

SEA-MAL-236
Distribution: Limited

Strengthening Monitoring and Evaluation of Malaria Control Programmes

*Report of an Intercountry Consultation
Manesar, Haryana, India, 16-18 March 2004*

WHO Project No.: ICP MAL 001



World Health Organization
Regional Office for South-East Asia
New Delhi
January 2005

© World Health Organization 2005

This document is not issued to the general public, and all rights are reserved by the World Health Organization (WHO). The document may not be reviewed, abstracted, quoted, reproduced or translated, in part or in whole, without the prior written permission of WHO. No part of this document may be stored in a retrieval system or transmitted in any form or by any means – electronic, mechanical or other – without the prior written permission of WHO.

The views expressed in documents by named authors are solely the responsibility of those authors.

LIST OF ABBREVIATIONS USED

RBM	Roll Back Malaria
GFATM	Global Fund for HIV/AIDS, TB and Malaria
HMIS	Health Management Information System
DHS	District Health System
MICS	Multiple Indicator Cluster Survey
DALYs	Disability Adjusted Life Years
GMCS	Global Malaria Control Strategy
MERG	RBM Monitoring and Evaluation Reference Group
M&E	Monitoring & Evaluation
MDG	Millennium Development Goal
EDPT	Early Diagnosis & Prompt Treatment
IRS	Indoor Residual Spray
ITNs	Insecticide treated bednets
EMCP	Enhanced Malaria Control Programme
MIS	Management Information System
GIS	Geographical Information System
ACD	active case detection
NMEP	National Malaria Control Programme
RDTs	Rapid Diagnostic Tests
IPT	Intermittent Prevention Therapy
RRT	Rapid Response Team
WHOPES	WHO Pesticide Evaluation Scheme

CONTENTS

	<i>Page</i>
<i>Executive Summary</i>	<i>v</i>
1. INTRODUCTION	1
2. GENERAL OBJECTIVE	3
3. SPECIFIC OBJECTIVES.....	3
4. GLOBAL AND REGIONAL UPDATES.....	3
5. COUNTRY REVIEWS.....	7
5.1 Bangladesh	7
5.2 Bhutan	7
5.3 India	8
5.4 Indonesia.....	10
5.5 Maldives.....	11
5.6 Sri Lanka.....	11
5.7 Thailand.....	12
5.8 Timor-Leste	13
6. HEALTH INFORMATION SYSTEM.....	14
7. SPECIAL SURVEYS.....	14
8. GLOBAL MALARIA REPORT 2004.....	16
9. MALARIA OUTBREAKS/EPIDEMICS.....	17
10. GROUP WORK	18
11. RECOMMENDATIONS	25
11.1 To Member States.....	25
11.2 To WHO.....	27

Annexes

1. List of Participants.....	28
2. Agenda.....	31

EXECUTIVE SUMMARY

An intercountry meeting for strengthening of monitoring and evaluation of malaria control programmes was held at Manesar, Haryana, India, from 16-18 March 2004. The objectives of this consultation were: (1) to discuss the progress related to monitoring and evaluation of malaria control programme; (2) to review the draft community household and health facility survey tools and prepare plans for field-testing and pilot implementation, and, (3) to identify contributions for the Global Malaria Report 2004 and develop a timetable for preparing the draft regional SEA document.

The participants in the consultation included programme managers, persons responsible for monitoring and evaluation of malaria control programme in seven countries, and WHO staff from WHO headquarters, South-East Asia and the Western Pacific Regions and Member states.

The consultation was inaugurated by Dr U Than Sein, Ag. Director, Programme Management, who read out the regional Director's address. Global and regional updates on monitoring and evaluation were followed by country reviews in which progress was reviewed and constraints as well as lessons learnt were identified. There is lack of information on the practices in the private sector (organized and unorganized). The recommendations of the external review of roll back malaria (RBM), the commitments made by Member states to the Millenium development Goals and the expectations from Global Fund for HIV/AIDS, TB and Malaria (GFATM) were taken into account while developing plans for monitoring the scaling up of malaria control efforts. Not all the RBM core indicators can be measured in the routine Health Management Information System (HMIS) reporting system, and special surveys are needed. The countries were informed of the progress made by WHO and its partners and the links that can be developed with national surveys like demographic health survey (DHS) multiple indicator cluster survey (MICS), mortality and socioeconomic surveys. WHO has prepared tools to help in the planning, training and conduct of special surveys at the national or subnational level. The participants were briefed about the plans for the proposed Global Malaria Report 2004 and the expectations from the countries of the Region. Focal epidemics/ outbreaks of malaria are common in the countries of the SEA Region. The importance of early recognition and prompt control of malaria epidemics/outbreaks was recognized.

Participants worked in two groups to discuss the approach to be adopted for collecting data on RBM core indicators through HMIS and special surveys, discuss issues relating to timeliness, completeness and quality of data and identify technical support requirements and possible funding for monitoring and evaluation. The existing reporting formats were revised and the participants agreed to contribute to the Global Malaria Report 2004 to reflect the profile of malaria in their countries. There was discussion on early recognition and prompt control of malaria outbreaks/epidemics and collaboration with integrated disease surveillance.

Important recommendations were made for Member states and WHO. Member states agreed to gear up for monitoring and evaluation to match the scaling up of the malaria control programme, simplify the reporting formats and prepare roadmaps for monitoring and evaluation by using the combined strategy of routine reporting and special surveys. The practices in the private sector will be assessed. Member states will update information on the revised format for country profiles and contribute success stories/case studies for the Global Malaria Report 2004. Rapid response teams for early recognition and prompt control of epidemics will be established and their capacity increased with technical support from WHO. Countries agreed to develop plans to improve timeliness, completeness and quality of information on malaria. WHO should provide tools, guidelines and standards for assessing the core indicators in routine reporting and through special surveys. The tools developed for special surveys will be provided after suitable adaptation for countries in the SEA Region. WHO will help countries to incorporate core malaria indicators in the forthcoming surveys like demographic health survey (DHS), multiple indicator cluster survey (MICS) and other national surveys. WHO should provide technical guidance and support in early recognition and timely control of malaria epidemics/outbreaks.

1. INTRODUCTION

An intercountry consultation for Strengthening Monitoring and Evaluation of malaria control programmes was organized by the WHO Regional Office at Manesar, Haryana, India, from 16-18 March 2004. The participants included programme managers, focal points responsible for health information from Bangladesh, Bhutan, India, Indonesia, Maldives, Sri Lanka, Thailand and Timor-Leste. WHO staff from WHO headquarters, SEA Regional office, WP Regional Office, WHO country offices and Temporary advisers to the Regional Director. A list of participants is included in Annex 1. The programme of the consultation is at Annex 2.

The consultation was inaugurated by Dr U Than Sein, Acting Director, Programme Management, on behalf of the Regional Director. In his address Dr Samlee Plianbangchang said that during the past five years, the reported cases of malaria had varied between 2 and 3 million each year with about 4000-5000 deaths. About 21 million cases and 27000-30000 deaths were estimated each year. In the SEA Region, malaria affected all age groups. India accounted for about 70% of the reported cases while Myanmar reported more than 50% malaria deaths. Based on the Disability Adjusted Life Years (DALYs) lost, malaria was estimated to cause an annual loss of about US \$3 billion. The proportion of *P. falciparum* malaria had increased from about 12% to 45% during the last two decades. The SEA Region was an epicentre for multidrug resistance since nearly 30% of the population was at risk of drug resistance. Malaria was a local/focal disease and focal epidemics of malaria were common. It was a serious problem amongst the poor and the vulnerable, people living in the border areas, in the forests and forest fringes, amongst migrants, gem mining workers and at sites of developmental projects. Malaria was a disease related to ecological and environmental situation and effective control measures required intersectoral collaboration and sustained partnerships. WHO had launched the Roll Back Malaria (RBM) initiative in 1998. Seven countries in the Region had endorsed RBM while the other countries continued to implement the Global Malaria Control Strategy (GMCS). RBM had recommended key indicators for monitoring and

evaluation and countries had adopted them. Following an external evaluation of RBM, WHO headquarters had established the Monitoring and Evaluation Reference Group (MERG) to strengthen monitoring and evaluation (M&E) of malaria. Global commitment to malaria was articulated in the Millennium Development Goals (MDG). At present, the Global Fund for HIV/AIDS, TB and Malaria (GFATM) was investing additional resources to scale up the implementation of interventions for malaria control. Seven countries in the Region had been awarded GFATM funds. Disbursement of funds by GFATM would be based on the progress and performance of the programme. Hence the importance of using simple and affordable tools in M&E. Two of the five RBM key indicators could be assessed through the Health Management Information System (HMIS). Unfortunately, HMIS in the countries of the Region at present were overloaded and were providing data that might not relate to the key indicators recommended. It was hoped to rectify this problem through a policy change. The malaria control programmes should work closely with HMIS to improve the quality of health information that should prevail at all levels. To respond to focal epidemics, the malaria programmes should work closely with integrated disease surveillance (IDS) and strengthen the district health system so that epidemics could be recognized early and appropriate and timely response provided. The other indicators cannot be measured through the routine HMIS. This required the application of special surveys. Malaria programme should piggyback with planned national surveys or consider special household and health facility surveys. The current consultation was very timely since it proposed to review the present situation with regard to M&E in order to respond to the needs of scaling up of the malaria control programmes. The meeting would also provide an opportunity for the countries to contribute to the proposed Global Malaria Report 2004 to reflect the best practices on monitoring and evaluation.

Dr Bernard Nahlen (WHO/HQ) highlighted the progress in monitoring and evaluation of malaria. He said that there were differences in the malaria situation in the African subcontinent and Asia. Malaria control was a prominent programme on the global agenda. With the increased flow of resources, accountability had assumed greater significance than before. Many countries had been struggling to effectively control malaria for several decades and using tools that were appropriate to the programme needs. The time had come to restructure the tools and use them increasingly to revitalize the programme.

Dr Siyambalgoda (Sri Lanka) was nominated chairman and Dr Laihad (Indonesia) as Co-chairman of the meeting. Dr Md Mushfiqur Rahman (Bangladesh) and Dr Wannapa Suwonkerd (Thailand) were nominated as Rapporteurs.

2. GENERAL OBJECTIVE

The general objective of the consultation was to strengthen the development of the monitoring and evaluation system of malaria control programme in the countries of the SEA Region.

3. SPECIFIC OBJECTIVES

- (1) To discuss the progress related to monitoring and evaluation of malaria control programmes;
- (2) To review the draft community household and health facility survey tools and prepare plans for field-testing and pilot implementation; and
- (3) To identify contributions for the Global Malaria Report 2004 and develop a time-table for preparing the draft regional (SEA Region) document.

4. GLOBAL AND REGIONAL UPDATES

Dr Bernard Nahlen (WHO/HQ) reviewed the findings and recommendations of the 2002 external evaluation of RBM which noted the disappointing progress with regard to monitoring and evaluation (M&E) during the first few years. In particular, the external evaluation mentioned that there was a lack of focus; and no database existed for tracking global trends in malaria; and that the main problem affecting RBM's data collection efforts had been the use of an overly complex and insufficiently prescriptive approach. This initial failure to clearly define goals and priorities of the M&E strategy at the global and regional levels had resulted in too many indicators, too many sources of data, and insufficient guidance to countries on data collection and methodology. In addition, insufficient attention had been given to ensuring representativeness of data, and a lack of consistency in indicators and definitions, guidelines and practices, and sampling methodologies. It was recommended that RBM build an effective system for the purpose of international comparison by

strengthening country capacity in data collection around (e.g. five) standardized indicators that were exempted from country modification, using standardized ways of measurement. Technical assistance to countries on M&E at national and district levels would be crucial to the success of the programmes.

A specific recommendation from external evaluation was that capacity needed to be strengthened at WHO headquarters and regional levels in order to be able to better provide high quality technical support to countries. In addition, it was recommended that the following be established: (1) a reference group for periodic consultation on technical issues; (2) a plan and time-line for RBM M&E reports; (3) a format for annual reporting on progress with standardized indicators and time-frame; (4) a global malaria database, including documentation of data sources and representativeness; (5) global malaria reports periodically every few years; (6) a transparent system for assessing data quality and standardization across countries, especially for core indicators; and (7) clear guidelines for data collection protocols and sampling strategies.

In response to these recommendations the following actions have been taken during the past year: (1) consensus on a core set of indicators and data collection methods; (2) a RBM Monitoring and Evaluation Reference Group (MERG) has been established (www.who.rbm.partnership) and will have its third meeting in Geneva in May 2004; (3) a global malaria database has been established based on the Public Health Mapping tool in Access; (4) a draft standardized electronic reporting form based on existing forms from the regional offices as well as on the forms used by the WHO HIV and TB programmes has been developed and is presently under discussion; (5) the first Africa Malaria Report 2003 was published and well-received; (6) MERG has requested that this format be expanded to produce a Global Malaria Report 2004, with annual updates thereafter.

WHO will take the lead role in the production of the Global Malaria Report 2004, in close collaboration with UNICEF, on behalf of the RBM Partnership. The Global Malaria Report 2004 will provide an update on the progress in malaria programmes, with an individual country page detailing the most recent data available for each affected country. Close collaboration between country programmes, the regional offices and WHO headquarters will be required to produce this important report by December 2004.

Dr Chusak (WHO/SEARO) gave an update of monitoring and evaluation of malaria control programmes in the countries of the Region. After the launching of the RBM initiative, seven countries in the Region have committed themselves to RBM. The other countries have continued to implement their malaria control programmes in accordance with the Global Malaria Control Strategy. Key indicators to measure progress in RBM were agreed in Kunming, China, for Mekong countries and in Haryana, India, for other countries of the Region. There are difficulties in using these indicators at the national level due to several constraints. While two of the five key RBM indicators can be assessed in the health information system, others require special surveys. In consultation with WHO headquarters the Regional Office has prepared tools and guidelines for assessing the indicators through special surveys.

The malaria situation in the Region indicates that it is a local/focal disease with about 2.5 million reported cases and 4000 deaths each year. The estimates indicate about 21 million cases and over 25000 deaths. The proportion of *P. falciparum* cases has increased from about 12% to 45% over the last two decades. The problem of multidrug resistance to *P. falciparum* is spreading. The problem is spreading especially across international borders. An estimated 400 million population is at risk of drug resistance. The Region has taken the initiative to monitor drug resistance through networking. The findings from these networks are helping the countries to revise the policy on antimalarials. Focal epidemics are common in India, Indonesia and Myanmar. During the past seven years, 222 focal epidemics have been reported from eight countries. For the Global Malaria Report 2004, six Member states have provided the latest information in the formats provided. Since the inception of GFATM, applications of seven countries have been approved for the award of funds. Monitoring and evaluation of key indicators has assumed greater significance in providing accountability in the use of funds for scaling up malaria control programmes.

Dr David Bell (WHO/WPRO) reviewed the progress of monitoring and evaluation in the Western Pacific Region of WHO. The Kunming indicators were agreed upon at its SEAR-WPR meeting, held in Kunming China in 1999. It includes 9 epidemiological and 5 operational indicators. Twenty data items are requested from the countries. All Mekong countries are asked to submit the report on an annual basis and it has now been extended to other

countries in the Region. Monitoring and evaluation of malaria programmes includes some of the key RBM indicators that can be measured in the routine health information system. Cases of malaria are classified as suspected, probable and confirmed. Suspected cases have symptoms of malaria. Probable cases are suspected cases that have been treated with antimalarial drugs. The countries have made progress in M&E though the progress is uneven. He emphasized the importance of completeness and timeliness of data. The serious problems are with denominators and in defining the criteria for at-risk populations. Countries are using different criteria. There are similarities in the problems relating to M&E in the SEA and WPR regions. These include deficiencies in age and sex disaggregated data, the impact of malaria during pregnancy, the use of treated bednets, the extent of use of drugs and diagnostics in the private sector, and malaria situation in remote areas. The Region would like to recommend increased use of household surveys, surveys to determine practices in the private sector, sentinel site monitoring, support for diagnostic quality assurance and training of national staff in M&E.

Discussion points

- Disaggregated data according to age, sex and pregnancy status is a limitation that prevents a focus on vulnerable groups.
- Collaboration with health matrices network would be useful since it is important to quantify the burden of malaria on the health sector.
- To strengthen monitoring and evaluation, national capacity should be strengthened. Specific needs should be determined so that the efforts are focused. In countries which pursue a policy of decentralization, capacity at the district level has to be enhanced.
- The indicator that assesses the treatment of fever cases caused by malaria within 24 hours of onset is no doubt important since it measures access to health facilities, early care seeking and efficiency in diagnosis. However, the 24 hours time period appears too short and may have to be revised according to the country situation.
- Completeness and quality of data are important since provision of evidence will convince the donors to sustain support.

5. COUNTRY REVIEWS

5.1 Bangladesh

There are about 1 million clinical malaria cases but only 55909 positive cases; 577 deaths were reported during 2003. Private sector and tertiary hospitals are not included and the reports are not complete. The proportion of *P. falciparum* cases is 74.2%. API was 3.8/1000 in malaria-endemic districts. The last major outbreak was reported in 1995 with 800 deaths. In 2003, four focal outbreaks were reported from Sylhet district, each epidemic affecting 23 villages. The maximum number of cases are reported from 13 districts 5 of which are highly endemic. In view of the increase in resistance to chloroquine and Sulfadoxine Pyrimethamine, the country is revising its policy on drugs for the treatment of *P. falciparum* malaria. Although the system provides for reporting at all levels of health care delivery, the reports are often neither complete nor timely leading to delays. The constraints include the lack of age and sex disaggregated data, and lack of information about treatment in the private sector. HMIS can provide information on two RBM indicators but for the other three special surveys are proposed. The programme made special efforts in view of the Global Malaria Report. This could be achieved by an *ad hoc* approach but cannot be sustained without an increase in capacity. The country proposes to concentrate on five districts which contribute to the problem.

Discussion points

- Even though the indicators accepted in Haryana are adequate, it is difficult to measure them through the routine HMIS. Special surveys should be conducted to supplement routine information.
- The programme should focus on the districts where maximal cases are reported and try to improve quality and timeliness.
- The approach used to reflect the 2003 data was *ad hoc*. The time-lag in sending the reports should be reduced.

5.2 Bhutan

The five border districts in Bhutan report more than 95% of the malaria cases. Malaria showed a decline in cases reported between 1995 and 1998. The number of cases (12591) doubled in 1999 in comparison to 1998. Since

1999, there has been a progressive decline. In 2003, there were 3806 confirmed cases of malaria. *P. falciparum* is responsible for about 44% of the cases. Age and sex disaggregated data were presented. There is a higher prevalence in males as compared to females but the disease does not seem to be more pronounced in children under the age of 5 years. There is concern with regard to high case- fatality rates (8.9%). This is because the cases come late and the facilities in the districts are not adequate to deal with severe malaria.

No epidemics of malaria were reported during the past five years even though there was an increase in cases amongst new settlers. The country report includes information on bednets, antimalarial drugs and a budget summary for the past five years. The constraints are: the data are processed manually, programme does not differentiate between severe and uncomplicated malaria and technical support is inadequate. The malaria trend is increasing every 5-6 years which necessitates continued vigilance and retention of expertise to control malaria. The need for rapid response teams, therapeutic efficacy monitoring and cross-border collaboration was identified. Issues relating to difficult terrain and poor access require adaptation of indicators to suit country needs.

Discussion points

- It is important to differentiate between severe cases of malaria and uncomplicated malaria since BHUs and district hospitals admit all cases of malaria.
- Continued surveillance will be important since the threat of cross-border spread continues and the malaria situation seems to worsen after a gap of about 5-6 years.

5.3 India

The National Antimalaria Programme is now a part of the National Vector Borne Disease Control Programme. Since the eradication era India continues to use an elaborate system for monitoring the programme. Surveillance includes active and passive case detection at all levels. Nearly 100 million blood slides are collected each year of which about 2 million are positive. The proportion of *P. falciparum* is increasing (around 50%) and in certain areas,

the problem of multidrug resistance is a cause for concern. The control programme is providing support in the form of additional inputs from the World Bank and central assistance to hard core areas where malaria is a serious problem. These hard core areas include tribal populations, northeastern states, and other high transmission areas accounting for about 80% of the problem in the country. Early Diagnosis & Prompt Treatment (EDPT) is the main thrust of the programme with the introduction of blister packs for adults, and while the use of indoor residual spray (IRS) is declining, Insecticide treated bednets (ITNs) and larvivorous fish are promoted to prevent malaria. Surveys have shown acceptance of nets by the community. Reported cases declined from 2.28 million in 1999 to 1.84 million in 2002. Data related to age and sex are collected routinely but not transmitted. As a result of the intensive control efforts, it has been estimated that 2.8 million cases of malaria have been averted over the last five years. The impact of enhanced malaria control programme (EMCP) has been variable with only 2.8% decline in one state and about 80% decline in other state. While 62 of the 100 districts reported a decline of more than 10% , 32 districts have reported a decline of more than 50%. Twenty-nine studies were carried out on therapeutic efficacy in uncomplicated malaria in 9 states during 2002. Standards and guidelines were developed and used in building staff capacity.

At present, India is in the process of developing a management information system (MIS). This will be implemented at the district level and above. Its implementation is likely to solve some of the data management problems.

The malaria programme does not have information on what happens in the private sector. There is often a delay in the reporting of blood slides which delays the starting of radical treatment of malaria. In remote areas, the country has difficulty in providing access to EDPT. The programme needs to be decentralized to the states which should enhance the ownership of the programme. The risk of outbreaks is high in endemic areas whereas in some of the areas it is related to development, as was illustrated in the recent epidemic in Rajasthan.

Discussion points

- The information system collects information according to age and sex. Efforts should be made to report disaggregated data.

- Practices relating to diagnosis and treatment of malaria in the private sector need to be included.
- System of monitoring of epidemics and focal outbreaks is needed for early recognition and timely control.

5.4 Indonesia

Information about the malaria situation in Indonesia is uneven. The number of slides examined in Java, Bali is 3 times that in outer islands. The number of suspected cases is about 25% higher in the outer islands than in Java Bali. While information from Java Bali is often based on laboratory diagnosis, in the outer islands it is based on clinical criteria. The country has experienced outbreaks in Java Bali and in outer islands. The maximum deaths occurred during an epidemic in Maluku due to a breakdown in health services. The experience regarding the epidemic in Menoreh Hills was useful. It helped the country to revise its policy on antimalarials. There is now acceptance of the combination drugs that are artemisinin-based. Two success stories were summarized. These include M&E and Geographical Information System (GIS) mapping in Banjarnegara and the progress achieved in Monitoring & Evaluation (M&E) on the GFATM project. There is delay in reporting and difficulties in M&E related to the new decentralization policy. The districts have poor capacity and are not obliged to report to the centre. The programme has focused on 70 selected districts and will be building on the experience gained from these districts. The adoption of a district-based approach is necessary in view of the policy on decentralization. The constraints in M&E relate to poor capacity, decentralization policy, lack of funds, and concern about the quality of data.

Discussion points

- Emphasize capacity development in districts and increasingly cooperate with them in sharing information.
- The programme emphasis should be on the outer islands where the problem of malaria is more serious than in Java Bali.
- The experience with outbreaks should be used in timely recognition and response to epidemics.

5.5 Maldives

Maldives has a population of 270101 in 201 inhabited islands. Malaria has not been a problem since 1969. About 300000 tourists visit the country annually. This necessitates continued vigilance in controlling malaria. There are facilities to collect blood smears at airports and sea ports. In 2003, about 14637 blood smears were examined and only 3 positive cases were detected. None of them was indigenous. In 2002, there were 10 positive cases and half of them were detected in the tertiary hospitals. Entomological investigations have been carried out as a preventive measure. There are certain limitations of data management like limited facilities, lack of trained personnel for data management, irregular flow of monthly reports etc. The other constraints include limited funds for refresher training and research, limited number of trained staff, and laboratory facilities.

Discussion points

- There is a need to strengthen data processing and data management capacity.
- Surveillance should be continued to ensure that the country remains free from indigenous cases of malaria.

5.6 Sri Lanka

There has been a consistent decline in malaria cases since 1999. In 2003, about 10510 cases and only 2 deaths were reported as compared to 211691 cases and 115 deaths in 1998. The data were presented according to age and sex. The spread of chloroquine resistance has been contained through the regulation of drugs and ensuring treatment compliance. There is a drastic decline in the problem of malaria in the conflict affected north-eastern province. The constraints in monitoring and evaluation include inadequacies in data generation like no data from the private sector, less significance attached to the screening of all febrile cases since the disease burden is low, poor cooperation in active case detection (ACD) in the target communities due to poor visibility of malaria, limited data generated by entomological teams, and non-generation of routine data on bednet use. Other problems include economic and sociological data not gathered, data on climatic factors and climatic forecasts, inadequate and insufficient water management data.

The data are handled manually and their transmission is delayed, which makes early recognition of epidemics difficult. In 2003, five outbreaks were reported from five districts. One of them was due to *P. falciparum* while the other four were attributed to *P. vivax*. Malaria epidemics in Sri Lanka are attributed to drought conditions and movement of populations.

Discussion points

- A system of feedback should be introduced and monitoring of climatic and hydrology data would be helpful in predicting malaria epidemics.
- Active surveillance must be sustained and intensified, especially when the case incidence is decreasing.
- Surveillance in the private sector should be enhanced, keeping in view the proportion of cases treated by it. It is also to be ensured that private practitioners adhere to the national drug policy when treating patients.

5.7 Thailand

With the continued decline in malaria in Thailand, the programme objective is to reduce morbidity and mortality due to malaria in the 30 border provinces. The mortality due to malaria is still high in the Thailand-Myanmar border from where nearly 90% of malaria morbidity is reported. There has been a decline in malaria in the Thai population but this decline does not show in the non-Thai population groups. The proportion of *P. falciparum* is decreasing. The last malaria epidemic was reported in 1999 when 67263 cases of *P. falciparum* were reported.

Based on the monitoring of therapeutic efficacy the country is revising its policy on antimalarial drugs. Artesunate mefloquine combination is used in the treatment of falciparum malaria. A case study was presented regarding best the practices in monitoring and evaluation in northern Thailand. Regarding monitoring and evaluation, a variety of recording and reporting formats have been designed and put into practice, according to National Malaria Control Programme (NMEP). There have been many attempts to reduce the time spent by workers by revising or simplifying the record and report forms.

Discussion points

- The indicator relating to initiation of treatment for malaria within 24 hours of onset is difficult to achieve. It is important to measure this indicator which reflects programme performance and health care seeking behaviour. The criteria related to time needs to be adjusted according to the local situation.
- The experience in Thailand has helped the other countries in the Mekong region to adapt the various Kunming indicators on RBM.

5.8 Timor-Leste

There are 13 districts in Timor-Leste with a population of 849699. All sub-districts are affected with malaria. In 2003, about 13772 malaria cases were reported. The proportion of *P. falciparum* is about 67%. 134 deaths were reported from 9 of the 13 districts. WHO is helping to a great extent in data management. The malaria control programme has been organized since November 2003. With the help of consultants the programme has been able to stratify into very high risk, high risk, medium and low risk. There is only limited staff for taking up the activities. The strategy is treatment of all clinically suspected malaria cases with chloroquine and Sulfadoxine Pyrimethamine. Treatment failure with *P. falciparum* is determined to be about 67 % in 1 district. All health facilities carry out passive surveillance. Microscopic screening of selective suspected malaria cases is carried out at the district hospitals. The staff is limited and their capacity, especially in the diagnosis of malaria, is poor. The recognition of deficiencies in data and analysis of problems has been useful in planning for strengthening of monitoring and evaluation. The country is proposing to introduce Rapid Diagnostic Tests (RDTs) and therapeutic efficacy monitoring.

Discussion points

- There is a need for collaboration with Indonesia in regard to malaria control. The data of previous years should be collected from Indonesia. There is a need to develop guidelines for a drug policy.
- It is important to know what data should be collected and what the relevance of the data to programme management is.
- Effective feedback mechanisms need to be developed.

6. HEALTH INFORMATION SYSTEM

Dr Ravi Kumar (WHO/India) reviewed the current status of health information system in malaria. Data on malaria are generated at different levels of the health system. The data requirements of the programme are high and what is assessed is not totally relevant to the programme goals and targets. This compromises the quality. It is transmitted to higher levels on a periodic basis. There are gaps in the data as compared to the indicators that are recommended by RBM. In addition to routine data collection, the countries need to identify gaps in data and ways to fill them. The collection of unnecessary data should be discontinued. Even though health information system records information, it is not extracted as required, e.g. according to age and sex. Manual processing of data leads to delays. By the time the data become available, the delay may limit their use for planning the programme and the interest amongst the health care providers or the programme staff is lost. The capacity to analyse the data and to provide timely feedback is limited. The information on the perceptions of the community, treatment practices of private providers, bednet usage and stockouts is not available. The gaps can be addressed by computerization, uniform data management, periodic sharing of information nationally and with WHO and supplementation with special surveys at national or subnational levels.

Discussion points

- The data collected at different levels of the health system should be rationalized and redundancies removed.
- The gaps in the assessment of agreed indicators should be filled.
- Relevance, timeliness, completeness and feedback are to be addressed. Capacity in M&E needs to be strengthened.

7. SPECIAL SURVEYS

Dr Vijay Kumar (Temporary Adviser, WHO) provided the background for conducting special surveys on malaria. He identified key indicators for M&E in the countries of the Region based on the eco-epidemiology of malaria. Because malaria affects all age groups, there is a need to collect information on all age groups. Since the countries do not practise intermittent prevention therapy (IPT) during pregnancy, it is not necessary to include this indicator in

M&E. The indicators on morbidity and mortality can be measured by the programme as an ongoing effort while the indicators relating to Insecticide treated bednets (ITNs), stockouts, recognition and prediction of outbreaks and care seeking in suspected malaria cases require special surveys. The programme can measure these indicators through periodic national surveys like DHS, MICS, and malaria indicator survey. The tools on the background for special surveys, training of field workers and supervisors and formats for the survey have been adapted from the malaria indicator survey protocols developed by WHO headquarters for use by the Regional Office. These can be adapted by the countries according to the country situation.

Dr Ratna Budiarto (Temporary Adviser, WHO) described the formats for household survey and health facility survey and possible links with DHS and MICS. She presented the approach for calculation of sample size taking various indicators into consideration. The sample size required for assessing malaria deaths, malaria prevalence and use of Insecticide treated bednets (ITNs) was projected. The large sample size required for malaria mortality makes its measurement through surveys an expensive proposition. The tables that can be generated were summarized. The possible sampling frameworks that can be used include those used by national surveys. There are other options that can be considered based on the objective of the proposed surveys. Dr Budiarto provided options for the health facility survey as a stand-alone survey or as a linked survey. The programme should consider a linked survey in conjunction with other surveys or health facility assessment as part of evaluation of TB or HIV/AIDS programme.

Discussion points

- Objectives of the survey need to be identified and surveys could be used to provide inputs to programme for decision-making or for evaluation of the programme.
- Qualitative parameters need to be incorporated in surveys. This can also be taken up as an independent activity.
- RBM core indicators should be considered for reflection in the World Health Survey.
- Around 5-7% of project funds should be earmarked for the implementation agencies for monitoring and evaluation.

- Attempts should be made to generate relevant data from the other ongoing surveys by adding relevant questions and saving on funds thereby effectively using the resources of the country.
- Countries should prepare a road map to decide specific actions needed to strengthen M&E and bring it in line with the indicators required to assess the progress towards the achievement of goals and targets of malaria control programme/RBM.

8. GLOBAL MALARIA REPORT 2004

Mr John Miller (WHO/HQ) provided an overview of the proposed Global Malaria Report 2004. The report will be based on global reporting systems that will comprise standardized indicators, established and agreed data collection process forms based on consistent reporting formats, data base, and a feedback between countries, regional offices and WHO headquarters. The report will comprise household survey indicators, epidemiological burden presented in the form of country profiles for the latest data available, treatment practice coverages, prevention and financial information. The data will be stored in data collection forms which will be accessible on line and linked to dynamic reporting and based on compatible standards for data exchange. These systems will be available on the WHO website. The data management system was illustrated with examples. It would reflect programme progress and improve upon what the regions are doing. The proposed Global Malaria Report 2004 will contain a narrative that includes burden and trends in malaria, drug policy, resistance and coverage information, prevention including ITN, IRS and IPT, epidemic detection and response, equity issues and financing and planning. Examples were given from Africa Malaria report 2003. The proposed time-line was described and agreement obtained from countries. The inputs expected from the countries and the regional offices were discussed. Mr Miller summarized the country profiles based on the country presentations. The Global Malaria Report 2004 would also include success stories that reflect the best practices and case studies that identify constraints and the lessons learnt.

Dr Anton Fric (WHO/SEARO) made a brief presentation on the Mandala discussion and informed that inputs from various surveys should supplement the health system to help evidence-based decision-making by policy-makers for the ultimate benefit of health of a country or community.

Discussion points

- There is a need to develop better models for measuring morbidity due to malaria given the constraints of the system where only mortality-related institutional data were available.
- Specially in large countries investments are needed to strengthen surveillance in high-risk low-incidence areas to prevent increase in the number of cases of malaria.
- The decline in malaria cases reported should be checked to ensure that it is not due to change in reporting.
- A system should be established to ensure regular and timely reporting of information between countries, regional offices and WHO headquarters. This will become more meaningful by building a system of feedback.
- The inclusion of success stories and case studies can be useful in enhancing the advocacy for mobilization of resources and for sustainability.
- Programme approaches used may be different depending on geographical locations for e.g. Asia, Africa, America and others.

9. MALARIA OUTBREAKS/EPIDEMICS

Dr Vijay Kumar (Temporary Adviser, WHO) summarized the recommended approach for early recognition and prompt control of malaria epidemics. Although a major problem in the countries of the Region, focal outbreaks are a continuing challenge to malaria control programmes. The predisposing factors were identified and the adverse impact reviewed. The various steps for controlling of epidemics were enlisted and links with integrated disease surveillance and the need for intersectoral collaboration emphasized. Tools are available for use by national programmes and in the district health system. The capacity of the district health system should be enhanced through rapid response teams.

Dr Jotna Sokhey (Temporary Adviser, WHO) highlighted the issue of occurrence of outbreaks in low-endemic areas where very little malaria cases are recorded. For example: the desert part of Rajasthan where there are outbreaks due to water storage practices and where *Anopheles stephensi* is

prevalent. In such situations, to control the outbreak, lot of difficulties are being faced. High risk disease burden is attributed to the neglect of public health. IRS is not a strategy for vector control in low endemic areas but becomes relevant for prompt control of epidemics. The capacity for IRS has declined in these areas. Integrated disease surveillance programme helps in early detection of fever case examinations by skilled people.

Discussion points

- There is a need to identify members of rapid response team (RRT), their job description and training needs for capacity development in the control of epidemics. The team should comprise a trained epidemiologist, an entomologist and field- level experienced personnel. Guidelines are required for training RRT members.
- There was concern about reluctance to share information on epidemics. Only large epidemics and those that threaten to spread across international borders need to be shared with WHO. At other times, information on epidemics may be shared if there is a need for mobilizing resources or when technical support is required.
- Countries should include information on epidemics in their annual reports so that the trends can be analysed and this can help in timely recognition and control of epidemics of malaria.
- The media can serve as an ally for education of the public and enhancing the participation of the community in epidemic control. Although outbreaks have a negative impact, their occurrence can be used as an opportunity to mobilize additional resources to strengthen disease surveillance.

10. GROUP WORK

The participants were divided into two groups with each group comprising participants from all the participating countries. A Chairperson and a rapporteur were nominated for each of the groups which were provided with the objectives and broad headings to be discussed. They were asked to decide on the issues to be addressed, identify constraints and the lessons learned and provide recommendations for presentation and discussion in the

plenary session. **Group I discussed the framework for RBM core indicators and special surveys.** The objective was to discuss the current status and data collection for RBM indicators at the country/regional level, to identify constraints and recommend follow-up actions. There were 8 core issues that were grouped into 4 major headings.

(1) Approaches to be adopted for moving forward on data collection for RBM core indicators and the role of HMIS

The current status is that clinical diagnosis of malaria is not made on case definition of malaria; information on severe cases in health facilities is incomplete; there is inconsistency in reporting in the countries. While some basic data are collected through HMIS, they do not meet the needs of the malaria control programme; they do not reflect age and sex-wise distribution; often data from health facilities are not included in the report. There is a long time lag in some countries in the consolidation of data in the form of a report. The major constraints include difficulties in incorporating the data on malaria in the health information system; non-availability of resources to collect additional data; data obtained from HMIS may not provide the information required by the malaria control programme; although data according to age and sex are collected and can be disaggregated, this is not analysed from routine HMIS; there is no common understanding of the criteria used for the identification of at-risk population; health centres/hospitals do not consistently follow the national policy in the treatment of malaria; the formats are not compatible with the data that are collected leading to a mismatch; for some countries, the indicators agreed upon in Kunming and Haryana are too extensive, complicated and difficult to follow.

Recommendations and action points

- Minimum core indicators should be considered. These include probable/confirmed cases of malaria, number of confirmed cases of *P. vivax* and *P. falciparum* and the number of deaths due to malaria. There should be a uniform definition of probable cases of malaria based on the recommendations of the 20th WHO Expert Committee on Malaria.
- Efforts should be made to obtain disaggregated data according to age and sex. Difficulties should be identified and taken up with HMIS since disaggregation is not only to identify vulnerability, but it has also

implications for equity, as well as for determining the need for antimalarial drugs.

- The at-risk population should be defined based on a common understanding of the criteria used. If there are difficulties, then the country should qualify it by a statement to that effect in the country profile.
- Information of interest to the malaria control programme can be supplemented from the national surveys like DHS, MICS, socio economic surveys, mortality surveys etc.
- The deficiencies in these national surveys with respect to malaria indicators should be identified and efforts made to get them incorporated in future national surveys.
- If national data are not available, a beginning can be made by sharing information from selected areas or selected health facilities where the data are considered more reliable and then enlarged.
- In areas where mortality due to malaria is declining, it is important to determine the causes and circumstances related to death and carry out death audits so that the system can make an effort to reduce deaths due to malaria. In non-institutional settings, the verbal autopsy tool can be used although it may be a difficult instrument since it has not been validated in adults.

(2) Role of special surveys in RBM, linkages with national surveys and time-plan for refining, field-testing and piloting

National surveys such as DHS, MICS and others do not include data that are required by the malaria control programme although some useful information can be obtained from them. Mortality surveys conducted in India can be used to determine the cause of death due to malaria/fever. Special surveys are needed to obtain information on care seeking for malaria and its timeliness, stock-outs of antimalarials, and ownership and use of Insecticide treated bednets (ITNs). The special surveys should be done as household or health facility surveys. It is difficult to capture the promptness of treatment of malaria and the target of treatment within 24 hours may be unrealistic. There are likely constraints in incorporating the above indicators in DHS, MICS or other national surveys. The tools for conducting special surveys are not yet finalized and there are constraints in mobilizing resources needed to conduct special surveys.

Recommendations and action points

- Review the information available in currently available surveys like DHS, MICS, mortality surveys and socioeconomic surveys. Determine what information is useful for the programme and what additional information is required.
- Establish linkages with the proposed national surveys to include assessment of indicators relating to malaria.
- Based on programme needs, identify and adapt, if necessary, indicators that need to be assessed and decide whether these will be evaluated at national or subnational levels.
- Countries should discuss and prepare a plan describing their needs and what they wish to do regarding monitoring and evaluation and consider various options that are available. This should lead to the preparation of a road map for work on M&E.
- Mobilize additional resources for special surveys. It can be part of the GFATM project in countries supported by the fund.
- In the household and health facility surveys, include diagnosis, treatment and control of malaria by the private sector to understand their contribution to the malaria control programme.

(3) Completeness and quality of data and data management at different levels

At present data are frequently not complete and in most countries there is no information from the private sector. There are frequent long delays in compiling and timely sharing of information. Since the data are not analysed at different levels of the health system and the system for feedback is weak, it is difficult to determine the completeness of data. The quality of data at different levels is difficult to assess in the absence of application of standard criteria. At different levels, there are deficiencies in data since there is little ownership of the data and because the discussion and feedback on the information gathered is not a routine practice or it is delayed. The formats are often complicated and computerization in HMIS has not been done in all the countries. This is an important cause for delays.

Recommendations and action points

- Data management should be undertaken at the district level with built-in mechanisms for support at state and the central levels.
- The formats for consolidation of data and for reports should be simplified. They should be based on the critical needs of the programme.
- Data gathered at the district level should be discussed with regular feedback for strengthening the malaria control programme.
- Data needed at the central level should be limited to that what is needed for policy-making or for reflecting the trends.
- The quality of information on diagnosis and treatment should be an integral part of the programme.
- If possible, the processing of data and data management should be computerized to ensure timeliness of data.

(4) Technical support needs

- WHO should provide technical support through capacity development and provision of guidelines and tools and by sharing standards of quality.
- Easy and simple-to-use tools should be provided, especially at the district level. This becomes important for countries that follow a policy of decentralization.
- Technical support is required for malaria surveillance, prediction of epidemics and outbreaks of malaria and entomological studies.
- Funds should be mobilized and priority be given to monitoring and evaluation in the existing programme. This is important when countries are proposing to scale up malaria control efforts to reach the RBM goals.

Group II Malaria reporting (country, regional and global reporting including Global Malaria Report 2004) and outbreak recognition/control

The objectives were to develop a consensus on reporting of data at country, regional and global levels; and to identify opportunities to improve detection, reporting and control of epidemics.

The group was assigned five core issues to reach the above objective. The group reviewed the reporting format prepared by the Regional Office of WHO, reviewed the draft profile for the Global Malaria Report 2004, discussed the interaction with integrated disease surveillance (IDS) and data on malaria provided by the countries and debated the core information for epidemics reporting.

(1) Revision of SEARO reporting format on malaria

- There should be agreement amongst the countries on the use of criteria to define at-risk populations.
- In the format, information on RDTs should be added since this diagnostic tool is being increasingly used in the countries.
- Reporting on insecticide usage should be based on the recommendations made by WHO Pesticide Evaluation Scheme (WHOPES).
- It was agreed that the deadline for sending the completed reporting form to the Regional Office would be 30 April of the year. It may be difficult to adhere to this date in 2004.
- In the format, countries should identify the problems, constraints and actions taken.

(2) Global Malaria Report 2004

- Countries will provide information on the revised reporting format in the form of country profiles.
- To the extent possible, the period covered in the profile will be for the year 2003. In case there are inordinate difficulties, the latest information will be provided. This will be indicated in the country profile.
- Updated country description will include general assessment, description of the national policy, antimalarial drug resistance, insecticide resistance, case definitions for malaria and information on vector density. Any special aspects of the programme may also be included.
- Success stories to describe the best practices and case studies to capture the problems/constraints and lessons learnt should be sent to WHO for inclusion in the Global Malaria Report 2004.

(3) Interaction with integrated disease surveillance

- Priority should be given to the data provided by HMIS on a weekly, monthly and quarterly basis according to established national norms. The information needs of IDS should be minimal since what the programme expects from IDS is to be alerted on the occurrence of epidemics. Priority should be given to malaria morbidity and mortality as indicators. IDS should not be burdened with other information from the malaria programme since IDS is also concerned with other communicable diseases.
- IDS and malaria should try to complement each other's work and develop collaboration.

(4) Core information on epidemics reporting

- WHO guidelines are available for in-country efforts to assess and report malaria outbreaks/epidemics. This is available in the form of a field guide prepared by WHO headquarters. Simplified guidelines for use by the district level staff are being developed by the Regional office. General guidelines for programme management at the district level are available. They contain a section on epidemic recognition and control. These guidelines have been adapted in some countries and are being used.
- Reporting of epidemics to WHO should be concise for promptness and efficiency. The following information is recommended:
 - date of onset of outbreak;
 - area affected;
 - population affected;
 - malaria cases and deaths;
 - action taken to control the epidemic; and
 - description of the support needed.
- Since there are a large number of epidemics of malaria and they have local or national significance, there is no need to report them when they occur. However, these must be included in the annual report to WHO.
- Epidemics which pose a threat to neighbouring countries through cross-border spread or international spread and epidemics where support from WHO and other partners are needed should be reported promptly. The principle of prompt reporting to WHO involves that of working together in solving public health problems.

Recommendations and action points

- WHO should revise and refine the reporting format based on the discussion during the consultation and distribute it for use by mid-April 2004.
- Countries should submit their report by May 2004 with additional country profile description for inclusion in the Global Malaria Report 2004.
- Success stories describing the best practices and case studies identifying problems/constraints and lessons learnt should be submitted along with the country profiles.
- The country profiles and case studies/success stories will be shared with WHO headquarters after consolidation. These will be sent back to the countries for their final comments.
- Preparedness plans and rapid response teams are required for early recognition and prompt control of malaria epidemics/outbreaks.

After the presentation of the group work and the plenary discussion, 10 recommendations were drafted and discussed in detail. The final recommendations as approved by the plenary session are as follows:

11. RECOMMENDATIONS

11.1 To Member States

- (1) To respond to the needs of scaling up of malaria control efforts, countries should adopt the recommended RBM and MDG indicators and use critical indicators agreed at the consultation for monitoring and evaluation of national malaria control programmes.
- (2) Countries should with WHO support, identify the key indicators, identify the tools for measuring these indicators, develop and adapt appropriate guidelines, and harmonize their reporting.
- (3) The formats for reporting should be simplified at all levels (district, national, regional) to be compatible with the tools identified.

- (4) Countries should review the available information on malaria from World Health Surveys, national surveys like DHS, MICS, mortality surveys, socioeconomic surveys, etc. Efforts should be made to incorporate key information on indicators that can be measured through these national surveys. Special surveys should be planned to seek additional information on indicators that cannot be measured by HMIS or the national malaria programme.
- (5) Assess the contribution of private sector in reporting, diagnosis, treatment and control of malaria through the use of multiple data sources (health information system; national surveys; information from professional organization). Private sector and industries in the organized sectors can be the starting point.
- (6) Concretize plans for collection, analysis and reporting of information on malaria through health management information system (MIS), malaria control programme, national surveys, and special surveys. Prepare a road map for monitoring and evaluation to include plans and to mobilize resources.
- (7) Prepare plans for contribution to the Global Malaria Report 2004, include country profile 2003 (if not possible, then the latest information). Success stories to illustrate best practices and case studies to identify constraints/lessons learnt should be prepared for inclusion in the report.
- (8) Collaborate with integrated disease surveillance to include critical information and identify channels of communication at different levels of health systems and identify the role of IDS and malaria control programme in epidemic control.
- (9) Countries should report to WHO epidemics/outbreaks of malaria along the international borders and those which constitute a threat to health in other countries. Sharing of information on epidemics should be considered to solve technical problems, get technical support from WHO or when resources need to be mobilized. The annual country report should contain information on epidemics according to the agreed format.
- (10) Develop plans to progressively ensure timeliness, completeness and quality of reports to improve programme performance at all levels.

11.2 To WHO

- (1) WHO should send the revised format for reporting to the Global Malaria Report 2004 to member countries in April 2004.
- (2) WHO should provide technical support to countries in identifying key indicators, tools for measuring these indicators and develop appropriate guidelines for reporting.
- (3) WHO should provide the guidelines and technical support for special surveys to member countries.
- (4) WHO should advocate for resources on behalf of member countries for monitoring and evaluation.
- (5) WHO should support countries in inclusion of malaria report into the integrated disease surveillance.

Annex 1

LIST OF PARTICIPANTS

Bangladesh

Dr A.T.M. Mustafa Kamal
Programme Manager (Malaria)
Directorate General of Health Services
Mohakhali
Dhaka-1212
Tel. 9899203 (O), 9801130
(R.) 0171803120 (Mob) Fax: 9886415
Email: tkamp2001@yahoo.com

Dr Md Mushfiqur Rahman
Evaluator (M&PDC)
Directorate General of Health Services
Mohakhali
Dhaka-1212
Tel. 00-880-2-9899203 (O), 00-880-2-9134959; Fax 008-880-2-9886915;
Musfiar2003@yahoo.com

Mr Moinuddin Ahmed Bhuiyan
System Analyst
Management Information System
Directorate General of Health Services
Mohakhali, Dhaka-1212
Tel.: 8813765
Email: moin@dghs.org

Bhutan

Dr Karma Lhazeen
Programme Manager
National Malaria Control Programme
Gelephu
Tel.: 00975-6-251133
Fax 00975-6-251173
Email: nmcp@druknet.bt;
KLHAZEEN@hotmail.com

India

Dr Prabha Arora
Deputy Director
National Vector Borne Disease Control
Programme
22, Shamnath Marg
New Delhi-110-054
Tel.:0091-11-23967745, 23967785; (R)
29816136; 29811234
Fax: 0091-11-23968392
Email: prabha_arora@indiatimes.com

Dr B.R. Thapar
Joint Director (Entomology)
National Vector Borne Disease Control
Programme
22, Shamnath Marg
New Delhi – 110054
Tel.: 0091-11-23955510 (O); 27051624 (R)
Fax: 0091-11-23968329
Email: nmep@ren02.nic.in;
namp@ndc.vsnl.net.in

Dr Jagvir Singh
ADG (IH)
Directorate General of Health Services
Room No. 445, 'A' Wing
Nirman Bhawan
New Delhi-110 011
Tel.: 00-91-11-23019156 (O)
Fax: 00-91-11-23019156
Email: adgih@nb.nic.in

Indonesia

Dr Ferdinand J. Laihah
Chief, Sub-Directorate of Malaria Control
Directorate-General of Communicable Disease
and Environmental Health
Ministry of Health
Jl. Percetakan Negara 29
Jakarta
Tel.: 62-21-4247608 Ext. 150 and 154
Fax: 62-21-4247573
Email: laihad@centrin.net.id

Mr Djohar Kusuma Dihadja
Head
Section for M&E for Malaria Control
Directorate-General of Communicable Disease
and Environmental Health
Ministry of Health
Jl. Percetakan Negara 29
Jakarta
Tel.: 021-424-7608 (O)
021-881-8830 (R)
Fax: 021 4247573
Email: HARKSOY@yahoo.com

Mr Hari Santoso
Chief of Outbreak Section
Communicable Disease and Environmental
Health
Ministry of Health
Jakarta
(unable to attend)

Maldives

Mr Hassan Samir
Dy. Director
Vector Borne Disease Control Unit
Dept of Public Health
Male
Tel.: 322381; 322488
Fax: 314653

Sri Lanka

Dr R.R.M.L.R. Siyambalagoda
Director
Anti-Malaria Campaign
555/5 Elvitigala Mawatha
Colombo-5
Tel.: 00-94-11-2588947
Fax: 00-94-11-2368360
Email: antimal@sltnet.lk

Dr S.D.P. Warusavithane
Medical Officer
Anti-Malaria Campaign
555/5 Elvitigala Mawatha
Colombo-5
Tel.: 00-94-11-2588408
Fax: 00-94-11-2368360
Email: antimal@sltnet.lk
Email: samanwar@slt.lk

Thailand

Mr Suthas Nutsathapana
Technical Officer
Chief-Malaria Cluster
Bureau of Vector Borne Disease
Department of Disease Control
Ministry of Public Health
Tel.: 662-590-3135
Fax No. 662-5918422
Email: suthasnut@hotmail.com

Dr Wannapa Suwonkerd
Technical Officer
Office of Disease Prevention & Control Region
10
18 Boonmangrit Road
Muang District
Chiangmai-50200
Tel.: 00-66-53-221529
Fax: 00-66-53-212389
Email: suwannapa@yahoo.com;
malar@chmai.loxinfo.co.th

Timor-Leste

Mr Johannes Don Bosco
Focal Point for Malaria Programme
Department of Communicable Disease Control
Ministry of Health
Rua de Caicoli
Dili
Tel.: 670 (390) 3322467
Fax: 670 (390) 3313189
Email: jonigegeer2001@yahoo.co.uk

Temporary Advisers

Dr Vijay Kumar
Ex-Director, CDS
WHO/SEARO
New Delhi, India

Dr Jotna Sokhey
Director
National Vector Borne Disease Control
Programme
22, Shamnath Marg
Delhi-110 054, India
Tel.: 91-11-3918576 (O); 91-11-4103878 (R.);
Mob.: 9810203035
Fax: 91(11)3968329; 3972884
Email: namp@ndc.vsnl.net.in;
jsokhey@hotmail.com

Dr Ratna L. Budiarmo
TMN. Wijayakusuma Blok D/10 Cilandak
Jakarta 12430, Indonesia
Tel.: (021) 769 1822
Email : budiarmo@dnet.net.id;
rbudiarmo@litlomg.depkes.id

WHO Secretariat

WHO Country Focal Persons for Malaria

Dr Krongthong Thimasarn
MO-RBM Mekong
Thailand

Dr Steven Bjorge
TO-MAL&VBC
Indonesia

Dr Manan Bangali,
NPO
Bangladesh

Dr Ravi Kumar
NPO
India

Dr Leonard Ortega
STP-MAL
Myanmar

Dr V. Janout
STP
Nepal

HQ

Dr Bernard Nahlen
Coordinator
Monitoring & Evaluation, RBM

Mr John Miller
Database Administrator
Monitoring & Evaluation, RBM

WPRO

Dr David Bell
MVP/DCC

SEARO

Dr N. Kumara Rai
Director, CDS

Dr A.S. Abdullah
CDC

Dr Chusak Prasittisuk
MAL

Dr Anton Fric
EHI

Ms Rekha Anand
Sr. Secretary, Malaria

Ms Pushpa Prabhu
Secretary, Malaria

Annex 2

AGENDA

Day 1, 16 March 2004

08.30 hrs	Opening Remarks Administrative announcements Appointment of chair and rapporteur	RD/SEARO RA MAL RD/SEARO
09.00 hrs	Global and Regional updates <i>(Participants are familiar with the progress in countries, strategic plans, lessons learnt and the way forward)</i>	
	RBM monitoring and evaluation , MERG, Progress in measuring indicators Global Malaria Report 2004, recognition and management of epidemics	Dr Nahlen
	Review of monitoring and evaluation of malaria control Programme in SE Asia Countries, SEA Region needs	Dr Chusak Prasittisuk
	Review of monitoring and evaluation in WP Region , status of application of Kunming indicators Discussion Action points	Dr K Palmer / Dr Eva Christophel
11.00 hrs	Country review of monitoring and evaluation Bangladesh, Bhutan, DPR Korea, India, Indonesia, Maldives	One participant from each country
14.00 hrs	Country review (continued) Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste	
16.00 hrs	Health information system – Information shared from the periphery to the district provinces and center-frequency, time lag, processing and feedback System for sharing country information with the Region	Dr Ravi Kumar
17.30 hrs	Review Meeting of WHO Secretariat	

Day 2, 17 March 2004

08.30 hrs	Special survey /Links with DHS,MICS and other national surveys Household and health facility survey protocols Discussion	Dr Ratna Budiarmo/ Dr Vijay Kumar
11.00 hrs	Global Malaria Report 2004 (Background, objectives, contents expectations from countries and regions)	Mr John Miller
12.00 hrs	Malaria epidemics/Outbreaks (New tools) Rapid response teams	Dr Vijay Kumar
14.00 hrs	Group work Group 1: Framework for RBM core indicators Group 2: Malaria report : country, regional and global (including Global Malaria Report 2004) Group 3: Special surveys and outbreak recognition/control	(Participants will work in 3 groups. Core issues to be discussed will be provided)
16.00 hrs	Group discussion (continued) Prepare brief presentation for plenary session	
17.30 hrs	Review Meeting of WHO Secretariat	

Day 3, 18 March 2004

08.30 hrs	Plenary - Presentation of Group 1 Discussion	
11.00 hrs	Plenary - Presentation of Group 2 Discussion Plenary - Presentation of Group 3 Discussion	
13.30 hrs	Recommendations	
14.30 hrs	Closing ceremony	