

The *Amazon Network for the Surveillance of Antimalarial Drug Resistance* (RAVREDA) and the *Amazon Malaria Initiative* (AMI) are part of the joint efforts of the Amazon countries and institutions (PAHO/WHO, USAID, CDC, USP, MSH) for *Roll Back Malaria* in the Americas (*Roll Back Malaria Initiative / RBMI*).



RAVREDA-AMI Newsletter

No. 2, January-March 2005

Contents

- Regional News
- Country News
- Analysis
- Activity Schedule

The *RAVREDA-AMI Newsletter* is a quarterly news and information publication of RAVREDA-AMI where the latest activities and progress of the **Amazon Network for the Surveillance of the Antimalarial Drug Resistance** are reported and shared.

RAVREDA Regional News

Evidence-Based Malaria Vector Control

In coordination with the Peruvian Ministry of Health, a meeting was held in February in Lima to design an evidence-based malaria vector control strategy and an entomological surveillance system for endemic areas in the Amazon region. Participants from the Region's eight countries defined the objectives, basic principles, methodological details, and a preliminary agenda for the work plan for this subject in RAVREDA-AMI. In keeping with the Roll Back Malaria initiative guidelines, the final proposal seeks to give local levels the tools to make decisions on vector control using a process based on the analysis of entomological and epidemiological data. This process starts with stratification of the risk areas and includes the selection of interventions, proper supervision during their execution, and the evaluation of their effectiveness and impact. This will generate information to guide local-level interventions. With the process being repeated in the different risk areas using standardized methodology for the eight countries, entomological information will also be generated for the Region that will be shared through an information system to guide decision-making at the different levels. The document and the work plan devised at the Lima meeting are available at the RAVREDA website on the Internet at www.mayeticvillage.com/RAVREDA.

IV Annual Evaluation Meeting and VI Coordinating Committee Meeting

On 15-17 March 2005, in Cartagena, Colombia, the IV Annual Evaluation Meeting of RAVREDA-AMI and the VI Coordinating Committee Meeting were held. The participants were the Project coordinators and Malaria Control Program coordinators in the eight Amazon countries. Various institutions also participated (PAHO, USAID, CDC, MSH, USP), as well as other NAMRID initiatives, DNDi (Drugs for Neglected Diseases Initiative). At the meeting, progress made in the Project's different lines of work over the last year was reviewed: Monitoring Antimalarial Drug Resistance; Development

and Implementation of Antimalarial Policy; Management, Quality, and Use of Antimalarials. An introduction was given to the issues of evidence-based vector control and assessing the magnitude of the problem of malaria in pregnancy in the Amazon region. A document was prepared with conclusions and recommendations that is available at the RAVREDA website (www.mayeticvillage.com/ RAVREDA); the main conclusions are presented at the end of this issue of the RAVREDA Newsletter.

Linking Up With Other Initiatives

During the first quarter of the year, RAVREDA-AMI exchanged information and contacts with other initiatives and ongoing projects in the region on malaria control and particularly about diagnosis and treatment. In February, a meeting organized by the International Atomic Energy Agency with the Andean countries (Venezuela, Colombia, Ecuador, Peru, and Bolivia) was held about a project to support detection of molecular markers of antimalarial drug resistance. This provided a venue for exchanging information on this project, the activities of RAVREDA-AMI, and the work plan of the Global Fund projects for the Andean countries that the Andean Health Agency has been supporting. Similarly, during the IV Annual Meeting of RAVREDA-AMI in Cartagena information was disseminated on the Drugs for Neglected Diseases Initiative and the development of a line of work about fixed combination formulations of artesunate mefloquine + mefloquine and artesunate mefloquine + amodiaquine.

Country News

◆ Bolivia

Administrative Aspects

In January 2005, Dr. Abrahán Matías assumed responsibilities as the new national coordinator of RAVREDA-AMI, located in Cobija, Pando. Starting in January 2005, RAVREDA-AMI activities, in addition to

involving the PROSIN/USAID Project (Comprehensive Health Project of the Ministry of Health of Bolivia), will also have the participation of the NGO “Health Partners,” sponsored by USAID, Bolivia in the management of resources.

Participation in Regional Events

Two representatives of the Bolivian Ministry of Health participated in the Lima meeting on the use of entomology for vector control. Similarly, there were two participants in the workshop on the use of Minilabs for antimalarial quality control, held in Guayaquil, Ecuador, and at the IV annual evaluation meeting and VI steering committee meeting of RAVREDA-AMI held in Cartagena, Colombia.

Antimalarial Drug Susceptibility Studies

Samples are being collected for the *in vitro* susceptibility study of *P. falciparum* strains at the two Amazon subregion sentinel sites. The drugs to be evaluated are mefloquine, Artesunate, and quinine, and the study will be conducted under the coordination of the Pharmacological and Biochemistry Research Institute of the University of San Andrés, in La Paz, with support from PAHO/WHO.

Quality Control in Malaria Diagnosis

There was involvement in the external performance evaluation of the national reference laboratory’s microscopic malaria diagnosis carried out by the Parasitology Service of the Pitié Salpêtrière Hospital of Paris, (National Reference Laboratories Qualification Process).

Rapid Diagnostic Tests

During the first three months of 2005, research data were collected on “the effectiveness of rapid tests for the diagnosis and treatment of malaria used by health volunteers among the Brazil nut-picker population.” The objective of the study is to determine the usefulness (sensitivity, specificity, predictive value, accuracy, cost effectiveness, acceptability, and sustainability) of OptiMAL rapid tests for the diagnosis and specific treatment of malaria by volunteers and technical health personnel, in a seasonal migrant population (Brazil nut pickers) at high-risk for illness and with difficult access to microscopic diagnosis, in the Bolivian Amazon region.

Patient Adherence to Treatment and Compliance with Technical Standards for Malaria Treatment

Processing was finished of the data from the study on patient adherence to malaria treatment in the municipalities of Riberalta and Guayaramerin, Beni and they were conformed to the research protocol for the study on compliance with malaria treatment standards by technical staff in the health facilities of the Amazon subregion of Bolivia.

Malaria Vector Insecticide Susceptibility and Resistance

Based on the results of the Lima meeting on the use of entomology in malaria control, the Entomology Laboratory of the National Institute of Health Laboratories, with support from the Institute for Development Research (IRD) France, initiated the quality certification process and production of insecticide impregnated paper for monitoring resistance with the WHO tube test, for the purpose of being able to distribute them to the Amazon countries starting in 2006.

◆Brazil

Evaluations of Antimalarial Effectiveness

During the first three months of the year, progress was made in enrolling patients in evaluations of antimalarial effectiveness at the RAVREDA sentinel sites, especially in Macapá, São Luis, Manaus, Coarí, Belém, Tucuquí, Porto Velho, and Cuiabá. The preliminary results of the effectiveness studies were presented in mid-March at the annual meeting of RAVREDA in Cartagena. Table 1 shows the patients enrolled to date in the RAVREDA studies in Brazil. With regard to patient enrolment, the high percentage lost to follow-up is striking at some sentinel sites. One partial finding of these evaluations has been the recording of patients with asexual parasitemia on day 28 among individuals treated for *P. vivax* malaria; these cases are being evaluated in order to ensure that these are cases with adequate blood levels of chloroquine. Therapeutic failure with the two official regimens for the treatment of uncomplicated *P. falciparum* malaria was also recorded; results that will be analyzed by the Ministry of Health when the studies conclude.

Table 1: Patients Included in the RAVREDA-Brazil Antimalarial Effectiveness Studies

State	Chloroquine <i>P. vivax</i>		Mefloquine <i>P. falciparum</i>		Q3dmefloquine + D5d <i>P. falciparum</i>	
	Enrolled *	Monitoring Concluded	Enrolled *	Monitoring Concluded	Enrolled *	Monitoring Concluded
Amazonas	292	292	100	100	-	-
Amapá	168	158	47	42	82	78
Rondonia	66	51	39	35	-	-
Pará	160	132	-	-	56	44
Mato Grosso	68	50	-	-	-	-
Maranhão	48	46	15	15	-	-

*Monitoring Concluded refers to patients monitored 28 days, therapeutic failures, loss to follow-up, and drop-outs. The difference between patients enrolled and those with monitoring concluded are patients still being monitored as of the date of the report.

New Effectiveness Studies

At the beginning of the year, administrative mechanisms were devised and resources allocated to the collaborating centers and sentinel sites to ensure conclusion of the effectiveness evaluations in progress and the preparation of evaluations of artemisinin derivative combinations at the sentinel sites in the states of Rondônia (Porto Velho sentinel site) and Mato Grosso (Cuiabá). The Manaus sentinel site was also supplied with drugs for the implementation of a study on Coartem® effectiveness.

Evaluation of the use of Rapid Tests

During the first months of the year, methodological details were reviewed and modifications were made to the protocol for evaluating rapid test performance in field conditions, to permit the evaluation over a 10-month period. Procurement of the tests was concluded, which will be distributed to the sentinel sites in April and resources were allocated to the institutions that will coordinate the study's execution.

Evaluation of the Quality of Antimalarials in use in Health Facilities

Starting in January, with the coordination of the quality control laboratory of the Federal University of Minas Gerais, planning began for evaluating antimalarial quality. With the Ministry of Health, the drug lots to be evaluated have been identified and guidelines were prepared for drug sampling and collection in the selected health posts.

Symposium on Malaria at the 41st Congress of the Brazilian Society of Tropical Medicine

As part of the 41st Congress of the Brazilian Society of Tropical Medicine, on 7 March 2005 in the city of Florianópolis a symposium on the Control and Prevention of Malaria was held. Four roundtable discussions were held on the following subjects: Epidemiology and Malaria Control, Entomology and Vector Control, Monitoring Antimalarial Drug Resistance in Brazil, and Policies and Prospects for Malaria Treatment. The preliminary results of the antimalarial effectiveness evaluations in progress in Brazil were presented and discussed during the symposium, which was very well attended.

◆ Colombia

Preparation of Antimalarial Policy Paper

5

During the first months of year, a Policy Paper on Malaria Drugs in Colombia was drafted. The document, currently under review, includes the modifications to treatment regimens that were recommended at the meeting of national experts in September 2004 and that are being revised. The document should also propose guidelines to improve distribution and access to drugs and provisions on best prescribing and dispensing practices, as well as guidelines for the sustainability of the surveillance network and for monitoring observance of the policy.

Changes in Treatment Regimens

In the first three months of the year, the Ministry of Social Protection (MPS) initiated the process of reviewing the Comprehensive Management Guidelines for events of interest to the public health that were regulated in 2000. Among other diseases relevant to public health, these standards include a Guideline on the diagnosis and treatment of malaria in Colombia. This review is considering the recommendations on changes in the therapeutic regimens presented to the MPS by a group of experts that met in Bogotá in September 2005. The plan is to coordinate the regulation of the new regimens with the process of developing a malarial drug policy that complements the Guidelines' provisions with improvements in drug distribution and use.

Evaluating Adherence to Treatment

During February 2005, an evaluation of patient adherence to treatment for *P. vivax* malaria was done in an endemic municipality in northern Colombia. In addition to detecting considerable deficiencies in the quality of prescribing and in antimalarial availability, the study revealed an adherence failure rate close to 50%. During the same period another study was conducted on adherence to first-line treatment for *P. falciparum* malaria (AQ 3 days and SP) in a Pacific region municipality, which showed a treatment adherence failure rate of 33%. Such high percentages of adherence failure would certainly have important repercussions for the cure rates of the treatments prescribed in these regions. The findings call attention to the importance of working on strategies to improve prescribing and drug use.

Evaluation of Mortality from Malaria and Serious Malaria

The conclusions of the meeting of national experts held in September 2004 brought attention to the importance of reviewing the problem of serious and complicated malaria and of mortality from malaria in the country. Situations were presented that suggested under-reporting of these events. Considering the importance of intervening in this problem and the effect that this can have on malarial drug policy, during the first months of 2005, within the framework of RAVREDA, a situation assessment on these aspects was begun in endemic municipalities on the Pacific coast and a baseline of mortality from malaria and complicated malaria in high-risk municipalities is being prepared.

Quality of Effectiveness Evaluations

In the last week of March, a clinical epidemiology workshop was held for the medical teams that are doing the studies in Colombia.

◆ Ecuador

Monitoring Antimalarial Drug Resistance

A study to evaluate the effectiveness of amodiaquine in the treatment of uncomplicated *P. falciparum* malaria was

initiated in May 2004. At that time, Ecuador had not yet decided on changing the first-line regimen to ASU mefloquine + SP and amodiaquine was still among the alternatives for a future therapeutic combination. The study conducted at the Santo Domingo sentinel site was extended due to difficulty enrolling patients because of the low incidence of the disease. In March it concluded, with therapeutic failure close to 40%.

Training in the use of Minilabs

With technical coordination by the United States Pharmacopeia, training on the use of GPHF Minilabs for assessing antimalarial drug quality in the field was held from 28 February to 4 March 2005 at the National Institute of Hygiene in Guayaquil. This training is part of a RAVREDA line of work coordinated by the USP aimed at building capacity in malaria programs and health services for controlling the quality of the drugs available in the endemic areas of the Amazon region. During the training three working teams were formed for the Provinces of Esmeraldas, El Oro, and Santo Domingo, made up of staff from the NMES, the Provincial Health Bureaus and the National Hygiene Institute (INH) in the respective Provinces. The teams will collect antimalarials in the endemic areas and will carry out a visual inspection and examination, disintegration tests, and identification and content using thin-layer chromatography. A sample of the drugs screened will be sent for confirmatory testing at the INH quality control laboratory.

Links with Other Institutions for Implementing Activities Pending in the 2003–2004 Plan

In recent months, RAVREDA-AMI Ecuador made progress in discussing terms of reference and in preparing technical proposals and letters of agreement in order to make it possible to execute the activities pending in the 2003–2004 Plan. These involve an evaluation of the quality and access to diagnosis and treatment, and improvements in the malaria information system. At the end of this first quarter, plans were finalized for the RAVREDA group to receive advisory services on publishing the studies conducted to date.

Quality of Diagnosis

On this subject, progress was made in surveying and classifying public and private laboratories in El Oro and Esmeraldas provinces. Advances were made in indirect evaluation and preparing slide sets for External Performance Evaluation (EPE).

Adherence Studies Conclude

During the first three months of the year, studies to evaluate adherence to *P. vivax* malaria treatment were concluded in Esmeraldas, Milagro, and El Oro. Currently, the database is being screened and the results analyzed. Adherence failure rates for the 14-day regimen were 70%, 25%, and 50%, and for the 7-day regimen they were 12% and 20%. In the studies with the 14-day regimen there were evident problems with the lack of written prescriptions. In the studies of the 7-day regimen,

prescribing practices improved with the introduction of written instructions and human resources training.

Rapid Test use Evaluated

Studies to evaluate rapid tests were begun in 2004 in the provinces of Esmeraldas and Pastaza and concluded in March 2005. Findings showed that the test is well accepted by the community and by local health workers, that patient management is based on test results (restricting drug use to positive cases), and there is good “stability” of the tests in field conditions.

Malaria in Pregnancy

In Esmeraldas Province, progress was made toward including thick blood films as part of routine prenatal care (a pilot project). A regimen for treating uncomplicated *P. falciparum* malaria in pregnant women was defined (quinine 5 days mefloquine + clindamycin), which is being regulated.

◆Guyana

Implementation of Changes in Antimalarial Policy

In January 2005, the Ministry of Health of Guyana entered a phase of transition on malaria control. The old vertical program structure is being integrated into the regional health systems. In the new structure, the new actors will be responsible for implementing the policy change.

Development of National Standards and Guidebooks/Manuals for Malaria Management in Guyana

By March, 3 training manuals had been developed on diagnosis, treatment, surveillance, and community participation in malaria prevention as well as a guide for malaria trainers using Problem-Based Learning methodology.

Evaluation of the Effectiveness of Mefloquine and Mefloquine + Artesunate

During the past three months, progress was made on enrolling patients in the evaluation study on the effectiveness of mefloquine versus mefloquine + Artesunate, which started in November 2004 in Madhia. By the end of March 2005, 50 and 45 patients had been included in the groups of MQ and MQmefloquine + ASU respectively, with 29 patients in each group being evaluated by a full 28 days of monitoring.

Quality Control of Antimalarial Drugs

In December 2004, an evaluation was done in Guyana of the possibility of strengthening the Unified Laboratory for Food and Drug Control. Guyana produces malaria and antiretroviral drugs, however control over their quality needs to be strengthened. PAHO, with aid from the drug area, is providing technical support for this capacity to provide external control of malaria drugs. In order to strengthen the laboratory in Guyana, several technical assistance visits have been made and procurement of

equipment and structural improvements in the current laboratory have begun. Similarly, progress was made in acquiring samples of six antimalarials in Regions 4 and 8 from pharmacies and different public and private retail stores and then shipping them to the USP for quality evaluation.

◆Peru

Monitoring of Adverse Reactions to MQ-AS Combination Therapy in the Peruvian Amazon Region

Although November marked one year of monitoring adverse reactions to MQ-ASU combination therapy in 23 health facilities in Loreto, the Regional Drug Bureau of the Loreto Regional Health Bureau, the General Bureau of Drugs and Medicinal Products (DIGEMID), and the respective health facilities decided to continue surveillance for an additional 6 months. During this period, they will start to use the computer database of the surveillance system for malarial drugs and other strategic drugs in Peru. This database, which is currently in the functional testing phase, will be of great assistance for the operation of the “Surveillance System for Adverse Reactions to Strategic Drugs in Public Health.”

Evaluation of the Effectiveness of MQ-ASU Against *P. falciparum* in the Amazon Region

In the second week of March, a visit was made to Loreto to lay out the study, by identifying the facilities with the highest incidence of uncomplicated *Plasmodium falciparum* malaria cases in the Iquitos district and evaluating their conditions before beginning the study. Study execution will begin in April.

Effectiveness of Three Different Primaquine Regimens in Preventing Relapses of Uncomplicated *P. falciparum* Malaria in the Amazon Region of Peru

In the second week, a visit was made to Loreto to the study, by identifying the facilities with the highest incidence of uncomplicated *Plasmodium vivax* malaria cases in the Iquitos district and evaluating their conditions before beginning the study. Study execution will begin in May.

Evaluation of the Effectiveness of S/P-AS against *P. falciparum* along the Northern Coast of Peru

In the first week of March, a visit was made to Tumbes to lay out the study. Like last year, the incidence of *P. falciparum* malaria cases along the Northern Coast remains low, making the enrollment of patients infeasible, meaning the beginning of this study has been postponed.

◆Suriname

Studies of Vector Behavior

Suriname finished a one-year study of vector behavior. Twenty-four-hour collections were made at four points along the French Guyana- Suriname border, the area of the

country with the greatest transmission. The anopheline species most frequently found were *A. darlingi* and *A. nuneztovari*. Only *A. darlingi* were found to be infected with the three plasmodia- *f-v-g*. Most bites occurred between 9 at night and 5 in the morning, indicating possible good results if mosquito nets or household spraying are used. The data were organized in a database prepared with funds from RAVREDA-AMI.

Information Management

Software is being used at the Public Health Bureau that makes it possible to update the malaria data from the Paramaribo laboratory on a weekly basis.

A Malaria Board, equipped by RAVREDA, is functioning as the technical committee of the CCM (Country Coordination Mechanism).

◆Venezuela

Implementing Changes in Antimalarial Policy

Implementation continued nationwide with special emphasis on the border states with the highest malaria endemicity. A list was made of diagnostic centers with training in combination therapy and monitoring was done of the number of places in the capitals of Bolivar and Amazonas states providing treatment.

Evaluation of Chloroquine Effectiveness in the Treatment of *P. vivax* Malaria

Progress has been made in enrolling patients in studies evaluating the effectiveness of chloroquine in the treatment of *P. vivax* malaria. By the end of March, 24 patients had been enrolled at the Tumeremo sentinel site, Bolivar state, and 28 patients at the Atures sentinel site, Amazonas state.

Evaluation of the Therapeutic Effectiveness of MQ mefloquine + ASU versus Coartem®

The study in progress in Tumeremo (Bolivar State), despite problems with monitoring patients in the mines, made progress with enrollment, so that by the end of the first quarter of the year, 41 patients had been included in each of the two study groups, with monitoring complete for 20 patients in the MQ mefloquine + ASU group and 27 in the Coartem® group. It should be pointed out that a considerable percentage of the patients were lost to follow-up by day 28.

Therapeutic Efficacy of Treatment With Two Days of MQ mefloquine + ASU

Progress was made in enrolling patients in the studies evaluating treatment with two days of MQ mefloquine + ASU. At the end of the first quarter of the year, 25 patients have been enrolled at the Atures sentinel site and 17 patients at the Km 88 sentinel site in the state of Bolivar. The study at La Leona sentinel site, also in the state of Bolivar, was interrupted with monitoring complete for 17 patients, all with adequate clinical response.

Systematic Case Monitoring

To consolidate a comprehensive strategy for evaluating and monitoring antimalarial policy, during the first half of the year the establishment of systematic monitoring of cases treated was initiated in three health units. Implementing routine monitoring of patients seen in health facilities in strategic areas can provide information on curative effectiveness obtained from a wider area, which could then guide future effectiveness studies. During the first quarter, nearly 150 *P. falciparum* patients were evaluated at the Tumeremo sentinel site.

Managing Quality in Malaria Diagnosis

Following the implementation process proposed in the quality management document drafted at the July 2004 Caracas meeting, during the first quarter of the year, progress was made on a situation assessment of the network's structure and status of operation. The following was accomplished during the initial phase: i) A list of diagnostic centers in the 4 states with the greatest malaria risk-- Bolivar, Amazonas, Sucre, and Delta Amacuro; ii) Geographical location of the diagnostic centers (GPS); and iii) Evaluation of strengths and weaknesses by diagnostic center. Furthermore, in February 2005, a Workshop on Quality Management in Malaria Diagnosis was held with the heads of the laboratories in Bolivar, Amazonas, and Sucre states.

Evaluation of the use of Rapid tests

Input from the technical meeting on rapid tests is needed before beginning to evaluate them. The procurement process was completed in March 2005.

Analysis

Following are the conclusions of the IV Annual Meeting to Evaluate the Activities of RAVREDA-AMI, held in Cartagena, Colombia on 14-16 March 2005. Specific recommendations on the different subjects are in the Meeting documents. The subjects addressed correspond to the Network's lines of work for the 2004-2007 period and a regional activity agenda was agreed upon in order to implement them.

1. In the countries where recent improvements have been regulated in the therapeutic regimens for the treatment of *P. falciparum* malaria, it is suggested that short-term efforts concentrate on implementing these changes. The formulation of Implementation Plans can help guide the process with the different people involved.
2. It is suggested that each country work on reviewing or developing the respective standards that help to institutionalize the surveillance processes and operations research that RAVREDA-AMI is promoting, defining the functions and competencies of the different levels of the health system for these areas. The preparation of antimalarial policy documents that promulgate guidelines on the different processes in the

drug cycle, (procurement, distribution, and use of antimalarials) and on the monitoring of the policy can be a valuable management tool in some countries.

3. Promote linking up RAVREDA-AMI's activities and its products (operations research, surveillance, validation of tools, human resource training) with other initiatives. The Global Fund projects already financed in the Region can be a good venue for implementing the recommendations generated by the Network and for replicating successful experiences in the control programs.
4. Attention is called to the need for improving the processes for antimalarial procurement used by control programs on aspects related to prices, packaging, and quality and timeliness control. Fixed combination formulations or presentations of the complete regimen in one package are alternatives that improve adherence and the good use of the drugs. This is particularly important with the introduction of therapeutic combinations using artemisinin derivatives.
5. Countries were urged to carry out a situation assessment on the processes for procurement, antimalarial distribution, and management. As a continuation of a line of work initiated in 2004 at a meeting in Lima, a regional training is proposed for July on the use of a tool for this situation assessment developed by the organization Management Sciences for Health (MSH).
6. Quality control is important in drug purchasing processes, even those being acquired from laboratories pre-certified by PAHO. Additionally, attention is called to the current risk from the counterfeit antimalarials market and the importance of organizing systems to control the drugs available in endemic areas.
7. Noteworthy progress has been made in the last year in conducting studies on antimalarial adherence in RAVREDA-AMI. Among the important findings is the high proportion of adherence failures in treatment of *P. vivax* malaria in studies conducted in Ecuador, Colombia, and Bolivia. Significant deficiencies were also recorded in drug dispensing and in the instructions given to patients. It is recommended that these studies be conducted within the framework of a well-developed plan aimed at improving treatment effectiveness. With the help of methods closer to the social sciences, studies should delve further into the determinants of adherence failures to guide the design of prescription and dispensing strategies.
8. In the last year, the countries made advances in the implementation of new methodologies to make malaria diagnosis quality management systems more effective and efficient. It is suggested that work be done to transfer this to control programs.

9. On the use of rapid tests for malaria diagnosis, it is suggested that the studies RAVREDA-AMI conducts on this subject be aimed at questions related to their performance under real conditions, acceptability, usefulness of the tests to rationalize drugs use, the role they are going to have in the health services, and control over use and distribution. The eight countries will be invited to participate at a meeting in May where decisions will be made on the studies to conduct, protocols will be reviewed, guidelines will be proposed on quality control of the kits, and a plan for working together will be drafted to prevent duplication of efforts among the countries.

10. Considering the implications of the problem of malaria during pregnancy there was agreement on the need for doing a rapid assessment of this problem in the Amazon region. It was proposed to begin by applying the methodology promoted by WHO in Brazil and based on this experience, guide implementation in the other countries.

11. On the implementation of a regional strategy for evidence-based vector control, the suggestion was made

for malaria Programs to internally review the document from the Lima meeting (February 2005) and to initiate selection and stratification of the areas and participation in the proposed regional agenda.

12. Considering the two objectives of the system proposed at the Lima meeting: i) that local levels have a tool to guide evidence-based control and ii) to generate and disseminate reliable standardized information within and between countries for decision-making; during the Cartagena Meeting it was recommended complementing this with capacity building at the national level.

13. Considering that RAVREDA-AMI has been a productive venue for regional technical cooperation, which is promoting the development of the building blocks for the Overall Control Strategy and the Roll Back Malaria Initiative, it is suggested that the activities in RAVREDA's work plans be better linked to the agenda of the Ministries of Health and to recognize the need for appropriate coordination and technical management for country work plans.

Activities Calendar

Upcoming regional activities on the Network's schedule:

16-20 May	Workshop on stratification in malaria control. Santacruz, Bolivia
23-25 May	Meeting on studies of rapid tests in RAVREDA-AMI. Esmeraldas, Ecuador.
30 May - 3 June	Meeting on the use of in vitro susceptibility tests in RAVREDA-AMI. Belém, Brazil
13-17 June	Meeting on the use of methods for monitoring insecticide resistance. Iquitos, Peru.
27 June – 1 July	Workshop on Evaluating Pharmaceutical Management in Malaria. Proposed location- Colombia.

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