clinical refresher courses are rarely undertaken, even though there is ample opportunity with, for example, IMCI.

Since 2009, ACTs and RDTs have been supplied to all levels of the health system in each country through a 'push' system. Health facility (HF) order forms in Vanuatu have not yet been amended to include ACTs and RDTs and the presence of expired or nearly expired drugs in HFs in SI indicate forecasting issues with antimalarial drugs. Primaquine (PQ) is supplied only to the hospital level in Vanuatu. This is due to the fact that PQ (which is used to eliminate hypnozoites in the liver) may cause haemolysis in patients that are G6PD deficient. The prevalence of this inherited trait is unknown in Vanuatu but a survey in Isabel province of SI found a prevalence of almost 20%; almost 7% of the sample had the severe form of the condition. In SI, PQ was present in health centre pharmacies. However, registers showed that it had not been used to treat *P. vivax* cases. HF guidelines present on posters in clinics did not specify the need for monitoring *P. vivax* patients for anaemia or change in urine colour.

While RDTs were available in each HF visited, neither country has documented when nor where RDTs or microscopy should be used. Perhaps as a result, there is significant confusion as to when and how to use RDTs/slides. For example, nurses and aid post workers reported using both RDT and blood slides, where slides are sent to the provincial level for examination. This is in adherence to a previously used "slide referral system", however, it does seem to contribute to an overall lack of confidence by staff in RDT results. While this is not explicitly stated nurses described how RDT and slide results were sometimes different. In addition, they reported that "clinical malaria" (i.e. RDT negative) responded to ACT, further undermining confidence in the rapid tests. Lastly, while staff have been trained in the use of RDTs, there are reported logistical problems in some areas with wastage of pipettes. There will also be an ongoing problem with gaining experience in the use of a new technology in the face of declining number of fever cases. These diagnostic issues need to be addressed (see recommendations).

Malaria in pregnancy: Pregnant women in both countries receive chloroquine prophylaxis on a weekly basis throughout pregnancy. Treatment of malaria in pregnancy in Vanuatu is with Alu+Art (2^{nd} & 3^{rd} trimesters). However, at health facilities visited in SI, pregnant women with malaria were being treated with chloroquine contrary to treatment guidelines.

Elimination plans: The MAPs include elimination objectives; however, there are no overall progressive plans which map how national elimination will be achieved. Elimination plans have not been finalised for provinces in either country where elimination is planned. However, drafts have been developed.

Community mobilisation/BCC strategies: In both Vanuatu and SI pamphlets have been developed to support specific interventions e.g. LLIN distributions or IRS. In addition, community mobilisation has taken place, using those pamphlets, prior to or during IRS or LLIN activities. In SI there seem to be closer links between the Health Promotion Department and VBDCPs, and malaria messages are included in school visits and community meetings. Regardless, there are no overall communication strategies which document the communication channels to disseminate messages. Community mobilisation (CM) and behaviour change communication (BCC) strategies have not yet been developed. Current activities are *ad hoc* or activity-based rather than ongoing.

Epidemic preparedness and response: Epidemic preparedness and response plans do not exist. However, some *ad hoc* epidemic response occurs. For example, in Tanna, a school principal who suspected an outbreak contacted the VBDCP at provincial level and as a result an MBS was undertaken which confirmed no malaria epidemic. This occurs outside of PacMI support.

2.2.3 Partnerships

In SI, the main partners in malaria control and elimination are VBDCP, WHO, SPC, AusAID (HSSP), PacMISC, JICA, and RAM, as well as other departments of the MHMS, such as health promotion and health information. In Vanuatu, the main partners are VBDCP, WHO, SPC, AusAID, PacMISC, and the

MOH departments of health information and health promotion. In both countries, the forum for partner coordination is the Malaria Steering Committee (MSC).

Malaria Steering Committees

In the original design of PacMISC[8], a "Malaria Coordination Group - Support Team" was charged with coordinating malaria program activities. This group however has not been operational as envisioned, nor indeed should country coordination be the responsibility of an external support group. This vacuum seems to have been occupied by the MRG whose role has been alternating between a "board type" body providing broad strategic guidance and a "secretariat type" body providing coordination advice as well as detailed implementation recommendations. Since February 2009 in Vanuatu and February 2010 in SI, country-led Malaria Steering Committees (MSC) have taken over this coordination responsibility. In both countries, the CCMs are playing a minor role in coordinating and overseeing malaria programs, even though this is their responsibility under GF guidelines. It seems that they have essentially met during the resource mobilisation phases such as developing GF proposals and securing the Rolling Continuation Channel (RCC). We believe that the emergence of the MSCs as the peak malaria program governance bodies in each country is a positive development.

In Vanuatu, the MSC was established in February 2009 and since then has met regularly for a total of 13 times. In addition, there are weekly technical meetings between VBDCP, WHO, and PacMISC. PacMI had a difficult start due to a mix of factors including (1) inability of PacMISC to effectively support a budget preparation process delaying fund release (2) procurement problems, (3) the absence of WHO technical support due to the gap left by WHO between the departure of Dr Sehya and the arrival of Drs Chang and Vestergaard, and (4) delays in the GF-RCC funding. Therefore, the MSC priority was initially fixing operational issues. Considerable emphasis was placed on developing a joint implementation tool, which was done and resulted in a budgeted consolidated work plan 2009-2011. Towards late 2009, the MSC increasingly became a forum for policy and strategy discussions and is now the peak decision-making body for malaria program direction and external technical inputs. The rotating chairmanship and the extended membership which includes MOH (VBDCP and Finance Unit) and Ministry of Finance officials seem to have been factors in its strength.

The MSC in SI is more recent. The first meeting was in February 2010 and there have been two monthly meetings since. The committee has broad representation by stakeholders; however, while there is more representation and involvement of VBDCP program staff than in Vanuatu, there has been less representation by other departments in the MHMS compared with Vanuatu. As the MSC is relatively new, its role has been a forum to discuss activities rather than higher-level strategy and policy. There is also a Malaria Elimination Committee in Temotu, with representation from MHMS, provincial government, and civil society. It was launched in July 2009; however, there were no further meetings until April 2010, when it was revitalised with the support of the PPMSO.

Other MOH Departments

In both countries, the ***health promotion*** (HP) departments have been largely bypassed in the development of BCC strategies. NGOs (SCA in Vanuatu and World Vision in SI) were originally contracted to implement CM in the elimination provinces. Both contracts have now been cancelled and valuable time has been lost which could have been used to build the capacity of HP personnel. The exit report of the PacMISC HP adviser after his visit to Honiara in February 2010 highlighted the weak capacity of the HP department and its lack of engagement in the malaria program. A positive outcome of his visit was the creation of a Technical Working Group for HP and community mobilisation to support malaria control and elimination. In Port Vila, the chief of HP commented that his department had largely been left out of malaria BCC activity planning. Nevertheless, in Tanna and Santa Cruz, there has been more involvement by HP staff. In fact, the CM conducted by local HP and

[8] Program Design Framework of PACMISC, annex F, 20 October 2008

VBDCP staff prior to net distribution and IRS was probably quite effective leading to high coverage. Developing coordinated CM strategies that engage HP departments and other stakeholders (such as Wan Smol Bag in Vanuatu) is an immediate priority.

The ***health information systems*** (HIS) in each country are acknowledged as weak. Technical assistance to strengthen their performance is one of the main priorities of health system strengthening, especially in Vanuatu. Performance and progress are monitored via two different mechanisms. The first is the HIS based at the MOH which collects comprehensive monthly reports from health facilities. The second is the malaria information system (MIS) based in the VBCDPs which collects information from microscopists. It appears that the VBDCP channel provides the most reliable and consistent source of malaria information.

In Vanuatu, there has been a decline in the proportion of HIS forms submitted by health facilities. The rate of reports received from health facilities in 2009 is 61%, ranging from 19% in Malampa to 83% in Sanma province. There has been no annual HIS report since 2005, although more recent tabulations are available on the MOH Intranet. The HIS acting officer in charge is a recently appointed part-time nurse seconded from the Port Vila Central Hospital (PVCH). In a report mapping the health system[9], the authors warn that "…the current system is vulnerable to complete collapse". The report provides 44 different actions to be taken in order have a fully functional statistic system. It is obvious that the unit is neglected and should urgently receive specific support, although this can only be brought about through MoH commitment to strengthened HIS.

In SI, the HIS unit seems to be more structured and effective than in Vanuatu. The last annual health report summarised 2008 data and was published in April 2009. These data are collected in all health facilities and hospital outpatients clinics and sent to the provincial HIS and on to the central level. HIS coverage has increased from 85% in 1996 to 97% in 2007. The planning/HIS unit of the MHMS functions well. It could provide historical data from 1999.

Maternal and child health: Integrated Management of Childhood Illness (IMCI) is current best practice globally for the diagnosis and treatment of the sick child, including the febrile child. IMCI is MOH policy in both Vanuatu and SI; however, there is almost no coordination between the malaria programs and IMCI. Each is being implemented in parallel despite overlapping objectives. As malaria incidence declines, the proportion of febrile children with malaria will also decline making it imperative that the management of those children (the majority) who do not have malaria is of high quality. Otherwise, these children will inadvertently be disadvantaged compared with children with malaria who have access to better diagnostic and treatment resources. PacMI, other AusAID health funds, and WHO technical support should ensure that IMCI is strengthened at HF and community levels so that malaria diagnosis and treatment in children is integrated into this key child survival strategy.

Donors and technical partners

AusAID has been quite rightly praised for its flexible funding, especially during 2009 when there were significant delays in the disbursement of GF funds to both countries. In 2009, AusAID funded a large purchase of bed nets, as well as RDTs and ACT. In SI, the nets were not purchased until late in the year due to the preference for a particular brand of nets, which could not be accommodated through an open tender process.

WHO and PacMISC are now working well together, especially in Vanuatu where the two WHO technical officers have been in place for more than a year. In SI, the technical officers have only recently arrived. We note that a document was developed in Ballymore in 2008, which nominates

[9] Health Information System Mapping Ministry of Health. Miriam Bluhdorn and Vicki Bennet. University of Queensland, February 2009.

WHO as the lead technical partner and suggests that PacMISC priorities be M&E, health information system strengthening, and capacity building. While this may have evolved to be the case in Vanuatu, PacMISC has continued to take the lead in providing technical support in SI. This was unavoidable given the long hiatus when there were no WHO malaria officers in the country. As the newly formed MSC evolves into a more strategic body and the WHO technical officers settle into their posts, a similar division of responsibilities is desirable. PacMISC and WHO now have a monthly technical teleconference with both Vanuatu and the Solomon Islands; every third teleconference is a combined teleconference with Solomon Islands, Vanuatu and PacMISC.

AusAID/PacMISC

A number of frustrations were expressed at various times by both PacMISC and AusAID staff. Staff at AusAID posts and Canberra felt that they were sometimes kept out of the loop of decision-making, especially around technical assistance inputs. PacMISC felt that delays in providing TA were often the result of a lengthy approval and sign-off process in Canberra. An approval process facilitated through the MSC in Vanuatu has subsequently improved this situation. Both parties agreed that PacMI poses a major management challenge without an agreed upon strategy of institutional strengthening within each of the countries. The development of a communications plan has greatly improved the relationships between PacMISC and AusAID Posts, with regular participation in MSC meetings by PacMISC Brisbane either by teleconference or in person. PacMISC has experienced some problems in the funding agreement with AusAID in terms of its ability to support flexible and timely responses to in-country needs. This may necessitate a specific review to indentify bottlenecks and renegotiation of their head agreement with AusAID.

2.2.4 Capacity of implementing partners

How effectively is the Activity working with partner government systems?

Ownership and leadership

The two main indicators of ownership according to the Paris and Accra Declarations on Aid Effectiveness are that strategic priorities are (1) linked to a medium-term expenditure framework (MTEF) and (2) reflected in the national annual budget. Currently, neither country has a MTEF[10], and the AusAID financing for malaria is provided “on disbursement” and not “on budget”.

In the respective national health strategy documents (2006-2009) malaria control stands as one of the key national health strategic areas. Intensified nationwide control of malaria and elimination in targeted areas is the goal of each of the 2008-2014 MAPs. The elimination component coincides with the start of PacMI in 2008. New national health strategic plans are being finalised[11]; it is our understanding from discussions with WHO that elimination will be included as priorities in the SIG. However, the mission was not provided with the draft of the plans.

The Prime Ministers of each country have both committed to engage in malaria elimination in the selected islands and there is a general knowledge of this goal among all partners that the mission met. However, the enthusiasm observed at the MOH and MHMS level varies and is sometimes modest. This feeling reflects the view that efforts to eliminate malaria have received greater attention than control in high disease burden provinces which are not indicated as elimination targeted zones for the time being. Although control and elimination are part of the same national strategy, PacMI has been focusing mainly on the elimination component.

[10] In the Solomon Islands, work on developing comprehensive medium term estimates of health sector expenditure and available resources commenced in February 2010
[11] Health Sector Strategic Plan 2010-2016 for Vanuatu and National Health strategic plan 2011-2015 for the SIG

At the VBDCP level, the Directors of each program have been in post since well before the beginning of PacMI. Both have good institutional memories and have demonstrated strong leadership in the fight against malaria. Annual national malaria meetings are conducted with all actors involved in both programs. In Vanuatu the meetings have also been organised in the provinces. In the provinces visited, leadership depends very much on the individuals in charge but in general it was observed that the managers are committed, especially when commodities are supplied consistently. We did note that in both Tafea (Vanuatu) and Temotu (SI) the provincial health directors are "acting".

Planning

At the central level, detailed annual MAPs have been developed in each country for 2010 with the support of PacMISC, in the context of MAPs 2008/2009-2014 which provide the strategic direction of the programs. These plans include the list of activities to be conducted with funding sources, but they are not consolidated and are rather difficult to read. Since the SPC-GF RCC negotiation started in 2009, it should be noted that significant changes have occurred especially with regards to the planning process. As a result, the programs have engaged in the drafting of consolidated budgeted work plans 2009-2011. These documents constitute a transparent road map for the programs and good management tools for all stakeholders to monitor progress. The VBDCPs' capacity to plan at central level has strongly benefited from this exercise. Following these joint efforts, a monitoring and evaluation manual is under development in Vanuatu. This new measurement tool aims to define the method of analysis, the responsibility and the means of verification of the main service delivery areas. It will also reinforce the planning capacity of the VBDCP. Finally, a concise procurement and management plan 2010-2011 has been developed including all steps of the procurement cycle, methods used and a performance matrix.

In the provinces that we visited in SI (Malaita and Temotu) and Vanuatu (Malampa and Tafea), malaria managers had received good support from the program, especially to plan key activities such as LLIN distribution and IRS. With various degrees of quality, the malaria managers have an annual budgeted work plan available. It should however be noted that the plan in Malampa was more a 'request for funding' type of plan to support the implementation of the LLIN distribution rather than a comprehensive malaria annual plan. This suggests that some provinces may be working on a "reactive" mode from the VBDCPs rather than on a "pull" mode.

Financial management

In Vanuatu, the finance and procurement units are small[12]. The finance unit monitors the requisitions and payments against MAP activities and also participates in tender and bidding processes. In the last finance and procurement assessment conducted in September 2009[13], the authors considered that the structure is not conducive to effective management. With the recent arrival of a senior PMSO financed by PacMISC to support the VBDCP, the finance unit of the MoH is likely to also benefit from this expertise. The capacity of the finance unit will consequently probably be progressively strengthened. Signs of improvement have already been observed. Access to funds at the provincial level seems to have been an issue because a cash transfer mechanism is deployed. Vanuatu has already begun to deconcentrate the financial management to the provincial level and imprest accounts are progressively being opened[14]. This should speed up the processes in the future.

In SI, PacMI funding is channelled through a MHMS development partner's bank account (the same account used by HSSP) but the budget is managed by the VBDCP. The capacity of the finance unit at the VBDCP has increased since the recruitment of an external finance officer. According to the officer recruited in 2009, the efficiency of requisitions and related disbursement processes is

[12] Consist of four staff including one manager, one revenue officer, one procurement officer and one accounts officer.
[13] Finance Procurement Assessment of the Vanuatu Ministry of Health. John Mc William, Jeanette Yiu Hing, Sept 2009
[14] Santo opened already, Tafea July 2010, Malempa end 2010, Penama and Torba in 2011.

relatively satisfactory although slower than with the SPC-GF mechanism which is managed by a private trustee.
Financial management capacity at the provincial level in both countries remains inadequate; hopefully the mobilisation of Patricia Dowling as a senior program management support officer in Port Vila will help to alleviate the situation at least in Vanuatu.

AusAID disbursements to each country program follow the principle of acquittals. In both countries, the provinces seem to have had difficulties to deliver financial reports in a timely manner to AusAID in order to receive new funding tranches. With the recruitment of appropriate financial staff in both programs, financial reporting has improved. However, with the increased workload due to various distribution campaigns in 2010 and 2011, the VBDCPs should carefully monitor the potential additional burden on provincial staff and anticipate specific support in regards to AusAID administrative requirements.

Human Resources

In Vanuatu, the MOH workforce is ageing and has grown only slowly over the past five years, increasing by 7% from 722 staff in 2003 to 775 staff in 2009[15]. Over 23% of positions are vacant and include posts for 107 nurses and midwives. Vanuatu has not yet achieved the WHO standard of 25 health care professionals per 10,000 population that has been established as the level at which countries are likely to achieve adequate coverage of PHC interventions. During our visit, we observed that a significant number of staff interviewed were "acting" positions or retired staff working on a contract basis. The current uptake of new medical staff indicates that the shortage of qualified manpower will continue until 2016. The last National Health Work Plan[16] has thus far not been implemented and the target of doubling the current workforce is unlikely to be achieved. At the central MoH level, out of the 68 staff in the payroll, 31 are medical professionals including three working in the VBDCP. A gap analysis was done during the RCC process that resulted in a new organizational chart for the VBDCP.

At the central level, 17 additional staff are being recruited in the areas of coordination, surveillance, vector control, case management, and supply chain. The program is strengthened at the provincial and community levels with 42 additional staff including eight malaria field officers, five HIS provincial staff and 22 microscopists based in health facilities. These positions are mainly supported under the SPC-GF grant (*Table 3*). This will require an extension of the malaria offices in Port Vila. In addition, one PMSO at central level and one at provincial level are provided by PacMISC and one part time at central level from SPC-GF. It should be noted that there are currently only five staff in the VBDCP, two of whom will be leaving the program temporarily for training mid-2010. This means that the additional 16 staff that are recruited will have very little, if any, handover time with those personnel. In addition, there will be very little available in the way of mentorship of the new staff from within the program. This issue needs to be a major focus of attention by the MSCs and PacMISC.

In SI, the MHMS work force is currently being mapped[17]. Shortages are not of the same magnitude as in Vanuatu. A total of 2,633 staff is working in the health sector including 1,630 in the provinces. The ratio of nurses and midwives is 27 per 10,000 and 1.5 per 10,000 for physicians. Unlike Vanuatu, SI may have an oversupply of medical staff in the coming years. However, in May 2009 the Ministry of Finance imposed a freeze on public sector recruitment as part of its response to the financial crisis, leaving a significant proportion of posts vacant. A task force started work in September 2009 on allocating responsibility across the HR department with the aim of filling many of the posts in 2010.

[15] Health Work Force Planning in Vanuatu, Current situation and options for future support, Bronwyn Fields, AusAID HRF, 14th May 2009.
[16] Second Health Workplan 2004-2013, Ministry of Health, Directorate of Planning and Administration, August 2003, P Vila.
[17] First Draft HR Annual Report 1 March 2010, MHMS

Under the new organizational chart of the VBDCP, additional staff is currently employed or being recruited. Two Honiara based staff are positions funded completely under the HSSP/PACMI AusAID Malaria funding allocation including one Project Support Officer who is based with the National VBDCP and another Administrative position with the Case Management Unit. There are also a number of officers who are on short term contracts of 1 to 3 months who are assisting with the Malaria in Pregnancy Research. The two GF funded positions are nurses who are currently working in the Case Management Unit within the NVBDCP in Honiara. Three extra staff are to be recruited. In addition one project management support advisor at central level and one at provincial level are provided under PacMISC and one part time at central level from SPC-GF. At the time of the review a high proportion of GF funded positions were vacant. In both countries, recruitment seems to be problematic due to the fact that most applicants do not meet the expected standard.

Table 3: Planned Staffing at the VBDCPs

	Vanuatu (VBDCP)		SI (VBDCP)	
Supported by	Port Vila	Provinces	Honiara	Provinces
Gov (payroll)	3	8	24	27
AusAID	2	5	2	0
GF	15	37	5	0
Total	**19**	**50**	**28**	**110**

Sources: *Appendix-1_RCC_Vanuatu_MVBDCP-OrgChart_Nov09 & AppendixRCC_Vanuatu_MVBDCP_SalaryWorkings_Dec09 & Solomon Islands* First Draft HR Annual Report 1 March 2010 and hard copy print out of the SIG staff establishment as of mid 2009.

2.2.5 Harmonisation and Alignment

In order to measure the degree of alignment and harmonisation at a national level, we have used the main indicators of progress of the Paris Declaration. A table in Annex 5 compares the situation for PacMI and the SPC-GF. The table should be read as to whether each donor is aligned with the MOH rather than the VBDCP. It appears that in both countries, PacMI is to some extent more aligned than SPC-GF, especially with respect to the use of the national financial and procurement systems. Although the funding remains earmarked for malaria, the practice by AusAID of contributing PacMI direct financing of the Vanuatu Government's 'Development Fund Account' and the Development Partner's Account in the SI provide better possibilities for financial monitoring by the government.

The consolidated work plans and progress reports and alignment of annual PacMISC work plans with Vanuatu and SI financial cycles are healthy signs of harmonisation with the malaria programs in each country. Already, all partners are supporting a single malaria program work plan and budget for the period 2009-2011. There is also substantial scope for harmonisation and alignment of the SPC-GF resources by ensuring SPC-GF begin to use the Government's 'Development Fund Account' for funds provided to the Vanuatu MOH. Vanuatu has a requirement that all donor support to the government is directed through the Government's Development Fund Account and uses the disbursement systems of the government. This has been waived to date for the SPC-GF resources, which use a separate stand-alone system. In future, this could change and be aligned to the government's requirement.

Broader harmonisation and alignment by donors is not well advanced. As described above, AusAID has aligned PacMI contributions using government finance systems. However, harmonisation has only recently made it onto the aid agenda in Vanuatu with the first partner meetings held on April 14 and May 11, 2010. Both the MOH and AusAID are supportive of moving towards a sector-wide approach. AusAID hopes to increasingly contribute to the health sector through a pooled fund, with

malaria resources becoming part of a single financing envelope for the sector. A government-led public expenditure review process under discussion would help the development of a sector-wide program, providing government and donors greater insight into actual health service costs. AusAID's engagement in the sector could develop over time towards reduced earmarking and an increased proportion of resources being provided as un-earmarked sector budget support, subject to progress under the Partnership for Development including on strengthening public financial management and fiduciary risk. A first step will be to unify tranche payments for malaria with the other (currently fragmented) AusAID grants for the health sector, while retaining appropriate earmarking for malaria.

In the SI, AusAID already supports a health sector-wide program; however, it is the sole donor in the SWAp. PacMI funds flow through this sectoral program. There are regular donor coordination meetings but it is not clear when other donors, such as the Global Fund, the World Bank, the Asian Development Bank or the European Union will join the funding pool as currently set.

2.3 Efficiency

Is the Activity being managed to get the most out of the inputs of funds, staff and other resources, including continual management of risks?

2.3.1 PacMI/GF coherence

The two consolidated budgeted work plans (2009-2011) constitute a major achievement for both countries. Developed jointly by partners including WHO, PacMISC, and SPC-GF it is a tool for the VBDCPs and MSC members to have a better overview of program activities. It also constitutes a transparent matrix for all technical and financial partners to monitor the implementation. The mission understands that SPC-GF has been pivotal in supporting this exercise.

The consolidated work plans reflect the decisions made during a malaria support team meeting in March 2008[18] where the principles of the partnership, including roles and responsibilities, were defined. At that point it was agreed that SPC-GF would focus on logistics and procurement, WHO would provide technical direction and PacMISC would tackle operational issues related to support training, monitoring & evaluation and surveillance.

We had difficulties in finding comprehensive financial figures reflecting donor contributions. An analysis conducted mid-2009[19] provides a total consolidated malaria budget of USD 46,9 million for the two countries of which USD 19,05 million came from PacMI[20], USD 21,38 million from SPC-GF, USD 3,76 million from the respective governments, USD 1,38 million from WHO and USD 1,33 million from the Rotary. More recent figures dated December 2009 are showing that SPC-GF is contributing up to USD 19,6 million[21] while the other partners figures remain approximately the same. The SPC-GF budget discrepancy is due to the fact that negotiation with the GF occurred after the analysis was completed. Despite this inconsistency, the contribution from AusAID and the Global Fund account for over 90% of the external support to the national malaria budgets for the period.

Over 80% of GF resources are used to procure LLINs, IRS products, diagnostic and treatment (USD 8.13 million) and to support human resources, monitoring and evaluation, and overall management costs (USD7.74 million). PacMI funding is structured in two main parts. A$16.63 million is channelled directly to the VBDCPs to support the MAPs, whereas $A10.58 million goes to PacMISC and A$1.62 million to the Pacific Branch in Canberra for administrative support and quality and performance management, the latter includes operation of a MRG which provides strategic guidance.

[18] Malaria Support Team Meeting 12.03.2008, Ballymore, Brisbane
[19] Financial analysis of the consolidated work program in Solomon Islands and Vanuatu, PacMISC, June 2009 (This amount includes the funding since mid-2008)
[20] 28,821,289,289 A$ - exchange rate March 2009 1A$=0.661 USD
[21] RCC_SI_VU_ConsolidatedBudget2009-2011_Rev2-PRUpdates_04Dec09

This shared configuration of funding corresponds to what was originally planned to support the national programs. The SPC-GF grant focuses on providing the goods and supporting personnel in all provinces to control malaria, while PacMI's role is directed at research and support to the elimination provinces. The complementary roles make sense so long as an appropriate balance of investment is carefully monitored between control and elimination by the VBDCPs. The risk is that support is "labelled" by the donor according to whether it funds control or elimination. This would go against the principle of integrating support and gradually de-earmarking funds in line with AusAID policies and the Paris Declaration.

The allocation of funding for control versus elimination is to be considered. During the mission we could not obtain the respective allocations of funds per province from the two VBDCP finance units. Therefore we cannot compare the level of investment per capita depending on the location and the source of funding. We would recommend that the programs conduct this exercise in order to be able to monitor the coherence of investment per province. It should be noted that the RCC was considerably delayed in 2009 due to prolonged negotiations between SPC and the GF. During this time, PacMI was critical in providing replacement funding during 2009. This flexibility allowed VBDCPs to continue priority activities and is a major achievement of PacMI.

In summary, it seems that preparatory joint planning has taken longer than expected. But now implementation of the consolidated work plan is able to proceed with the arrival of commodities. Indeed, the LLINs, diagnostic tools and antimalarial drugs reached the countries at the end of 2009 and are now being dispatched to the provinces. The mission observed that LLINs were still stocked in the provinces[22] and that RDTs and Coartem were available at peripheral levels as of late 2009[23]. It is therefore too early to assess whether the consolidated work plans are being effectively implemented and to what extent partnerships are functioning. What we can recommend is that a strong focus on management support to each VBDCP to deliver the tools to the provinces should be the priority that captures the efforts of all partners.

2.3.2 Operational Support

PacMISC has now mobilised a full complement of program management support officers. There is a program management support officer (PMSO) in the VBDCP office in Honiara, a senior PMSO in Port Vila, and provincial PMSOs in Temotu province of SI and Tafea province of Vanuatu. The review team was impressed with the calibre of all four officers. Each has appropriate qualifications, experience of development in Melanesian societies, and temperament to provide much-needed support to the national and provincial VBDCPs. The deployment of these staff is an important development in the history of PacMI and represents an acknowledgement that the most challenging barriers to achieving PacMI objectives are operational in nature, rather than technical (other than the issue of *P.vivax*). This is not to say that there is always a clear demarcation between operations and technical assistance, which may have led to some problems between AusAID and PacMISC in contract management related to short-term inputs.

The PacMISC Progress Report (January – June 2010) notes a number of issues raised earlier in this report, such as the disproportionate focus of effort on elimination provinces rather than high burden provinces. We encourage the re-orientation of PMSOs to support both control and elimination provinces. We agree that the risk of skewing the program resources and commitment towards elimination needs to remain identified and monitored by the MSCs as well as by PacMISC in particular as part of its contractual commitment.

[22] In Malaita, over 30,000 LLIN were in the storage facilities of the provincial malaria office
[23] Lambounbou health center in Malempa

PacMISC Design and Contract

The operational support provided by PacMISC arises from two sections of the design framework – Part A (Management and Coordination) funds the two senior PMSOs, one of whom was recruited in 2009 (SI) and the other in 2010, and Part B funds (Flexible Support) funds the two provincial PMSOs, one of whom was recruited in 2009 (Vanuatu) and the other in 2010. In addition, Part A provides a significant amount of technical assistance to surveillance, monitoring, and evaluation, including database development, mapping, and sentinel surveillance. The blending of management and technical support responsibilities in Part A may have led initially to over-representation of technical personnel in PacMISC Brisbane. Other than attendance at MRG or MSC meetings, short-term assistance under Part A since mid-2008 has comprised 15 management inputs and 22 technical inputs, although we recognise that a number of these inputs were mixed in nature. Since mid-2009, there has been greater balance with the executive director focusing increasingly on planning and operational issues. The full complement of PMSOs and the greater focus on operational issues may combine to build greater national management capacity.

The role of PacMISC management support during the funding gap in 2009 was critical to support efficient procurement and distribution of LLINs, ACT, and RDTs. Annex 6 provides tables regarding PacMISC fund allocation per category.

The PacMI context

The basis of PacMI is most likely the recommendations made in the background paper by Dr David Pattison (2006) in response to the Australian White Paper: *Australian Aid: Promoting Growth and Stability.* This was during a period when there was renewed interest globally in malaria elimination and eradication, a movement supported by Bill and Melinda Gates. In Australia, there has been high-level bipartisan political support for malaria elimination in the Pacific. However, we have not seen an overarching PacMI design document in response to the Pattison recommendations. PacMISC was selected by AusAID and TORs and a design framework were developed in the absence of a thorough baseline assessment of institutional capacity in Vanuatu and SI. There is no overall PacMI strategic framework that reflects the realities of implementation capacity in the two countries. This may have contributed to an imbalance between operational (less) and technical support (more) provided by PacMISC in the early stage of the program.

While the MAPs outline the various technical components of malaria control and elimination, they do not provide a clear program logic. In design terms there is no stated theory of change that would guide the way from milestone to milestone. Given that elimination is a major focus of PacMI (although we have seen no document that clearly explains this focus) we would have expected that the development of province-specific elimination plans would have been a priority. Two years into the program, these plans have not yet been finalised.

In summary, there has been significant improvement in the level and quality of operational support to the national malaria programs. The team in place is well qualified to provide management, logistics, and procurement support to both control and elimination activities. The balance between support to control and elimination, respectively, should be guided by priorities set by the governments through their budget processes, with the MSCs contributing to this process. The absence of an overarching PacMI design document and risk management framework has led to a certain amount of confusion between PacMI and PacMISC among stakeholders. Reliance on MAPs as the implementing framework may have led to inadequate attention being given to operational barriers. Moreover, the contract between AusAID and PacMISC and the different conditions attached to inputs under Parts A and B has led to delays in mobilising short-term advisers. Prior to the establishment of the MSCs, AusAID requested evidence of partners' support as a condition for PacMISC to implement its workplan. With the MSCs in place, AusAID has now requested that the PacMISC workplan be endorsed by the MSCs before implementation. There needs to be a joint review of the PacMISC/AusAID head agreement to eliminate bottlenecks that might be identified.

Malaria Reference Group

The terms of reference of the Malaria Reference Group (MRG) describe its role as follows: "Over the life of the malaria initiative an external reference group of malaria experts will be convened to review progress and provide advice to the Australian Government on program direction and effectiveness in meeting the program objectives. The MRG provides advice in the context of the Health Sector Wide Support Program and taking into account the partner government priorities."

The Minutes of the first MRG meeting in 2007 indicate two critical outcomes: (1) PacMI should support the development of five-year malaria strategies in each country; and (2) Rather than funding malaria research, an institution (later called PacMISC) should be selected by AusAID to coordinate technical assistance, develop an M&E framework, conduct demand-driven operational research, and provide capacity building support. At this meeting, "eradication" was discussed as an option for selected islands in Vanuatu and SI. The Minutes of the second MRG meeting cited the commitment to malaria eradication by Bill and Melinda Gates and recommended that the elimination goal in PacMI be elevated to national elimination. The meeting also recommended that Tafea and Temotu provinces be targeted for malaria elimination. The PacMISC design process was authorized, with specific recommendations that comprehensive baseline surveys be conducted by AMI.

The Minutes of subsequent meetings and in-country visits indicate the following key roles and recommendations of the MRG:

- Endorsement of country MAPs
- Emphasising the need for VBDCP capacity building and infrastructure strengthening
- Reiterating the essential components of malaria control and elimination, including an effective M&E system
- Encouraging the establishment of MSCs
- Discouraging the disbursement of PacMI funds through sector-wide mechanisms
- Fostering participation by Vanuatu and SI in the global Malaria Elimination Group
- Adding Isabel Province (SI) as a target for elimination

Since early 2009, the MRG has been increasingly engaged in proposing strategies to overcome barriers related to limited health system capacity. On the technical side, it is perhaps surprising that constraints to eliminating *P.vivax* due to the adverse effects of primaquine in G6PD deficient patients are only first mentioned in the Minutes of the Fourth Meeting in May 2009, despite warnings by WHO in 2006 that this was a major issue[24]. It is also surprising that in the same meeting, the following statement was made: "…primaquine use in the Solomon Islands is not uncommon and it is reasonable for a more assertive approach to be taken." We do not understand this need to "be assertive" if there are genuine constraints to the widespread use of primaquine.

It is important to clarify the issue of P.vivax, primaquine, and G6PD deficiency. We believe that operational research, analysis, and potentially even new clinical trials should be primarily aimed at developing best clinical practice under the "Do No Harm" principle of medical practice. If a safe protocol of case management of *P.vivax* can be developed, then it will inevitably contribute to the eventual elimination of the parasite. One very important outcome of the May 2010 MRG meeting was the formation of a working group on *P.vivax*.

2.3.3 Technical support

High-level technical and advocacy support to PacMI comes from the MRG. In 2009, PacMI supported WHO officers who provided technical support in the development of SOPs for LLINs and IRS as well

[24] Source: Jeffrey Hii, WHO Manila, former medical officer, WHO Solomon Islands

as treatment guidelines. PacMISC staff also provides on-the-ground technical support to each country program through frequent trips from Brisbane. The goal and major objectives of PacMISC are to: (1) Develop a robust M&E system (see M&E section 2.4), (2) Deliver training and teaching based on identified needs (see Impact: section 2.5.1) and (3) Undertake highly-focussed technical assistance and demand-driven operational research. This section will focus on the effectiveness of the last objective – technical assistance (TA) and operational research.

Highly-focussed technical assistance: Areas identified in the PACMI framework for TA in 2009 included: (1) any issues for which the policy decisions required more of an evidence base, (2) where to undertake IRS, (3) development of regional reference laboratory capabilities, (4) case management treatment guidelines, and (5) effective models for community mobilisation. It is not clear exactly how these areas were identified or prioritised. A workshop due to take place in late 2008 to finalise OR and TA areas does not appear to have happened. No additional reviews have been undertaken to track MAP progress and identify questions along the critical path which need to be addressed. Overall, the demand for TA and OR relies on the assumption that the VBDCPs have the capacity to analyse their progress and identify gaps along the critical path to programmatic success. The paradox being that one of the main objectives of PacMISC is to provide "demand-driven" operational technical support and mentoring to enable prioritisation of key programmatic gaps.

A comprehensive participative baseline assessment would be a logical first step in mapping out priority areas for TA/OR and training needs. The only baseline document which exists is one written in response to the release of the white paper *Australian Aid: Promoting Growth and Stability* (Pattison, 2006). This background paper, while pre-dating the MAPs and the move to elimination, does seem to have been the basis for some of the PacMISC activities. However, recommendations from that report seem to have been acted upon selectively without evidence of it having been further analysed or updated. In general, there is no clear systematic mechanism by which technical assistance and operational research (or training and teaching needs) can be identified.

Regardless, remarkable progress has been made in that entomological studies have informed where IRS should be undertaken to have highest impact in a cost-effective way, particularly in Tafea province of Vanuatu. The Solomon Islands Malaria Training and Research Institute (SIMTRI) was identified for development into a regional centre for training and QA; however, its rehabilitation has been delayed and the VBDCP has remained in temporary office accommodation. Thus, there has been no progress made in SIMTRI's development as a regional centre. PacMISC and WHO provided support in the development of treatment guidelines in Vanuatu while the guidelines were developed by the Medicines and Therapeutics group in SI prior to the launch of PacMISC. Much effort has been put into the development of community mobilisation partnerships. However, outsourcing this activity was rejected by governments and plans were delayed. As such, effective models for community mobilisation, liaison and participation to support malaria control and elimination have not been identified or developed.

A great deal of ***Operational Research*** has been undertaken to support elimination efforts. Preliminary prioritisation of OR was undertaken in February 2008, during which baseline assessments were identified as necessary as well as a number of medium-term priority research areas such as *P.vivax*, acceptability of IRS, mass drug administration, parasite-based and diagnostic testing at community level. Additional operational research priorities have also been suggested by the MRG, for example a comparative financial analysis of elimination.

Three large-scale baseline prevalence and entomological surveys were undertaken from which 'hotspots' for malaria were verified. Vector behaviour, breeding sites and biting times were measured or identified and in some cases LLIN transect walks undertaken. Unfortunately, surveys were not standardised and were only carried out in areas targeted for elimination by 2014. While it is appreciated that best efforts were made to streamline logistics by undertaking studies simultaneously, we still question the heavy involvement of expatriate staff during survey work (e.g.

over 20 during the Isabel survey). Separate LLIN transect walks were undertaken while parasite prevalence surveys sampled over 8,000 people on Isabel. However, surveys could have collected a large range of indicators by adapting the normal Malaria Indicator Survey tools (http://malaria.who.int/me_evaluationtools.html – RBM standard MIS questionnaire). Parasite prevalence was verified as <1% in Isabel, but this type of data was already available at provincial and national level through Mass Blood Surveys undertaken in 2008 and 2009 (sampling a total of 6,786 people). While MBS data may be questionable it is an activity which can be strengthened and built upon. The main value of the Isabel survey was the documentation of a high prevalence of G6PD deficiency, G6PD field testing methods and molecular data on sub-microscopic infections, which we feel could have been achieved by a far more modest involvement of expatriate researchers. As such, we question the cost-effectiveness of the surveys.

There is still no clear PacMI strategy to address elimination of *P.vivax*. WHO technical officers in Vanuatu have driven this issue forward by seeking advice and guidance from Dr Kevin Baird, the outcome of which has been brought to the MRG for discussion. We hope that the formation of a working group on *P.vivax* will lead to the development of an evidence-based strategy.

Acceptability of IRS was due to be investigated prior to IRS implementation in Tanna. However, studies were not approved by AusAID Canberra in time for them to be carried out before IRS and were not undertaken as a result. Mass Drug Administration has not been investigated -- presumably due to the *P.vivax* issue. Parasite-based diagnostic testing has been introduced through RDTs in both SI and Vanuatu. However, it is not clear how the roll-out of RDTs was guided by OR. The current issues with confidence in RDTs and confusion in their use suggest that more could have been done to ensure that experiences in other countries (e.g. Tanzania) and previously documented diagnostic issues (e.g. Pattison, 2006) were used to strengthen the roll-out.

A trial started (but was stopped) investigating the efficacy of sulfadoxine-pyrimethamine (SP) for IPTp and qualitative studies on LLIN acceptability were undertaken. It remains unclear why those studies were carried out. A valid reason for investigating the efficacy of SP for IPTp exists because of resistance to chloroquine. However, extremely low malaria prevalence in some areas brings into question the existence of an IPTp strategy as a whole, and the mechanisms by which this study was prioritised ahead of others is again unclear. The qualitative study on LLIN preceded a measurement of utilisation rates (and whether there was a widespread problem with net utilisation). There have, as yet, been no studies to determine mosquito net utilisation.

A number of publications have been drafted on the basis of baseline surveys and additional OR studies. This is positive in terms of expanding our knowledge base; however, VBDCP staff in both countries expressed regret that assistance had not been provided to help them analyse data, write papers as first authors and that survey data had not been fully shared with them.

The publication of data and implementation of OR and baseline work without the sincere involvement of VBDCP or MoH staff is at odds with the operating principles of the PacMISC framework. We acknowledge limitations in terms of availability and capacity of MoH/VBDCP as well as pressure because of elimination deadlines and additional requests for TA/OR from the MRG. However, the guiding principle behind all OR and M&E generated through PACMI is to inform national program strategies and policies. As such, VBDCP understanding, ownership and incorporation of data into strategic plans is key and timelines need to be adjusted to allow for this.

Ethics Reviews: The partners making up the PacMISC consortium have done all they could do to ensure that study proposals are reviewed and approved by both UQ and in-country ethics committees. However, there is no functioning bioethics review committee in Vanuatu and ethics approvals have been signed off by the Director of Public Health. We believe that technical support should be given to develop an effective ethics committee in Vanuatu as well as exploring other possibilities, e.g., Fiji School of Medicine and University of South Pacific.

In summary, while the concept of demand-driven technical assistance and OR is laudable, the reality of undertaking this in Vanuatu and SI has been challenging. The overriding reason for this seems to be because there is no method by which OR can be prioritised into immediate, medium-term and longer term issues. This is an area where MSCs can provide leadership. While operational research has helped to inform some of the program strategies, it has not always been on the critical path of the program and in many ways PacMISC have been stretched between trying to respond to country OR needs and those suggested by the MRG, outside of a critical and VBDCP-led review of the programmes progress towards targets.

2.3.4 Financing arrangements

The SI has already embarked on a SWAp. For the moment, only the AusAID funds from HSSP and PacMI are pooled in a joint account. However, the malaria funding is coded and managed by the VBDCP. It is foreseen that this financial arrangement will gradually improve the capacity of the MHMS to manage its global resources. PacMI's contribution to the overall health sector budget in 2010 and 2011 is 4.6% and 7.4%[25], respectively. Together with the World Bank, AusAID is supporting the MHMS in the development of a MTEF. The outcome of this work will inform the government and the partners of the opportunities to better support the MHMS.

In Vanuatu, Australia has made a major disease-specific commitment to the intensified control and progressive elimination of malaria through the Australia-Vanuatu Partnership for Development. While current funding committed to Vanuatu for malaria ends in mid-2011, the policy objectives to which Australia and Vanuatu have agreed and signed at the Prime Ministerial level continue to at least 2014. As the 2008 *Office of Development Effectiveness evaluation of Australian aid health service delivery* recommended, a more effective manner to engage with Vanuatu on financial allocations to malaria could be for AusAID to provide a single overall funding commitment (ideally multi-year) that encompasses both future AusAID direct financing for Vanuatu (currently A$1.4 million annually under the current multi-country PacMI) as well as other commitments. Together, these total around A$4 million per year. These resources could then be allocated by Vanuatu through its own budget, consistent with their priorities and the funding requirements of the malaria control and elimination effort. They could also be allocated to where they are needed in the health budget – for example to the supply chain, rather than as a project fund, off-budget, under the VBDCP. In addition, if these AusAID resources were to be provided in the medium-term as sectoral budget support, the amounts allocated by Vanuatu to malaria activities could be assessed as part of the funding contribution that Vanuatu makes in applying for a continuation of its Global Fund grant beyond 2012.

2.4 Monitoring and Evaluation

Is the Activity's M&E system effectively measuring progress towards meeting objectives?

Support for a robust ***high-quality monitoring and evaluation system*** is one of the major objectives for PacMISC in SI and Vanuatu and is critical to measure program outcomes and overall impact. The major areas under this PacMISC objective are: (1) strengthening of routine malaria and HIS, (2)

[25] Health MTEF Progress Report, April 2010, Annex 1.

investigation of new approaches to surveillance and M&E and (3) investigation of the feasibility of longitudinal sentinel surveillance sites.

A Malaria Monitoring and Evaluation Planning Workshop took place in August 2008, supported by PacMISC, which resulted in a consolidated M&E plan for both Vanuatu and SI to support the MAPs and the program supported by GF RCC. The current M&E plan outlines core impact indicators as well as key Service Delivery Area (SDA) related indicators for each intervention area. However, separate M&E indicators are listed for national plans versus elimination provinces. For example, in elimination provinces, parasite prevalence is the key indicator and in addition, community mobilisation indicators differ. There is no step-by-step logic which outlines when the switch is made from measuring API to measuring parasite prevalence. Splitting the M&E framework in this way exacerbates an already fragmented information collection system and emphasizes the overall lack of theory of change underpinning the MAPs.

In terms of measuring programmatic progress, the VBDCP have API and SPR records reaching back to the 1990s. Considerable issues remain with the collection of data for case management indicators. As described earlier, the Malaria Information System (MIS) is separate from the HIS in both countries. Results are not comparable between the MIS and HIS and because of different definitions used for "confirmed malaria" and "clinical malaria" both between the systems, between HFs, and sometimes between staff within the same HF. Thus, a key indicator ("number of confirmed malaria cases receiving anti-malarial treatment as per national guidelines") for case management cannot be measured without some major assumptions being made. What this means in reality is that there is no way to monitor the correct diagnosis of malaria, use of RDTs and treatment with ACTs.

To compensate for these shortfalls additional forms have been developed in SI for the MIS. However, once those forms are added to the system, there will be at least five forms which need to be completed by nurses outside their normal tally sheets and registers. In SI, we were told that some nurses have complained about the number of forms and, in one elimination province have requested additional payment for the collection of malaria data. This emphasizes the need for a more integrated approach to data collection. However, this is a point which has been made time and again throughout numerous reports even pre-dating PACMI. There was an effort to address this in Vanuatu in early 2009. An HIS mapping exercise was commissioned by AusAID Post and undertaken by the UQ-based Health Information Systems Knowledge Hub to investigate options for consolidating and streamlining routine reporting. A series of recommendations for the improvement of the current HIS and MIS systems was made although it is not clear how those recommendations were taken on board and accepted or refused.

MAP targets assume high utilization of public health facilities by the population. However, MICS (Vanuatu) and DHS (SI) studies undertaken in 2006/2007 show that between 32-37% of either fever or suspected pneumonia cases do not seek treatment at health facilities or providers. Dulhunty (2000)[26] described a situation in SI where caregivers would treat children at home with "clinic medicines" or traditional medicine before seeking treatment at health facilities. This, together with MICS and DHS results, raises the question of why treatment seeking behaviour and treatment compliance is not being monitored in some way.

LLIN and IRS indicators are measurable based on the recently developed SOPs which allow for collection of most data required. There are some discrepancies in the M&E framework which need to be re-considered, e.g. for SDA 1.1 "Number of LLINs distributed through mass campaigns"- the numerator is described as "Number of LLIN per household that covers all sleeping places" while the denominator is "Number of households surveyed with average persons per sleeping place". The

[26] J. M Dulhunty et al., "Malaria control in central Malaita, Solomon Islands 2. Local perceptions of the disease and practices for its treatment and prevention," *Acta tropica* 75, no. 2 (2000): 185–196.

indicator does not relate to the numerator or denominator. Also, while it is ideal to have an indicator which measures "the proportion of sleeping places covered with an LLIN", the actual number of sleeping places is not being recorded in either country.

PacMISC has been very successful in implementing innovative approaches to M&E and surveillance through their mapping exercises and workshops in elimination provinces and some control provinces. GIS workshops have been undertaken and a number of staff trained on the use of GPS/PDAs to capture geo-coordinates as well as other intervention data such as household structures, populations and availability of LLINs or IRS. The success of this system has laid the foundation for progression to passively detected case follow-ups and in the future to easier Active Case Detection (ACD). In addition, databases on which to capture information from malaria forms have been developed in both countries and are in the process of either being piloted or installed. Further work is required to link those databases to national level VBDCP M&E or HIS officers.

An M&E discussion paper was produced on how to measure progress towards malaria elimination. From that paper, four sentinel sites were selected in Temotu, SI and SOPs for the sites have been developed (March 2010). Sites have not yet been selected in Tafea, Vanuatu or Isobel, SI. Resistance monitoring sites for both drug and insecticide efficacies have been identified in Vanuatu and SI. Monitoring of resistance is planned to begin in 2010 with technical support from WHO.

There are major opportunities for the installation of a more structured, integrated supportive supervision and mentoring system. Such a system is urgently needed to support case management training and follow up and to facilitate higher-quality data reporting, collection and feedback system. A supervision checklist has been developed for Tafea province (Vanuatu), and could be built upon for integration into an overall supervision system used in other provinces.

In summary, an integrated M&E system does not yet exist in either country. PacMISC focus has been on elimination provinces and by prioritising elimination areas it seems to have further dichotomised an already fragmented data collection system. Regardless, great achievements have been made with regards to mapping, baseline studies, and databases. The sustainability of those different areas is questionable given the limited involvement in HIS other than mapping activities. There is an urgent need for very basic field epidemiology to strengthen basic HIS capacity.

2.5 Impact

Has the Activity produced positive or negative changes, directly or indirectly, intended or unintended?

2.5.1 Impact on malaria

The impact of PacMI activities on malaria mortality and incidence is difficult to measure both because of the structure of the project and the timeframe at which this review is being undertaken. Such an assessment may be possible 12 months from now.

In terms of impact on the malaria program PacMISC has undertaken a number of short-term visits to fulfil its objectives in ***training and teaching***. Five malaria officers (3 SI, 2 Vanuatu) have been trained in Bangkok on the Management for Malaria Field Operations (MMFO) supported by PacMISC. A review of the list of positions and job descriptions available for staff involved in malaria elimination, review of teaching materials, and a map of technical competencies needed for control and elimination was undertaken for SI (Riley, June 2009). As yet, there has been no training needs assessment undertaken in either country. In addition, while some training needs have been identified, there is no evidence that those recommendations are being acted on.

Major issues exist with regards to the number of people available for training, and in SI the delay in the rehabilitation of SIMTRI. While it was identified that a core group of trainers was required for case management and diagnostics, that group does not yet exist in either country. Thus, while

microscopy training has been undertaken in both countries, the course participants were not core trainers, but "whoever was available at the time".

Training for case management and diagnosis is undertaken in SI by the case management unit head and his deputy, and by WHO and provincial managers in Vanuatu. IRS training has been undertaken by VBDCP staff in SI after development of materials by the national entomologist. In Vanuatu, training materials for IRS were developed and training undertaken by WHO and the provincial managers in the respective areas targeted for spraying. No progress has been made on the development of an interactive and participatory web-based communications network to allow information sharing between and within the countries. Communication within and between the two countries remains of paramount importance. However, whether interactive web-based systems would provide a better solution than phone and e-mail systems is not clear.

In summary, a solid start to teaching and training was made with five officers from the two countries. However, an initial capacity and needs assessment did not take place. As a result, training has been limited, hampered by the SIMTRI renovation delays in SI and the number of staff available for training in Vanuatu. Ongoing training on intervention areas (IRS, case management etc) has been carried out by WHO with VBDCP national or provincial staff.

2.5.2 Impact and relevance of PacMI on health system strengthening

A major challenge in delivering intensive malaria control and elimination programs remains the institutional capacity at all levels to manage these interventions. PacMI has a strong focus on addressing the technical challenges but less on strengthening the health system capacity to deliver the interventions. With respect to institutional capacity, the broad hypothesis in PacMI was that minimal management support at central level embedded within the MOH program could address logistical or coordination issues. This was linked to an implicit assumption that a broader program of support for the institutional capacity of the MOH would be in place. Even though SI receives significant AusAID support through the HSSP, this is not the case in Vanuatu. AusAID had in 2005 decided not to continue with the institutional strengthening work that had been undertaken earlier.

We do not believe that the role of PacMI is to address all the weaknesses of the respective health systems in line with the WHO health system framework building blocks[27]. In fact, AusAID and the MRG have cautioned against PacMI transforming itself into an HSS program. However, given the importance of strong health systems in the delivery of long term and sustained services, some examples of positive practices as well as missed opportunities are highlighted below.

Indeed, with the collaboration of other stakeholders including SPC-GF and WHO, PacMI has to some extent engaged in strengthening the institutional capacity in planning, coordination, supervision and governance within the VBDCPs. For example, in both countries PacMI has developed "business maps and tools" with the objective of providing efficient and effective fund utilisation processes that are consistent with the Government's rules and regulations and with the requisite internal control. A Very Small Aperture Terminal (VSAT) was installed in Tafea for the malaria office and this can also be utilised by other sections of the provincial health department to improve communication.

At the request of AusAID and the VBDCP in Vanuatu, a comprehensive malaria procurement plan has been developed for 2010-2011, with considerable help from PacMISC staff, providing the opportunity to roll out support of the broader procurement needs in the MOH. In Temotu (SI), integrated health service meetings have commenced between malaria program officers and other provincial health stakeholders in order to coordinate supervision and outreach visits to the outer islands, thereby sharing transport and other related costs. The establishment of the MSCs represents a model of transparent coordination which not only includes malaria expertise but also MOH officials. In a recent discussion paper developed by PacMISC[28] and circulated during the last MRG

[27] WPRO 2008 Strategic Plan for Strengthening Health Systems in the WHO Western Pacific Region Manila
[28] Health systems strengthening in the context of a malaria program – how to get broader systems wide approaches, PacMISC, May 2010

meeting on May 2010 a list of case studies which have strengthened the health system are presented.

Some missed opportunities at the service delivery level have been observed during our field visits. In 2008 for example, the population incidence of yaws in Temotu was 59/1000 (compared with 15 per 1000 for malaria in 2009) and in the age group 1-4 years, 71 per 1000. At the two health centres that were visited in Temotu, 15% of outpatient diagnoses in the first three months of 2010 were due to yaws. Mass drug treatment could be linked to house-to-house net distribution and IRS. Also, in 2009, there were twice as many inpatient admissions in Lata Hospital for scrub typhus ("Santa Cruz Fever") than malaria. This condition is endemic in Santa Cruz Island, with a 2004 survey finding that >80% of the population had ever been infected. Control of scrub typhus could be achieved by greater promotion of household environmental cleanliness and rodent control. These issues need to be raised at MSC meetings in order to gain a consensus with the VBDCPs on the desirability of leveraging PacMI resources to help control other endemic diseases.

As earlier described, the current AusAID financing for malaria is "on-disbursement" but not "on-budget". It is provided as grants, linked to the Australian financial year (July to June the following year) but not linked to the Vanuatu budget cycle (calendar year). The grants are held within a Government Development Fund Account which is in fact a "project" account under the responsibility of the VBDCP, even when the expenditures are made in other areas of the health system, such as on infrastructure or on the procurement and supply chain. Expenditure is managed using the Government's disbursement systems but it is not reported or recorded in the Vanuatu budget. In trying to implement the PacMI it has been demonstrated how central these basic public administration and public finance challenges are to effective service delivery. In October 2008, PacMISC has provided assistance to develop the malaria program budget[29] but the result seems to have been unsatisfactory and the budget was not operational for months. It resulted in delays in implementation.

The only AusAID-supported Adviser in place in MOH when PacMI started in 2008 was unable to provide the level of support to address the public finance and public administration challenges that were needed to underpin the service delivery improvements that PacMI was targeting. As evidenced by the suboptimal advice provided on the malaria budget, PacMISC was also unable to provide this kind of public finance/public administration support that was critically needed. In contrast, previous Australian support to the health sector from 1999 to mid 2005 included substantial support for the public administration functions of the MOH through an institutional strengthening project, the "Health Sector Planning and Management Development Project." A follow-up design was considered by AusAID in 2005 but rejected[30]. When the PacMI started, AusAID support to the basic institutional capacity of the MoH had been almost completely withdrawn, apart from health policy support at a high level.

2.6 Sustainability

Is the Activity appropriately addressing sustainability so that the benefits continue after funding has ceased?

Both malaria programs are dependent on the external assistance provided by the GF, AusAID, JICA, WHO, and Rotary (SI) representing 92% of the investment from 2008 to 2011[31]. During this period, the contribution of AusAID through PacMI in both countries is on average over 40% of the total annual budget, which includes domestic and external funding[32]. Evidence clearly indicates that

[29] Financial management consulting support for Vanuatu Malaria program, Assistance with budget development for Vanuatu malaria program, Report, October 2008
[30] See the ODE Evaluation Vanuatu Country Report for more details on this activity
[31] Financial analysis of the consolidated work program in Solomon Islands and Vanuatu, Table 1, PACMISC, June 2009.
[32] This figure excludes the investment in the construction of SIMTRI in the SI support under the HSSP.

maintaining good coverage and sustained elimination of malaria requires continued financial support and attention. In the context of pessimistic perspectives of revenues in both countries for the coming years, (indeed SI revenues are already waning after logging activities declined), their weak cash position, and the limited borrowing capacity, it is unlikely that either country will be able to maintain the current level of funding.

In Vanuatu, external financial contributions will be crucial to implement the current MAP 2008/2009-2014 given the foreseen shortage of human resources and the fact that malaria control and elimination will remain labour intensive. In light of this situation, it is important that Vanuatu embarks gradually on a health sector program (maintaining earmarked funding for malaria) in order to address long-term concerns such as human resources and health financing issues that could become a tool for to ensure sustainability.

Given the fact that the GF-RCC in its current design mainly supports control activities and PacMI elimination, a Phase II "No-Go" after 2011 and/or cessation of AusAID funding would be major losses for the malaria programs. Although the level of expenditure may reduce after elimination is reached in the three target provinces in 2014, continued funding – probably at an increased level -- in the subsequent years will be needed to attain national elimination.

Additional investment to strengthen health systems should also be considered, especially in the case of Vanuatu which currently does not receive significant health system support. It should be noted that between 1960 and 1990 malaria elimination was achieved and has since been maintained in Brunei, Hong Kong, Maldives, Japan, Singapore, and Taiwan, all of which had strong health systems.

2.7 Gender Equality and Environment

Is the Activity advancing gender equality and are AusAID's environment policies being applied?

The main evidence for a gender analysis of PacMI was found in a gender matrix that was applied to the 2009 workplan. This is based on an analysis of the gender implications of each activity in the PacMISC workplan. The matrix includes sound strategies to address gender, for example, ensuring that men's and women's needs, perspectives and opinions and the needs of adolescents are included in the design and analysis of operational research studies. However, we found minimal analysis of gender in the reports that we read and key informants had little awareness of the impact of different gender roles on vulnerability to malaria infection (eg, through different occupational roles) and on treatment-seeking behaviours.

A similar gender analysis exercise should be applied to the 2010 national malaria work plans and the outcomes of proposed strategies reported on routinely in progress reports. The draft January-June 2010 progress report includes a list of strategies to incorporate gender into PacMI activities but does not report on how effectively they have been implemented.

In discussions with MSC members and other stakeholders, we found a relatively high awareness of the potential environmental risks involved in disposing of old insecticide impregnated nets. Indeed, the most recent progress report states that PacMISC is working with the two programs to identify environmentally friendly ways to collect and dispose of old bed nets. However, in the field there is lack of consistency in the messages given to communities related to net disposal.

2.8 Analysis and Learning

Is the Activity based on sound technical analysis and continuous learning?

It has been difficult to assess the evidence supporting PacMI in the absence of a design framework or even a foundation concept paper. We have found no coherent argument for the relative allocation of PacMI resources to control and elimination except for an implied complementarity with the RCC workplan (post-2008) as expressed in the consolidated work plans as "Objective 4", largely funded by AusAID. We have not found compelling arguments for AusAID to focus resources on elimination in selected island provinces. MSC members in both countries expressed concerns that

too much energy was being expended by malaria program staff on elimination provinces compared with control in provinces where disease burden remains high. This is especially the situation in SI where some provinces continue to have annual incidence rates higher than 150 per 1000.

Given that elimination is the focus of PacMI, the technical strategies are largely sound and based on solid evidence. However, the manner in which these technical strategies have been implemented has not always been logical. For example, the baseline surveys conducted in the three elimination provinces involved a massive influx of external resources in the form of many AMI personnel in each study. We have observed that the malaria programs in both countries already had extensive experience and expertise in mass blood surveys, with data available going back 15 years in the case of SI. We believe that the baseline surveys could have been carried out by national VBDCP staff with modest external technical advice, quality assurance, and access to AMI diagnostic facilities.

The elimination strategy did not initially place enough emphasis on addressing the barriers to eliminating *P.vivax* in countries where it has long been known that G6PD deficiency is common. The lack of testing for G6PD deficiency in the Tafea and Temotu baseline surveys was a missed opportunity for developing an evidence-based strategy for eliminating *P.vivax*. Given that this particular parasite is not a major cause of severe morbidity in Vanuatu and SI, it is not good public health practice to use a therapeutic agent with potentially potent adverse effects. The finding that 20% of sampled Isabel residents were G6PD deficient and 6.9% had severe deficiency highlights the seriousness of this challenge to elimination.

While the MAPs provide sketchy road maps towards malaria program objectives, there is no clear *theory of change* that takes into account the capacity of VBDCPs and health systems in planning, procurement, logistics, financial management, laboratory diagnosis, clinical services, health information management, monitoring and evaluation. We hope that the elimination plans that are currently under development will be based on baseline assessments of local and national capacity.

3. Conclusions

1. There is solid evidence of a steady decline in annual malaria incidence and slide positivity rates in Vanuatu and the Solomon Islands since 2003 although there was a relative plateau in both countries during 2009. The reasons for the decline in malaria incidence are not clear but most likely relate to steadily increasing bed net coverage (and focal IRS in SI) over the past five to seven years. The diminished ethnic tensions in SI may also have been an important factor.

2. We believe that the significant outcomes achieved by PacMI are a result of a flexible funding mechanism, which was invaluable during the hiatus in GF resources, the high priority accorded to malaria by both national governments, the team approach taken with partners through the mechanism of the MSCs, and the advocacy efforts of the MRG.

3. Staff of the VBDCPs in each country should be proud of their achievements in rolling out logistically challenging activities, such as house-to-house net distribution, in such a relatively short period of time. This is all the more remarkable given the human resource constraints and the delays in GF-RCC funding. The evolving pivotal role of MSCs as genuine decision-making bodies over program policy, strategy, and operations is a major accomplishment.

4. It is too soon to directly attribute an impact on malaria incidence to PacMI support. However, the flexible nature of PacMI funding helped fill the financing gap created by delays in GF-RCC fund flows in 2008 and 2009. This enabled the procurement of key commodities and a relatively timely rollout of LLINs, RDTs, ACT, and in Tafea Province of Vanuatu a round of household IRS.

5. The interventions being employed for control and elimination are based on solid evidence. However, malaria programs are operating in a vertical manner with benefits to the broader health systems largely confined to the elimination provinces where vehicles, boats, and other resources are being shared with the broader health programs. Even in those provinces, there have been missed opportunities to contribute to the control of other endemic communicable diseases, such as yaws and scrub typhus, and to more closely coordinate with the Integrated Management of Childhood Illness initiative in each country.

6. Remarkable progress has been made on the roll-out of interventions. However, there are issues with forecasting of both LLINs and ACT treatment in both countries. Unless the next SPC-GF procurement of nets is brought forward to 2012, there could be a considerable shortage of LLINs if standard attrition rates are found to apply in both countries. ACT forecasting is more complicated and related to ensuring rationale drug use which ultimately comes about through continued training and, more importantly, supportive supervision. M&E indicators need to be carefully considered at national levels by program staff in order to ensure that they relevant and feasible in terms of measurement.

7. There is a lack of baseline documentation that clearly describes the program logic and the underlying theory of change being applied to achieve ambitious goals in contexts where local institutions are relatively weak. While MRG members have clearly articulated the rationale for seeking to eliminate malaria from certain island provinces, their arguments seem based on technical grounds (“It can be done”) rather than a sound analysis of local operational capacity. This is particularly important in Vanuatu, which faces a severe human resource shortage and lacks substantial assistance in the health sector. The program has been hindered by a number of serious operational issues in the absence of a clear strategy for institutional strengthening.

8. The substantial efforts required to implement pre-elimination activities have created a distortion effect on the time and energy of central VBDCP staff. This is a key issue in SI where several provinces continue to have high rates of malaria transmission. The timing of the launch of pre-elimination efforts in selected provinces might more appropriately have been when national indicators fell below a certain agreed upon threshold.

9. The role of PacMISC within the management model of PacMI has evolved to provide appropriate support to the implementation of malaria programs. The steady strengthening of operational support by PacMISC over the past 12 months is greatly appreciated in both countries. The incumbent PMSOs have the right balance of skills, experience in Melanesian societies, and temperament to provide relevant operational advice and integrated support. They have significantly contributed to a growing sense of partnership among key stakeholders through their advocacy for MSCs and provincial elimination committees. Moreover, the development of consolidated work plans and progress reports has contributed to the development of a single malaria program in each country.

10. There remain significant challenges to develop the complete range of program tools required to meet the goals of PacMI. These include the finalisation of M&E plans and manuals and elimination plans, the development of behaviour change communication strategies, and consensus on ***a clear strategy for managing P.vivax*** in populations with a high prevalence of G6PD deficiency. This last strategy is critical for overcoming the major barrier to elimination.

11. Technical assistance and research have led to some important programmatic outcomes, such as the coastal IRS strategy in Tafea Province. However, studies have not always been relevant to the critical path towards PacMI goals. The heavy reliance on expatriate field workers has not always been appropriate and has had only modest capacity strengthening effects.

12. Although recent, there is good harmonisation between donors and technical partners within the malaria programs; however, broader harmonisation in the health sector is less well advanced, especially in Vanuatu. In both countries, PacMI funds are earmarked. However, the funds flow through government systems, a positive element leading to alignment best practice. There is considerable scope for AusAID to further contribute to broader health system strengthening.

13. In reviewing the role of the MRG, we believe that its most important function is advocacy for continued support for malaria control and elimination in Melanesian countries. The MRG's advice on strategic direction and technical matters during the first 18 months of PacMI was invaluable. However, much of the technical and operational advice provided in the past by the MRG is now being provided by MSCs, their member organizations, and PacMISC. The relatively high cost of the MRG should be assessed in the context of how effectively the group can continue to substantively influence outcomes in the partner countries.

4. Recommendations

4.1 General recommendations – longer term

4.1.1 **AusAID should continue support to malaria programs in Vanuatu and SI beyond 2011**

- Ensure that the next phase is guided by an overarching design or, at least, a concept document that clearly articulates the case for strategies, such as elimination, and provides a clear program logic (or "theory of change") rooted in the realities of Vanuatu and the Solomon Islands.
- Rather than managing PacMI as a regional program, integrate malaria program support into each bilateral health program. Encourage exchange of ideas and information by supporting attendance at national malaria conferences by staff from the VBDCP in each country and annual review meetings in Brisbane.

4.1.2 More fully **integrate PacMI into health sector-wide programs.** This will involve further progress around policy dialogue, the financial aspects including direct financing arrangements, as well as technical cooperation:

- Direct Financing:
  - Integrate tranche payments for malaria into the broad health sector support programs (in place in Solomon Islands; under development in Vanuatu).
  - This would mean that any earmarking within sector budget support for malaria resources is negotiated at a country level in the context of the overall health budget.
  - Ensure that direct financing provided by AusAID contributes to developing, and is appropriately calibrated to, country-level capacity for planning and financial management.
- Technical Cooperation and Assistance:
  - Give consideration in PacMI Phase II to separate arrangements for operational support and technical assistance. This could include tendering the operational support to a management contractor while giving the MSCs (and AusAID Posts) more discretion in sourcing technical assistance, which could include the Health Resource Facility. Flexibility to mobilise appropriate expertise in a timely manner should remain the core principle.
  - Continue providing technical cooperation and assistance that is linked into broader Sector-Wide Frameworks (such as the framework in Solomon Islands).
- Policy Dialogue:
  - Engage in sector-level policy dialogue with partner countries, underpinned by appropriate analytical work (supported as necessary through the technical cooperation/assistance modalities or other technical partners) to analyse actual health service costs, burden of disease and other factors affecting the ranking of priorities, such as economic benefits of malaria control and elimination.
  - This analysis can then support dialogue around budgets and priorities and inform country-led budget allocations and negotiation of earmarking.

- We note that progress towards sector wide approaches and health system strengthening is fundamental to strengthening malaria control and maintaining the longer-term momentum towards elimination. Malaria specific interventions supported by PacMI should therefore contribute tangibly to strengthening the health system. However, PacMI should not be implemented as a parallel project but rather gradually be integrated into existing joint HSS initiatives with other partners.

- There are, of course, risks associated with re-orienting PacMI into a sectoral approach. For this reason, we propose continuing to earmark a certain amount of funds towards malaria control and elimination. On the other hand, the benefits are clearly that a strong health system would make elimination more sustainable. Initially, the risks could be minimised by identifying those aspects of malaria control which could more readily be integrated into the broader health system; for example, linking malaria diagnosis with broader case management skills, including the integrated management of childhood illness. We believe that decisions on the level of priority afforded to malaria elimination must be made by national governments. If technical assistance is provided to help Ministries of Health to conduct comprehensive needs analyses, then ranking exercises will be based on solid evidence. Ranking malaria elimination as a top priority should not be imposed by a donor.

4.1.3 Give consideration in Phase II of PacMI (post 2011) to separate arrangements for operational support and technical assistance. This could include tendering the operational support to a management contractor while giving the MSCs (and AusAID Posts) more discretion in sourcing technical assistance, which could include the Health Resource Facility. Flexibility to mobilise appropriate expertise in a timely manner should remain the core principle.

4.1.4 The Technical Support plan for 2011-2014 and beyond should be developed by the MSCs in consultation with the MRG.

4.1.5 Phase II contracts should be result-based rather than input-based and to the extent possible linked to the respective MAPs expected outputs.

4.2 General recommendations - short-to medium-term

4.2.1 **Be prepared to extend the timeframe for elimination** in the absence of a clear strategy to treat *P.vivax* with primaquine in the context of relatively high prevalence of G6PD deficiency, as well as operational hurdles such as inter-province population movements in both countries. We believe that the focus of support to the integrated malaria program in each country (and the priority for human resources) should be reducing the incidence of malaria in all provinces. The efforts of stretched VBDCP staff should not be diverted away from control in high incidence provinces by donor pressure to promote elimination.

- The elimination objective of PacMI should be modified to aim to eliminate *P.falciparum* in the target provinces by 2014.

- We suggest that VBDCPs be encouraged to develop a 10-20 year national elimination strategy. That strategy could outline the new elimination timeframe which allows for intensified control to “catch-up” in terms of pushing incidence down to far lower levels. The 5-6 year MAPs could then reflect phases of the overarching strategy (so that the current MAP could reflect “Phase 1”). We recognise that this may be difficult to do at this point because of the amount of work and emphasis which has already gone into the ‘elimination’ areas and the drive for “early wins”.

- There needs to be a focus on “getting it right”, especially basic processes like diagnosis and treatment at the health facility level. Planned elimination activities such as active case follow-up should be put on hold and instead energy directed into ensuring quality diagnosis, treatment, and accurate, timely reporting. Integrating the malaria information system into the national HIS and strengthening integrated PHC (including malaria) supervision at the health facility level will contribute to achieving malaria elimination but in a way that could be more sustainable. We stress that these actions

should not prevent activities like LLIN distribution from going ahead as planned. IRS carried out during mass blood surveys in high-incidence areas could be expanded. It would be difficult to halt IRS in the current elimination settings given its popularity (among the population).

- The current set of elimination activities needs to be broadened to the national level, e.g., M&E tools which have been developed for elimination provinces need to be brought up to national level and work done with the national VBDCP teams to determine their potential use on a larger scale. Any future plans for prevalence (baseline) studies should be made on the basis of reviewing national indicators. If it is still felt that more information is needed for lower prevalence islands, then surveys can be stratified to account for this.

4.2.2 **Support a mid-term review and revision of the 2008/09 – 2013/14 MAPs.** Stock needs to be taken of the activities and studies that have been carried out so far in order to achieve MAP targets. A review should be carried out and revisions made to the overall country strategies based on inputs from provincial and national level teams and facilitated technically by WHO and PacMISC. A number of examples of National Strategic Plans, M&E plans and country experiences should be made available at provincial and country level for review alongside the data from studies which have been undertaken in Si and Vanuatu.

Within that review of the MAPs we would advise that the following be considered:

- MAPs should be reviewed by provincial and national teams, with facilitation by technical groups such as WHO and PacMISC. Discussions about current and future strategies should include all VBDCP program staff and be open and frank and take into account the context in which interventions are being undertaken.

- Existing tools, information and publications on various interventions, methods for M&E and different examples of national strategies should be shared before and during MAP reviews in order to allow for informed decision-making based on global and regional experiences. This should also be the case in terms of different options for more "high-end" technical work (e.g. molecular work). MSCs and VBDCPs need to understand *what* can be done in terms of OR in order for them to make informed decisions as to what *needs* to be done.

- VBDCPs and Ministries of Health should discuss and decide whether a more holistic model of malaria elimination could be adopted within a roadmap for the progressive move from control to elimination.

- It is critical to conduct a comprehensive human resource capacity assessment that allows for a realistic timeframe to achieve elimination in the target provinces. The pace of progress towards elimination must be based on local capacity.

4.2.3 ***Build on what exists.*** Promote greater ownership by the VBDCPs, avoid duplication of already available tools, and learn from strategies that have mitigated risks and challenges in other countries or in previous eradication programs.

- *Program capacity and ownership* – There are major opportunities to build on previous program successes. For example, the VBDCP in Vanuatu previously implemented mass drug administration for filariasis control, mass blood surveys and net distributions. Thus, there were clearly systems in place which could be assessed and augmented to undertake activities specified in the MAPs. Building on the

program in this way not only garners greater ownership, but will tap into what capacity already exists.

- *Use or adaptation of tools or already standardised tools*: A plethora of tools have been developed by various agencies, partners and technical groups involved in intensified malaria control in Africa. Adaptation of those tools, or processes by which tools are developed (e.g. BCC) would avoid re-inventing the wheel in SI and Vanuatu. Examples of such tools are: RBM monitoring and evaluation tools, net distribution forecasting and data collection tools, representative net tracking surveys, processes for BCC message development and standardised HMIS/HIS with integrated malaria data.
- *Lessons learned from current programs and previous eradication era:* It would be beneficial to collate and review challenges and lessons from other countries implementing the same interventions as SI and Vanuatu. Strategies to mitigate risks identified in other countries can be built into country strategies.

4.2.4 Continue to prioritise the **strengthening of management and technical capacity** in each VBDCP. This should include basic technical training and mentoring, for example, in basic field epidemiology for surveillance, M&E, and epidemic response.

4.2.5 **Formalise country ownership of technical assistance and research**

- All technical assistance should be contingent on MSC requests, which should be specified at minimum in a six-month TA plan.
- Continue to empower MSCs in their coordination, supervision, strategy and policy roles. Reporting should technically go through the MSCs and administratively through Post/Canberra.
- Increase emphasis on mentoring of key VBDCP staff, including support to publish data with in-country staff as first authors.
- Ensure that "high-end" technical initiatives, such as mapping and elimination databases, are balanced with capacity-building in routine information gathering, such as basic field epidemiology training.
- Ensure that data from previous studies are promptly shared with VBDCPs and that VBDCP are actively involved in data cleaning and analysis for future studies.
- PacMISC, SPC, and WHO should review the possibilities for ensuring appropriate ethical clearance for operational research studies, especially in Vanuatu where there is not a functioning bioethics committee.

4.2.6 **Make explicit links between operational research and program strategies**. Carefully analyse how each piece of OR feeds into strategy and operations. What strategy document might it influence? How will it help monitor progress towards goals? What are the logical steps required to answer programmatic questions? For example, what proportion of people are using LLINs currently? What is the international experience with ownership versus utilisation? If only 50% of household are using LLINs - the next logical question is why are people not using LLINs? If 80% of households are using LLINs, the next logical question is – are they using them properly?

4.2.7 **Draw on a larger pool of expertise.** Seek advice and experiences from other international academic institutions, WHO regional offices (e.g. AFRO/EMRO/WPRO). Seek advice or collaborations with operational organisations (e.g. Malaria Consortium, PSI) with experience in providing technical assistance and undertaking operational research in a programmatic rather than an academic context. There are many activities being undertaken throughout

malaria-endemic countries which are not necessarily published, but from which experiences and lessons can be taken.

4.2.8 **Do not change the model of operational and technical support** to PacMI during the current four-year timeframe. However, undertake a review of current contractual arrangements between AusAID and UQ to ensure that technical support is provided in a timely and efficient manner. Ensure that PacMISC support is consistent with the recommendations listed above, especially 4.2.3 - 4.2.7.

4.2.9 **Review the role and composition of the MRG.** Consider convening annually a smaller advisory group that focuses on advocacy and program review. We recommend that the MRG engages in a broader strategic role and places specific emphasis on PacMI sustainability and health system strengthening, in close collaboration with the SPC/Global Fund. The composition of this group need not be the same each year and should be re-balanced with an appropriate mix of malaria experts and development practitioners experienced in Melanesia. Individual members of the current MRG should be encouraged to play a direct in-country technical role on specific tasks identified by the MSCs and through contracting arrangements with PacMISC. Meetings of a smaller MRG should be held annually in Brisbane rather than in Vanuatu and SI to avoid the logistical burden of travel arrangements.

4.3 Technical recommendations – short to medium term

4.3.1 **Finalise M&E plans** using examples from other countries e.g. MACEPA/PATH, Mauritius, and Somalia. M&E plans need to include indicators, definitions and measurements (as per the current draft), but also need to describe the processes of routine data collection, analysis, and reporting, evaluation reviews, surveys, active surveillance and OR studies, data quality assurance mechanisms, related supportive supervision, M&E coordination, M&E budget and workplan, and data collection templates.

4.3.2 ***Determine net attrition rates and if necessary, advocate for procurement of RCC Phase 2 nets in 2012*** – in order that they can be distributed in 2013 and address the potentially large gap in coverage which will occur during that period.

4.3.3 **Develop LLIN replacement strategies –** which will ensure that coverage is maintained at MAP targets

4.3.4 **Develop a policy on when RDTs should be used relative to microscopy –** and include this in training guidelines. Link diagnosis to treatment using a flowchart for health workers (As an example see - RDT algorithm from Ndyomugyenyi *et al* – see Annex 4).

4.3.5 **Focus on case management training & supportive supervision** at the health facility and aid post levels with integrated RDT algorithms. This includes the need to define "clinical malaria" versus "confirmed malaria". Training should include post-evaluations which allow for prioritisation of where supervision should be undertaken (i.e. if the bottom quartile "fails" they will need re-training and the second quartile will need to be followed up immediately following the training with supportive supervision, which includes on-the-job training).

4.3.6 **Develop epidemic preparedness and response plans.**

4.3.7 **Community mobilisation.** Bring stakeholders together as soon as possible to develop a BCC strategy. Identify *normal communication channels* and use them to disseminate standard

messages on net use, seeking diagnosis before treatment, and treatment compliance. Ensure that the health promotion departments are actively engaged in this process.

4.3.8 **Review operational research questions.** Take a Delphi-style approach to mapping out all activities, determining what each target activity is and a critical analysis of the obstacles in knowledge to attaining programmatic targets. E.g. Target = 95% coverage & 75% utilisation (?). What is the current net utilisation rate? Who is using the net? What are the main reasons for non-use (is there non-use or incorrect/substandard use? i.e. are people not using nets or are they not using nets correctly?)

4.3.9 **Towards quantifying imported cases –** there are a number of options for this a) add travel in the previous 4 weeks details on to malaria case forms b) select sentinel sites where this question is included, asked by laboratory staff when taking blood samples and recorded in MIS register c) add recent travel to survey questionnaires/sheets for Mass Blood Surveys being undertaken at each provincial level.

4.3.10 **Look into the possibility of enabling the transfer of Coartem stocks between countries in the case of nearly expired stocks or stock shortages.** For example, there are currently stocks of Coartem close to expiry in SI (July 2010), while there is a shortage of child doses in Vanuatu.

4.3.11 **Develop complete LLIN and IRS strategy/guidelines** documents which include:

- Goals and objectives of LLIN guidelines,
- Taxes and Tariffs policies,
- Distribution methods (including mass distribution, keep-up campaigns, commercial distribution, sustainability, illegal trading of nets),
- Information, Education and Communication,
- Monitoring and Evaluation,
- Procurement and forecasting of LLINs,
- Stakeholder roles (provincial health offices, health centres, village health committees, NGOs, commercial and private sector, VBDCP),
- Approved LLINs and insecticides,
- Technical Working group facilitators,
- Annexes (guidelines for mass distribution of LLINs, registers for data collection, guidelines for net replacement strategies).

4.3.12 **Standardise surveys and undertake countrywide sampling (with oversampling in elimination provinces).** *Ensure that the following are measured:*

- Fever (>=37.5) AND history of fever.
- Locally-transmitted versus imported cases (measure travel, and reason for travel in the previous 4-12 weeks, to where and whether an LLIN was used).
- Blood spots for PCR, G6PD and serology depending on what VBDCP deem necessary to understand for elimination.
- KAP including net utilisation and where health messages are being received (see standardised Malaria indicator form – RBM).

Annex 1: Terms of Reference

INDEPENDENT PROGRESS REVIEW OF PACIFIC MALARIA INITIATIVE

TERMS OF REFERENCE

1. Background

- Australia's Pacific Malaria Initiative (**PacMI**) commits $25 million over four years to combat malaria in the Solomon Islands and Vanuatu (2007-2011). Solomon Islands and Vanuatu have amongst the highest incidence of malaria outside Africa, and malaria is one of the leading causes of morbidity in both countries.
- PacMI supports the implementation of national malaria programmes in Solomon Islands and Vanuatu based on a single consolidated malaria workplan that utilizes the combined resources of the Ministries of Health (**MOHs**), the Global Fund to Fight AIDS, Tuberculosis and Malaria (**Global Fund**), the World Health Organisation (**WHO**) and AusAID. Key challenges are to strengthen partner governments' health systems to increase the effectiveness of malaria control and strengthen the capacity to carry out high quality program surveillance, monitoring, evaluation and operational research in a way that maximises concurrent benefits to other areas of the health sector and informs future evidence-based health policy.
- Country Malaria Strategies and Malaria Action Plans (**MAPs**) have been extensively revised to reflect development partners' (AusAID, Global Fund, MOHs, Secretariat of the Pacific Community, WHO) commitments to expanded malaria control and progressive elimination in Solomon Islands and Vanuatu. Specific targets are to:
  - Reduce malaria incidence in the Solomon Islands by 65% (from 128 per 1,000 in 2007 to 46 per 1,000 population by 2014) and by 70% in Vanuatu (from 23 per 1,000 in 2007 to 7 per 1,000 population by 2014);
  - Reduce mortality rate by 95% in the Solomon Islands (from 7 per 100,000 in 2007 to <0.1 per 100,000 population by 2014), and by 100% in Vanuatu (from 3 per 100,000 population in 2007 to zero deaths by 2014);
  - Eliminate malaria from Temotu and Isabel (Solomon Islands) and Tafea (Vanuatu) by 2014.
- A Malaria Reference Group (**MRG**) has been established to provide high level strategic advice in support of PacMI and the national Vector Disease Control Programs (**VBDCPs**). The MRG consists of a small group of Australian and international malaria experts with complementary expertise. Professor Sir Richard Feachem, former Executive Director of the Global Fund, chairs the MRG. The MRG helps AusAID to meet its quality assurance obligations for the malaria initiative.
- An important component of the PacMI is the funding for the Pacific Malaria Initiative Support Centre (**PacMISC**). PacMISC is a consortium comprising the University of Queensland's School of Population Health (lead entity), the Queensland Institute of Medical Research and the Australian Army Malaria Institute. AusAID funding for the Support Centre is around $1.25 million per year. The role of PacMISC is to provide highly flexible, responsive program management support and technical assistance to Solomon Islands and Vanuatu to implement malaria control and elimination. PacMISC has established an office within the School of Population Health, University of Queensland.
- Donor funding represents a significant proportion of expenditure on malaria in both countries. For example, from the recent health financing workshop in Solomon Islands, we know that the AusAID funded Health Sector Support Program (HSSP) contributes ~35% of malaria / VBDCP funding (and most of that is from PacMI) and the Global Fund ~53%. Similar estimates may now be available for Vanuatu.

- AusAID's financial commitment to PacMI is as follows:

• Through the HSSP account, administered by the Ministry of Health and Medical Services, to support the Solomon Islands National Malaria Program	7,705,000
• Through the Government of Vanuatu Development Fund Account, administered by the Ministry of Health, to support Vanuatu National Malaria Program	5,627,000
• To design PacMISC and implement preliminary activities (pre-establishment of PacMISC)	1,000,570
• To the PacMI Support Centre (PacMISC) established at the University of Queensland to assist with the implementation of National Malaria Action Plans in Vanuatu and Solomon Islands	3,631,807
• To provide on-going technical and management support for Solomon Islands and Vanuatu National Malaria Programs through PacMISC	5,420,000
• To provide program management including support Canberra-based management (review, evaluation, completion reports, MRG secretariat, publicity) and support for MRG activities (MRG members' and partner governments' attendance at MRG meetings / visits)	1,615,623
TOTAL	25,000,000

2. Objectives of the progress review are to:

a. Review progress to date on program activities, outputs and outcomes;
b. Assess the degree to which the initiative is aligned with partner government systems and harmonised with other donors;
c. Assess the relationship among different stakeholders involved in the implementation of PacMI, including the effectiveness of the coordination mechanisms.
d. Provide recommendations for improving overall program performance and continued AusAID support.

3. Scope of the review

3.1 Comment on progress against expected program outcomes, including:

a. Progress towards achieving country specific targets as detailed in the MAP;
b. Improved capacity of VBDCPs to set policy guidelines, coordinate and manage donor resources and enhance service delivery;
c. Improved surveillance, information systems, M&E, and epidemic response.

Assessment should include the likely contribution of PacMI and, where relevant, PacMISC to progress towards these outcomes.

3.2 Report on the effectiveness of working with partner governments' systems, including:

a. Administrative and financial capacity of the VBDCPs – acquittal processes and grant management capacity and procedures (assess what burdens it places on countries and also assess proliferation of activities), and how grants are being managed in-country;
b. Partner governments' capacity to manage including the absorptive, human resource and public expenditure management capacity of the MOHs and the VBDCPs;
c. Identify counterpart ownership and leadership issues.

3.3 Assess the effectiveness and quality of program management model including:

a. Assessing the ability of the PacMISC to provide demand driven, technical and management support for the VBDCPs;.
b. verifying progress and achievements of PacMISC activities to date;
c. Assessing PacMISC's ability to establish and maintain a partnership with local, regional and Australian organisations which are active in malaria implementation and research;
d. Assessing the role, relevance and effectiveness of the MRG.

3.4 Assess how well program activities are harmonized with other donors and technical partners.

3.5 Assess how effective AusAID's gender and environment policies and guidelines have been applied.

3.6 Identify lessons learnt and to make recommendations for improving overall program performance to achieve outcomes by 2011 and beyond.

Method and duration

The assignment will be conducted by a team of independent evaluators over a 5 week period and will encompass:

- A document review (see list at **Attachment A**) and an initial briefing and discussion with AusAID;
- In-country consultations with program partners including MOHs, WHO, the Secretariat of the Pacific Community (as principal recipient for the Global Fund grants), PacMISC, AusAID country offices and health sector advisers.

Dates (2010)	Activities	Location	Maximum number of days*		
			Team Leader	Malaria Specialist	Management Specialist
1 -14th March	Discuss assignment and methodology with AusAID	Teleconference	0.5	0.5	0.5
	Document review + background reading	Home-based	2	2	2
	Develop Evaluation Plan, Methodology, Schedule and Itinerary	Home-based	2	1	1
5 March	Submission of Schedule and itinerary	Home-based			
15th March	Submission of Evaluation Plan & Methodology	Home-based			
12-Apr	Travel to Honiara (Aus based: 0.5 day, Europe based: 2.5 days)	Travel	0.5	2.5	2.5
12 - 20 April	Conduct consultations with AusAID and program partners in Solomon Islands. A field visit to elimination island Temotu (13-15 April) and to one of the highly endemic province Guadalcanal (19 April)	Solomon Island	6.5	6.5	6.5
21 - 29 April	Conduct consultations with AusAID and program partners in Vanuatu. A field visit to elimination province Tafea (22-23 April) and a highly endemic province with more difficult operating environment Santo (26-27 April)	Vanuatu	9	9	9
30th April	Travel to Brisbane	Travel	1	1	1
3-5 May	Conduct consultations with PacMISC Consortium and MRG (during the MRG meeting in Brisbane)	Brisbane	3	3	3

6-May	Conduct consultations with AusAID in Canberra	Brisbane	0.5	0.5	0.5
	Consultation with PacMICS Consortium	Brisbane	0.5	0.5	0.5
7-May	Consultation with PacMICS Consortium	Brisbane	0.5	0.5	0.5
	Travel home	Travel	0.5	0.5	0.5
8-May	Travel home (European consultants)	Travel	0	1	1
21-May	Submission of draft report and briefing of key findings to AusAID	Home-based	5	3	3
11-Jun	Incorporate comments and respond to feedback, and submit final report	Home-based	2	1	1
			33.5	**32.5**	**32.5**

**This is only estimated. Final number of days will be determined by the Team Leader in consultation with AusAID.*

Review Team

The evaluation team will consist of 2-3 consultants including a Team Leader. The Team Leader will have the responsibility for the overall co-ordination of the evaluation and for the overall quality and timely submission of the evaluation report to AusAID. Collectively, the team is required to have skills and experience in following areas:

- Malaria program management, ideally in the context of a multi-stakeholder, multi-donor environment (including the) and/or a SWAp or similar approach to strengthening government leadership, broadening policy dialogue, and developing common expenditure frameworks and monitoring arrangements and better coordinated procedures for funding and procurement.
- Health financing (same operating environment),
- Malaria technical skills (in the context of enhanced control leading to elimination)
- Knowledge and understanding of the development context in the Pacific or Melanesia or the operating contexts in Solomon Islands and Vanuatu would be useful but not essential.

Reporting and outputs

- The review team will produce the following outputs: a work plan and methodology, a draft report, and a final report. A suggested format for the final report is at **Attachment B**.

Attachment A - Key Documents and reading materials

(i) National Malaria Elimination Strategies
(ii) National Malaria Action Plans (Solomon Islands and Vanuatu)
(iii) Global Fund Rolling Continuation Channel integrated budgets and workplans
(iv) PacMISC Design Framework
(v) PacMISC Progress & Annual Reports and other working papers
(vi) TORs of the Malaria Reference Group
(vii) Minutes of the MRG meetings
(viii) Subsidiary Arrangement between Government of Australia and the Government of Vanuatu for the implementation of the National Malaria Control Program 2007-2011
(ix) Subsidiary Arrangement between the Government of Australia and the Solomon Islands Government for the Solomon Islands Health Sector Support Program 2008-2012
(x) Minute: Pacific Malaria Initiative – Solomon Islands Program Implementation Arrangements, September 2008
(xi) ODE evaluation of serviced delivery in Papua New Guinea, Solomon Islands and Vanuatu
(xii) Key health sector contextual documents (Health Sector Support Program and Joint Annual Program Reviews for Solomon Islands and similar documents for Vanuatu)
(xiii) Independent Completion Report for the AusAID-funded Agusan del Sur Malaria Control and Prevention (ADSMCP) Project, 1995-2000 and 2001-03, and the Philippines Roll Back Malaria project, 2003-2006

Attachment B – Reporting Format

Aid Activity Name

AidWorks Initiative Number

INDEPENDENT PROGRESS REPORT

Author's Name and Organisation

Date (month year)

Aid Activity Summary

Aid Activity Name			
AidWorks initiative number			
Commencement date		Completion date	
Total Australian $			
Total other $			
Delivery organisation(s)			
Implementing Partner(s)			
Country/Region			
Primary Sector			

Acknowledgments

Author's Details

Contents

Executive Summary

>

Evaluation Criteria Ratings

Evaluation Criteria	Rating (1-6)	Explanation
Relevance		
Effectiveness		
Efficiency		
Sustainability		
Gender Equality		
Monitoring & Evaluation		
Analysis & Learning		

Rating scale: 6 = very high quality; 1 = very low quality. Below 4 is less than satisfactory.

Introduction

Activity Background

Evaluation Objectives and Questions

Evaluation Scope and Methods

Evaluation Team

Evaluation Findings

Relevance

Effectiveness

Efficiency

Impact

< To determine whether the activity has produced positive or negative changes (directly or indirectly, intended or unintended). The degree to which the various aspects of impact can be assessed will vary according to the nature and duration of the activity. Whether impact can be assessed, or the way impact can be assessed will need to be determined by the Independent Evaluation Team. Impact will not be rated. >

Sustainability

Gender Equality

Monitoring and Evaluation

Analysis and Learning

Evaluation Criteria Ratings

Evaluation Criteria	Rating (1-6)	Explanation
Relevance		
Effectiveness		
Efficiency		
Sustainability		
Gender Equality		
Monitoring & Evaluation		
Analysis & Learning		

Rating scale:

Satisfactory		Less that satisfactory	
6	Very high quality	3	Less than adequate quality
5	Good quality	2	Poor quality
4	Adequate quality	1	Very poor quality

Conclusion and Recommendations

Annex 2: Persons Met

AusAID Canberra

Anh Thu Nguyen

Jane Lake

Debbie Bowman

Rob Condon

Vanuatu

Ministry of Health

Mark Bebe	Director General of Health
Len Tarivonda	Director, Public Health
George Taleo	VBDCP
Fasiah Taleo	VBDCP
Jennifer Iavro	VBDC
Maki Massing	VBDCP
Fredrick Yaukela	VBDCP
Wesley Donald	VBDCP
Jimmy Makambo	VBDCP
Patricia Dowling	PMSO
Jameson Mokoroe	Finance, MOH
Jean Jacques Kapua	Health Promotion
Steven Osea	Manager Central Medical Store

Port Vila Central Hospital

Pila Obed	Microscopist

Tanna Island

Harry Iata	VBDCP
Rueben Victor	VBDCP
James Amon	VBDCP
Lui Naling	Acting provincial health manager
Dr Bruce	Canadian volunteer
Robin Hill	VSO – hospital administration
Roline Iati	Provincial pharmacist
Jocelyne Peter	White Sands dispensary nurse/midwife
Moses	Ipai aid post
Megan Johnson	PPMSO

Malampa

Rosie Sailas	Provincial health manager
Nevin Rose	Nurse (Lambounbou)
Kalrong Kalwatsen	VBDCP
Sylvan Lawac	Provincial Microscopist
Kilion Mabon	Assistant Provincial Malaria Microscopist
Sally	Health Promotion Manager

World Health Organization

Bernard Fabre-Teste	Country Liaison Officer
Dr Chang Moh Seng	WHO Scientist
Lasse Vestergaard	Medical Officer

AusAID

Nick Cumpston	Counsellor
Gordon Burns	First Secretary
Kendra Derousseau	Senior Program Officer
Bronwyn Gould	Audit manager (Canberra)

Save the Children Australia

Jilda Shem	Program Coordinator

Solomon Islands

Ministry of Health and Medical Services

Dr Lester Ross	Secretary of Health
Albino Bobogare	VBDCP
Luke Honiola	VBDCP
Lyndes Wini	VBDCP
Charles Butafa	VBDCP
Hugo Bugoro	VBDCP
Luito	VBDCP
Willy	VBDCP
Eric	VBDCP
Luke Marston	PMSO
Ms Baakai	HIS
Colin Pearson	Human Resource Specialist HSSP
Cate Keane	Finance Specialist HSSP

Honiara City Council

Marcel Kitano	VBDCP

Temotu Province

Dr Jackson Rakei	Acting provincial medical director
Dr Chris Becha	Former provincial medical director
Hon. Godfrey Luage	Provincial minister of health
Robert Raoga	VBDCP
Andrew	VBDCP
John Smale	PPMSO
Edith	Lata microscopist
Rex Mae	Provincial pharmacist
Freddie Messa	Provincial secretary
Doreen Salana	Temotu Council of Women
Miriam	Manaputo Health Centre nurse
Monica & Lydia	Neo Health Centre nurse

Tanya Russell	PacMISC entomologist

Malaita province

Ben Kaefia	malaria manager
Philip	Pharmacy
Marc Maeliau	Director of nursing
Mr Festus Anitai	Oneoneaupbu health post

AusAID

Juliette Brassington	Counsellor
Angellah Kingmele	Senior program officer

World Health Organization

Kwabena Larbi	Malaria Scientist
Walter Kadazi	Medical Officer

Secretariat of the Pacific Community

Lilian Sauni	Global Fund grants officer

Rotary Against Malaria

Wayne Morris

Japan International Cooperation Agency

Ushi Mitsuhiro
Shigeyuki Kan
Saito Kaori
Yoiche Inoue
Yoko Asano

Brisbane

Malaria Steering Group

Richard Feachem	MRG Chair
Dennis Shanks	Army Malaria Institute
Graham Brown	Nossal Institute
John Reeder	Burnet Institute
Janet Hemingway	Liverpool School of Tropical Medicine
Karmen Bennett	SPC
Kevin Palmer	
Marcel Tanner	Swiss Tropical Institute

University of Queensland/PacMISC/AMI

Maxine Whittaker	Executive director, PacMISC
Andrew Vallely	Director (elimination)
Rushika Wijesinghe	Director (control)
Heather Fletcher	Accounting Manager
Sam Chenoweth	Senior operations manager-development (JTA)
Harrison Wildman	Senior Project Coordinator (JTA)
Georgina Dove	JTA
Dennis Shanks	AMI
Ken Lilley	AMI

James McCarthy	QIMR
Qin Cheng	AMI
Marie-Louise Johnson	PacMISC/UQ
Bob Cooper	AMI

Interviewed by telephone

Jim Tulloch	Former AusAID senior health advisor
Jeffrey Hii	Former WHO malaria advisor, SI
Maxine Whittaker	Executive director, PacMISC
Eva Christophel	WPRO malaria coordinator, Manila
Justin Baguley	Former Senior health specialist MHMS (AusAID)

Annex 3: Itinerary

Date	Location	Activities	Team member(s)
Mon 12 April	Canberra	AusAID briefing	Mike, Caroline, Roberto
Tues 13 April	Port Vila	Arrive 4pm	All
Wed 14 April	Port Vila	9:00 – 10:30 AusAID briefing (at Australian High Commission - AHC) 10:30 – 12.00 Malaria Steering Committee Meeting (AHC) – Introduction to key implementation partners of the National Malaria Program. 13:30 – 16:30 VBDCP team – Progress and challenges in implementing national malaria control and elimination program.	All
Thurs 15 April	Tafea	Meeting with Provincial VBDCP staff Tour of Lenakel Hospital and meetings with senior staff Interviews with provincial malaria supervisor and provincial pharmacist Meeting with acting provincial health manager	Mike, Caroline
Thurs 15 April	Port Vila	9:00 – 10:30 Ministry of Health, planning. ***Objective:*** to help the team assess whether PacMI aligns with Vanuatu's health system and is harmonised with other relevant donor initiatives. 10:30 – 12:00 Ministry of Health, human resources. ***Objective:*** to review the impact of PacMI, both positive and negative, on the MoH's human resource capacity.13:30 – 15:00 Ministry of Health, finance division. ***Objective:*** To review financial management system in particular related to the administration of PacMI grants and to review the remaining funding gap for malaria control.	Roberto
Fri 16 April	Tafea	Visit to White Sands Health Centre Observation of IRS in villages and focus group discussion with community members Visit to Ipai aid post	Mike Caroline Caroline, Mike
Fri 16 April	Port Vila	9:00 – 10:30 Len Tarivonda, Director of Public	Roberto

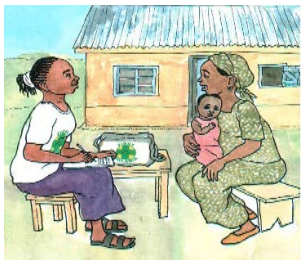
		Health – Resources available for malaria and absorptive capacity / Linkage with overall health system support. 10:30 – 12:00 Ministry of Health, HIS Unit. ***Objective:*** To review the current national capacity for malaria surveillance, including adaptations made in pre-elimination provinces to implement active case-finding. 13:30 – 14:30 Ministry of Health, national medical store manager. ***Objective:*** To review the procurement, distribution, and reporting system for malaria control and elimination equipment and supplies, such as RDTs, drugs, LLINs, and IRS materials. 15:00 – 16:00 Ministry of Health, Health Promotion Unit. ***Objective:*** To review strategy to promote personal protection and care-seeking behaviours related to malaria control and elimination.	
Mon 19 April	Malampa	Meeting with provincial health manager Meeting with provincial malaria staff Meetings with provincial pharmacist and MCH staff	Caroline, Roberto
Mon 19 April	Port Vila	9:00 – 12:00 WHO - Partnership for malaria control and elimination 13:00 – 16:00 Phone call with WHO Malaria Officer in Manila. Background on the development of NMPs in Solomon Islands and Vanuatu / Linkage with WHO regional support	Mike
Tues 20 April	Malampa	Visit to Norsup Hospital and Lambubu dispensary Debriefing with malaria supervisor	Caroline, Roberto
Tues 20 April	Port Vila	9:00 – 10:00 Director General, Ministry of Health and Len Tarivonda, Director of Public Health – Relevance of donors' support for national malaria control & elimination program in Vanuatu Director of Health Promotion	Mike
		10:30 - 12:00 Meeting with Save the Children	Mike
		15:00 – 17:00 Phone call with PacMISC Executive Director Maxine Whittaker – Overview of PacMISC operation and support Meeting with AusAID first secretary	

Wed 21 April	Port Vila	8:30 – 10:30 Field visit debriefing with MSC – Key outcomes of the field visits / Opportunity for clarification of information	All
		11:00 – 12:00 De-briefing with AusAID Port Vila - Key outcomes of the Vanuatu visit.	
	Brisbane	Overnight	
Thurs 22 April	Honiara	Arrive 15:00 – 16:00 Briefing with AusAID Honiara	All
Fri 23 April	Honiara	9:00 – 12:00 Malaria Steering Committee meeting – Introduction to key implementation partners of the National Malaria Program. 13:30 – 16:30 VBDCP team - Progress and challenges in implementing national malaria control and elimination program.	All
Mon 26 April	Honiara	8:30 – 9:30 Honiara City Council – Issues and challenges in implementing malaria control program in Honiara. 10:00 – 11:00 Permanent Secretary of Health – Relevance of donors' support for the national malaria control & elimination program in Solomon Islands / Resources available and absorptive capacity / Linkage with the overall health sector support program.	All Roberto, Mike
		13:00 – 14:00 WHO - Partnership for malaria control and elimination	All
		14:00 – 16:00 SPC in relation to both - Partnership for malaria control and elimination.	
Tues 27 April	Temotu	VBDCP team (Robert Raoga, Andrew Newa, Edith Dagi, Luke Osimane). Meeting with acting provincial health director Meetings with microscopist and pharmacist	Mike, Caroline
Tues 27 April	Honiara	9:00 – 12:00 Ministry of Health (SWAp team). ***Objective:*** to help the team assess whether PacMI aligns with the Solomon Islands' health system and is harmonised with other relevant donor initiatives, especially the SWAp. Does PacMI have any adverse impact on the SWAp? Cate Keane – Finance Adviser. ***Objective:*** To review the effectiveness of the health sector financial management system in particular	Roberto

		related to the administration of PacMI grants and to review the remaining funding gap for malaria control. Jo Hudson - Provincial Planning Adviser. ***Objective:*** to assess whether PacMI aligns with the Solomon Islands' health system and is harmonised with other relevant donor initiatives, especially the SWAp. John Nankervis – Infrastructure Adviser. ***Objective:*** To understand constraints to control and elimination related to infrastructure and transport. Mary Venner - MTEF Adviser. ***Objective:*** To understand how the malaria control and elimination program fits within the MTEF.	
		13:30 – 15:00 RAM – Partnership for malaria control and elimination	Roberto
		15:30 – 16:30 JICA – Partnership for malaria control and elimination	Roberto
Wed 28 April	Malaita	12:00 – 2:00pm – Meeting with Malaita VBDCP SAMO and senior staff, tour of Malaria Office and facilities 2:00 – 3:00pm – Meeting with Provincial Health Director or Director of Nursing at Kilu'ufi Hospital 3:00 – 3:30pm – Meeting with Pharmacy Officer at Kilu'ufi Hospital 3:30 – 4:00pm – Tour of Kilu'ufi hospital, including pharmacy and laboratory	Roberto
Wed 28 April	Temotu	Morning: Provincial Government (Premier Edward Daiwo, possibly Health Minister Godfrey). Tour of Lata Hospital (especially Pharmacy), infrastructure development activities Afternoon: tour to Manoputi health centre	Mike, Caroline
Thurs 29 April	Malaita	9:00 – 10:00am – Meet with Maternal Child Health / IMCI team 10:00 – 12:00am – Site visit to Oneoneabu Nurse Aid Post. Will need to arrange meeting with Nurse. Includes 30 minutes drive each way. 1:00 – 2:00pm – Potential Meeting with Community Leaders. 2:30 – 3:00pm – Debrief with VBDCP Malaita	

		team Auki 3:30pm – Depart Auki for Honiara	
Thurs 29 April	Temotu	Morning: tour to health facility Neo Island Afternoon: Focus group discussion with Temotu Council of Women	Mike, Caroline
Fri 30 April	Temotu	Morning: Malaria Elimination Committee Meeting Afternoon: report writing, further follow-up.	Mike, Caroline
Fri 30 April	Honiara	8:30 – 10:30 Field visit debriefing with VBDCP – Key outcomes of the field visits / Opportunity for clarification of information	Roberto
		11:00 – 12:00 De-briefing with AusAID Honiara - Key outcomes of the Solomon Islands visit	Roberto
		1445 – Depart Honiara	Roberto
1-3 May	Brisbane		Roberto
1-2 May	Honiara		Mike, Caroline
3 May		Honiara – Brisbane	Mike, Caroline
3 May	Brisbane	Malaria Reference Group (MRG) meeting – informal meeting at 6:00pm, dinner hosted by AusAID	All
4-5 May	Brisbane	MRG meeting	All
6 May	Brisbane	9:00 – 12:00 Meeting with senior PacMISC staff 9:00 – 12:00 Meeting with UQ and JTA administrative staff	Mike Roberto
		9:00 – 12:00 Meeting with AAMI staff	Caroline
		13:30 – 16:30 De-briefing with AusAID	All
7 May	Brisbane	Team meeting and return home	All

Annex 4: Malaria Treatment Flowchart



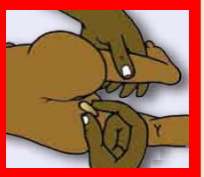
Mother brings child with history of FEVER to CMD

CMD does Quick Malaria Test

Test POSITIVE (Malaria)

Check for Danger Signs

YES



Give suppository

NO

Give Co-artem

Check for Other Signs for Referral

YES

Refer Red Form

Refer Blue Form

NO

Don't Refer

Test NEGATIVE

Check for Danger Signs

YES Danger signs

NO Danger signs

Check for Other Signs for Referral

YES

Refer Red Form

Refer Blue Form

NO

Don't Refer

Annex 5: Harmonisation Table

ALIGNMENT (refers to donor alignment with the government)		PacMI	SPC-GF	Comments
Aid flow is aligned on national priorities*	*The aid flows to the government that is reported on partners' national budgets?*	No	No	Malaria funding on grant basis "off" national budget The VBDCP does not report to the MoH. In Vanuatu, there is an opportunity for one financial reporting.
Strengthen capacity by co-ordinated support	*Donor capacity-development support through coordinated programmes consistent with partners' strategies?*	Yes	Yes	The technical support provided by PacMISC has been partially operating in a relatively top-down manner at early stages. Trend going towards a more integrated approach through the MSC
Use of country public financial management	*Aid flows through public financial system?*	Partial	No	In Vanuatu, PacMI bilateral funds are put into the Government Development Fund Account in Vanuatu and a Development partner account the SI. SPC-GF uses private non-government "trustee".
Use of country procurement systems	*Aid flows through public procurement system?*	Partial	No	LLINs are procured outside the national system due to the pre-qualification requirement and the preferential prices negotiated by the GF. TA is mobilised through WHO and PacMISC
Strengthen capacity by avoiding parallel implementation structures	*Management through a project management unit?*	No	Partial	Funds arriving in provinces are not labelled SPC-GF reporting requirements use different cost categories
Aid is more predictable**	*Aid disbursements released according to agreed schedules in annual or multi-annual frameworks?*	Yes	Yes	Funding aligned with the newly developed 2009-2011 consolidated budgeted workplan
Aid is untied	*Earmarked for malaria activities?*	Yes	Yes	Ministries of health cannot use/re-allocate these funds for non

				malaria related activities
HARMONISATION (refers to donors harmonising their approaches)* **				
Use of common arrangements	*Aid provided as programme-base approach?*	Yes	Yes	Support of a joined and consolidated national malaria workplan 2009-2011
Encourage share analysis	*Field missions done jointly and other analytical work/reviews done jointly?*	Partial	Partial	Planning analysis conducted jointly through the MSCs. Joined monitoring visits and joined evaluation and reviews not yet. Recent decision by the MSC in Vanuatu plan to conduct 6-monthly joined monitoring reviews.

Annex 6: Financial Analysis

PacMI/PacMISC financial analysis

For the period mid-2008-2011, AusAID is expected to have contributed up to A$30,000,000 which represent from 40% to 50% of the total malaria budget for both countries, depending on the exchangers' rate. As of the 30 March 2010, A$20,632,661 has already been disbursed, the equivalent of 68%. See table below.

Table 1: Ausaid Funding for Malaria: PacMI and health Sector Support Program (A$)

		2008	2009	2010	2011	Total budget	Amount disb*	%
Funding directly to the Ministry of Health								
1	Vanuatu	2,064,500	1,425,000	1,425,000	712,500	5,627,000	3,489,500	**62**
2	Solomon Islands	4,700,000	3,300,000	2,000,000	1,000,000	11,000,000	9,000,000	**82**
Technical & Management Support (through PacMISC and MRG)								
	PacMISC Design	*1,387,146*				*1,387,146*	*1,387,146*	***100***
	PacMISC - Part A	587,500	1,192,625	1,228,403	623,278	3,631,806	2,308,091	**64**
	PacMISC - Part B	875,000	1,825,000	1,450,000	500,000	4,650,000	1,750,000	**37**
	PacMISC (AMI) - Part C	129,880	535,857	568,280	292,843	1,526,860	1,526,860	**100**
	Management (incl MRG)	792,310	349,685	308,000	165,628	1,615,623	1,171,064	**72**
	Total	***3,771,836***	***3,903,167***	***3,554,683***	***1,581,749***	***12,811.435***	***8,143,161***	**63**
3	***Average per country***	***1,885,918***	***1,951,584***	***1,777,342***	***790,875***	***6,405,718***		
Total funding for countries including technical & management support								
1+3	Vanuatu	3,950,418	3,376,584	3,202,342	1,503,375	12,032,718		
2+3	Solomon Islands	6,585,918	5,251,584	3,777,342	1,790,875	17,405,718		
	TOTAL	***10,536,336***	***8,628,167***	***6,979,683***	***3,294,249***	**29,438,435**	**20,632,661**	**68**
Unallocated funds (to be adjusted towards the end of the 4 year commitment)								
						561,565		
TOTAL								
						30,000,000		

*as of 30 March 2010.

As per the 30 march 2001, the countries have received directly 75% of the funds and PacMISC received 58%. As the report 2009 of the VBDCPs are not available yet the mission could not look at the part 1 and 2.

Regarding PacMISC, most the expenditures have been used for technical and management support as of the 31 December 2009. A$4,372,221 has been already spent on technical support related to research, database and training including AMI (53%) and management support (47%). The management component sub-contracted to JTA represents 26% of the overall PacMISC expenditure.

Table 2: PacMISC Total Expenditure (to 31 Dec 2009) management versus technical support

Category	Expenditure	JTA component	Comments
Management support	$1,914,903.19	$1,135,145.43	Includes PacMISC Directors and other Part A positions, does not include Research Associate, Database Manager; JTA component includes Part A, PPMSOs (Part B) and vehicle costs
Activities and technical support (research, database, training, Part C staff, etc)	$2,457,318.35	$0.00	Includes Part B (other than PPMSOs) and Part C
Total	**$4,372,221.54**	**$1,135,145.43**	

A small portion of the funds it has been used to procure representing 4% of the total as show in the table below.

Table 3: PacMISC Expenditure - Non technical support (to 31 Dec 2009)

ACTIVITY	COST
LLIN	$22,333.97
Boat- Solomon Islands	$45,346.00
SIMTRI office renovation	$3,536.10
Software	$4,200.00
Equipment*	$96,502.17
Total	**$171,918.24**

*Including freezer, bar fridge, generator, 24 x Trimble Juno PDA and Otterboxes, 16 x Durabook laptop and software, satellite phones, microphones & stands & cables, digital voice recorders, USB microscopes, timpanic thermometers and ear probes

The direct allocation for the 3 elimination provinces represents 43% of the total expenditure. This does not take into account the other expenditures which for 2/3 approximately can be attributed in support to the elimination provinces.

Table 4: PacMISC Provincial Expenditure (to 31 Dec 2009)

Expense	Tafea	Temotu	Isabel	Total
Baseline survey	$56,450.15	$841,017.07	$440,408.40	$1,337,875.62
Provincial Program Management Support Officer	$147,838.00	$108,762.09	$0.00	$256,600.09
Serology survey	$46,293.43	$0.00	$0.00	$46,293.43
Community mobilization	$192,533.49	$0.00	$0.00	$192,533.49
Boat	$0.00	$45,346.00	$0.00	$45,346.00
LLIN	$0.00	$22,333.97	$0.00	$22,333.97
Total	**$443,115.07**	**$1,017,459.13**	**$440,408.40**	**$1,900,982.60**