MALARIA CONTROL IN THE WHO AFRICAN REGION

TURNING THE CORNER ON MALARIA CONTROL: SCALING UP INTERVENTIONS TO REACH THE MOST VULNERABLE

ANNUAL REPORT 2004

MALARIA CONTROL UNIT
DIVISION OF PREVENTION AND CONTROL OF COMMUNICABLE DISEASES REGIONAL OFFICE FOR AFRICA • WORLD HEALTH ORGANIZATION
MALARIA CONTROL IN THE WHO AFRICAN REGION

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ANNUAL REPORT 2004
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Foreword

Our ability to contribute to the betterment of the health of Africa’s people depends very much on our business model. After a lethargic post-malaria eradication era, a radically different public health paradigm has been adopted to address malaria, a rampant tropical disease that kills well over a million children per year in Africa. In 1992 in Amsterdam, the entire world committed to mobilize efforts to control malaria in the context of primary health care.

More than 10 years later, and 10 years before the Millennium Development Goals targets, the paradigm is still relevant. The impact that could have been achieved within a decade, however, has been undermined by a series of constraints and challenges.

As an institution mandated to define public health norms and standards for improved health, we are confronted with the challenge of constantly assessing the adequacy of the tools and guidelines available and provide technical support to ensure that the highest possible standard is achieved in preventing disease and protecting and promoting health.

This report describes the achievements made during 2004 in malaria control in endemic countries of the African Region, through the support provided by the WHO Regional Office for Africa, in collaboration with its partners. In spite of significant financial resources constraints, priority outputs were delivered; this report describes the extent to which they contributed to the achievement of the expected results as defined by WHO for the 2004-2005 biennium. To better define the key areas of emphasis in 2005, particular attention is paid to the challenges and constraints faced by the countries and the Organization in addressing the malaria problem.

As wealth imbalance persists and disadvantaged populations remain vulnerable to malaria, we are convinced that more could have been done and should be done to scale up interventions and reduce death and suffering. One of the striking challenges that remain prominent across the different areas of malaria disease prevention, treatment and programme management is the continually limited in-country trained human resource capacity.

Capacity development, both human and institutional, remains intrinsically linked to sustainability and should be taken up as a priority by all partners. Little absorptive capacity, limited performance and poor outcomes will continue to be cited as reasons for not achieving impact, if sustainable capacity development is not addressed. Strengthening the capacity of countries to deal with the complexities of malarial disease remains our major common challenge.

Knowledge and skills transfer and improved north-south and south-south cooperation are badly needed. Steps should be taken to sustain and retain manpower developed in the Region. Institutions must be supported to contribute in a sustainable manner to capacity development. Thus cost-effective strategies and tools will be availed to those at risk in a timely and effective manner, if capacity to manage, implement, monitor, evaluate and guide is built, renovated and maintained. And together, we would be able to turn the corner on malaria control.

Dr Magda Robalo Correia e Silva
Chief, Malaria Control Unit
Acknowledgements

We acknowledge the immense contribution from all our partners and collaborators without whose financial and technical support it would not have been possible to turn the corner in malaria control in the Region. We wish to thank DFID, USAID, CIDA and the World Bank for having remained the major financial partners of the Unit.

We are grateful to the ministries of health, the WRs, and NMCPs for various forms of support and collaboration. We thank the ICP teams, and the Malaria NPOs/IPOs for their technical contribution to malaria control in the sub-regions and the countries. We acknowledge the various sources of the photographs in this report, the countries and individuals therein contained.

Finally, we thank all the staff members of the Division of Prevention and Control of Communicable Diseases and other divisions of AFRO for their direct and indirect commitment to malaria control in the African Region.
### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACT</td>
<td>Artemisinin-based Combination Therapy</td>
</tr>
<tr>
<td>AFRO</td>
<td>Regional Office for Africa of the World Health Organization</td>
</tr>
<tr>
<td>AGFUND</td>
<td>Arab Gulf Programme for the United Nations Development Organizations</td>
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<tr>
<td>ANC</td>
<td>Antenatal Clinics</td>
</tr>
<tr>
<td>ANVR</td>
<td>African Network on Vector Resistance</td>
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<tr>
<td>AU</td>
<td>African Union</td>
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<tr>
<td>CARN</td>
<td>Central African Sub-Regional RBM network</td>
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<tr>
<td>CBI</td>
<td>Community-based Interventions</td>
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<tr>
<td>CCM</td>
<td>Country Coordination Mechanism for the Global Fund</td>
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<tr>
<td>CDC</td>
<td>US Centers for Disease Control and Prevention</td>
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<tr>
<td>CEEC</td>
<td>Community of Evangelical Churches in Central Africa</td>
</tr>
<tr>
<td>CEEMI</td>
<td>Gates Malaria Partnership Training Centre in Tanzania</td>
</tr>
<tr>
<td>CFR</td>
<td>Case Fatality Rate</td>
</tr>
<tr>
<td>CIAM</td>
<td>Gates Malaria Partnership Training Centre in Gambia</td>
</tr>
<tr>
<td>CIDA</td>
<td>Canadian International Development Agency</td>
</tr>
<tr>
<td>COMESA</td>
<td>Common Market of Eastern and Southern Africa</td>
</tr>
<tr>
<td>CQ</td>
<td>Chloroquine</td>
</tr>
<tr>
<td>CRD</td>
<td>Communicable Disease Research and Development</td>
</tr>
<tr>
<td>CSR</td>
<td>Communicable Disease Surveillance and Response Unit</td>
</tr>
<tr>
<td>CT</td>
<td>Combination therapy (not necessarily artemisinin based)</td>
</tr>
<tr>
<td>DDC</td>
<td>Division of Prevention and Control of Communicable Diseases</td>
</tr>
<tr>
<td>DDT</td>
<td>Dichloro-diphenyl-trichloroethane</td>
</tr>
<tr>
<td>DFID</td>
<td>Department for International Development</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
</tr>
<tr>
<td>DRC</td>
<td>Democratic Republic of Congo</td>
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<tr>
<td>DRH</td>
<td>WHO Division of Family and Reproductive Health</td>
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<tr>
<td>EARN</td>
<td>East African Sub-Regional RBM network</td>
</tr>
<tr>
<td>ECOWAS</td>
<td>Economic Community Of West African States</td>
</tr>
<tr>
<td>EDCTP</td>
<td>European &amp; Developing Countries Clinical Trials Partnership</td>
</tr>
<tr>
<td>EPI</td>
<td>Expanded Program on Immunization</td>
</tr>
<tr>
<td>GFATM</td>
<td>Global Fund to Fight AIDS, Tuberculosis and Malaria</td>
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<tr>
<td>GMC</td>
<td>Gates Malaria Partnership Training Centre in Ghana</td>
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<td>GMP</td>
<td>Gates Malaria Partnership</td>
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<tr>
<td>GMTC</td>
<td>Gates Malaria Training Centres</td>
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<tr>
<td>HIPC</td>
<td>Highly Indebted Poor Countries</td>
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<td>HMIS</td>
<td>Health Management Information Systems</td>
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<td>HMM</td>
<td>Home Management of Malaria</td>
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<td>HRD</td>
<td>Human Resources Development</td>
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<tr>
<td>ICP</td>
<td>Intercountry Programmes</td>
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<tr>
<td>IDA</td>
<td>International Development Association</td>
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<tr>
<td>IDS</td>
<td>Integrated Disease Surveillance and Response</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, Education and Communication</td>
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Executive Summary

Within the mandate of the World Health Organization are the setting, validation, monitoring and pursuit of proper implementation of evidence-based norms and standards, made operational through production of guidelines and tools for health systems management. In support of country efforts to prevent and control malaria, AFRO developed, reviewed and updated 13 technical standard guidelines and tools in the areas of effective treatment, community-based interventions, home management of malaria, malaria prevention and control during pregnancy, health systems, vector control, malaria epidemics prevention and control and monitoring and evaluation.

A major challenge to capacity building is the lack of adequate human resources and institutional development. Coordination between major capacity development partners led to the curriculum being revised for the International Courses on Malaria Planning and its Control and national training institutions being encouraged to manage the courses. The Gates Malaria Training Centres (GMTC) contributed to strengthening malaria control capacity by training consultants to provide technical support to countries. Two workshops on advocacy and communication for malaria prevention and control during pregnancy were supported. Planning and implementation of integrated vector management and modules on malaria prevention and control for the training of traditional health practitioners (THP) was piloted and is being developed in some countries. AFRO collaborated with the RBM Partnership Secretariat for the development of a costing tool for malaria interventions that was presented to countries.

In 2004, 13 countries in the African Region were supported to adopt artemisinin-based combination therapy (ACT). This accelerated adoption of ACT policy has been described as one of the fastest drug policy changes in public health history. Following these changes, countries were supported to update malaria treatment guidelines and training manuals. Currently, intermittent preventive treatment (IPTp) for malaria prevention and control during pregnancy is implemented or piloted in 23 malaria-endemic countries, with AFRO supporting IPTp adoption and implementation through technical support missions and facilitation of appropriate workshops.

Country initiatives were supported in planning and distribution of insecticide-treated nets (ITNs), voucher schemes and re-treatment campaigns and other mechanisms targeting vulnerable groups. Technical support was provided for planning, monitoring and evaluation of indoor residual spraying (IRS) implementation. Support in vector resistance monitoring was continued. Support was also provided for the preparation of national plans of action for malaria epidemics surveillance, preparedness and response.

“Malaria control efforts have shown substantial progress and achieved significant results at country level, but we should not lose sight of our goal: halving the malaria burden by 2010.”

Dr Ebrahim Malick Samba, WHO Regional Director for Africa, 23 April 2004
Community-based interventions (CBI) are aimed at involving communities in making decisions concerning malaria control activities and health in general. Home management of malaria (HMM) is a strategy that ensures early recognition of, and prompt and appropriate response (treatment) to, malarial illness mainly in children under five in the home or community. AFRO promoted and supported the development and implementation of national strategic plans for scaling-up HMM and community-based interventions for malaria prevention and control.

African representatives on the Roll Back Malaria (RBM) Partnership Board were supported to better represent their constituencies. Twenty-five countries nominated RBM focal points with clearly defined terms of reference; a list of these focal points at country level is being compiled.

The first steps for establishment of the Central African sub-Regional network for RBM and the Southern Africa sub-Regional Network (SARN) have been initiated. Africa Malaria Day 2004 was celebrated with the theme “A Malaria-Free Future” and the slogan “Children for Children to Roll Back Malaria.” Partnerships were enhanced by DFID, USAID, CIDA, the Malaria Action Coalition (MAC), African economic blocs, the World Bank and the Arab Gulf Programme for the United Nations Development Organizations (AGFUND).

AFRO promoted priority operational research for evidence-based decision-making in the area of malaria treatment studies, providing technical support to 36 operational research projects.

Efforts to encourage countries to evaluate innovative ways to deliver priority health interventions included organizing TBAs to deliver IPTp and to provide counselling on essential ANC attendance to pregnant women.

AFRO intensified its technical support to countries to help them develop comprehensive and efficient national monitoring and evaluation systems for malaria control. In addition, the Regional Office in Harare regularly updates a database on changes in RBM core outcome and impact indicators to facilitate the storage and the management of data, and use for decision-making and programme implementation.
Introduction

Malaria is a complex public health problem in the African Region, where most cases and deaths due to the disease occur. It presents an enormous obstacle to national development because of its high human and economic costs. Furthermore, the disease burden falls disproportionately on vulnerable groups: pregnant women and children under five, who have limited access to malaria control interventions, which perpetuates a vicious cycle of poverty and disease.

Malaria control efforts in recent years have contributed substantially to the availability of cost-effective tools that can be used by endemic African countries. These tools include: insecticide-treated nets (ITNs) and indoor residual spraying (IRS); intermittent preventive treatment during pregnancy (IPTp), efficacious artemisinin-based combination therapy (ACT) compounds and Malaria Early Warning Systems (MEWS) to detect and contain outbreaks. Under the public and private sectors, bilateral donors and multilateral technical organizations and networks of NGOs are collaborating to bring these tools closer to affected populations.

In 2000, African Heads of State meeting in Abuja, Nigeria, committed themselves to intensive efforts to halve the burden of malaria on Africa’s people by 2010, setting mid-term targets due in 2005 to ensure that:

1. 60% of vulnerable groups have access to prompt, effective treatment;
2. 60% of pregnant women and children under five have access to protective measures, such as insecticide treated mosquito nets; and
3. 60% of pregnant women have access to intermittent preventive treatment.

Efforts by countries to implement the plan of action of the Abuja Declaration have gained considerable momentum, although the 2004 Abuja Progress Report highlights some shortcomings. Despite the concerted efforts of national authorities and their partners, coverage of at-risk groups with strategic malaria control interventions is still low. Malaria control tools, though proven cost-effective, are still priced out of reach of the average person; the weaknesses of health delivery systems prevent access to the most needy.

However, the intensification of malaria control efforts as a result of the launch of the Roll Back Malaria initiative (RBM) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) is translating into gradual increases in coverage levels of malaria-related interventions. The main challenge for endemic countries is to engage their RBM partners in a new phase that focuses on rapidly achieving high coverage by giving more people access to malaria-related services. This viewpoint is based on the assumption that a rapid acceleration of programme coverage, in a combination of curative and preventive interventions, can bring the disease burden from malaria to significantly low levels.
The important facilitating role of the World Health Organization in the African Region (AFRO) is reflected in the achievements in 2004. To increase coverage in vulnerable groups, AFRO is urging countries to adopt strategies in home management of malaria, community-based interventions and intermittent preventive treatment during pregnancy. Providing technical support to countries for not only the adoption but also the implementation of appropriate antimalarial drug policies was high on the agenda of the Regional Office. Other important areas of work included technical support for development of GFATM proposals, strengthening national health delivery systems and traditional health systems, monitoring new antimalarial treatment, epidemic preparedness and response, monitoring and evaluation of malaria control activities, operational research, and partnership development.

**Strategy of the Malaria Control Unit**

Reaching vulnerable groups with critical malaria control interventions requires a massive scale up of funding and activities in malaria-affected countries. As countries are adopting strategies and receiving increased funding, their limited capacity requires technical support to transfer skills and knowledge to fill the capacity gaps in the short term, while countries develop capacity within.

In anticipation of reaching the 2005 Abuja targets, and augmented by the Millennium Development Goals (MDG), countries in the Region intensified their malaria control activities in 2004. The RBM partnership, the GFATM and other global malaria prevention and control initiatives are providing an enabling environment for large-scale implementation of malaria control activities using known effective technologies to control the disease. African countries must adopt appropriate malaria control policies, strategies, guidelines and tools and be supported by increased access to funding. AFRO is responsible for facilitating implementation of the regional strategy adopted in 2000 by the WHO Regional Committee for Africa, comprised of ministers of health, which emphasizes strengthening partnership for malaria control and sound technical approaches. It is AFRO’s responsibility to support countries to define the package of interventions that will accelerate their malaria prevention and control agenda. AFRO’s technical co-operation continues to be a critical success factor for countries to translate technical readiness into tangible results from scaling up of interventions.

The Malaria Control Unit has supported countries to develop strategic plans for implementing malaria control activities. These plans ensure that the approach for delivering treatment and IPTp includes development of appropriate policies and strategies and that mobilization of resources for scaling up coverage are in place. Support for massive scaling up of ITN coverage includes developing policy and regulatory mechanisms, and a resource targeted ITN strategy. AFRO is working with countries to put epidemic preparedness plans in place to monitor and evaluate activities and to develop and implement an Abuja targets’ evaluation plan. Technical cooperation includes building partnerships, mobilising resources, supporting surveillance and research and using information, education and communication (IEC) to build momentum. As countries gain experience from their efforts, AFRO acts as a facilitator to share countries’ experiences.
Structure of the Malaria Control Unit

The professional staff component of the Malaria Unit is continually strengthened to provide technical leadership in all 43 malaria-endemic countries, to increase its responsiveness to country needs and to be proactive in its support to accelerate implementation of malaria control activities.

Dedicated malaria staff is essential in maximising effectiveness of the WHO country office in its advisory role. Currently in 29 of 43 malaria-endemic countries, the WHO country office provides a malaria national programme officer (NPO) or international programme officer (IPO). Decentralized intercountry programmes (ICPs) work within each of the four epidemiological blocs, supporting countries to focus on priority areas of the malaria control programme, including capacity in treatment of malaria, vector control, epidemic preparedness and response, monitoring and evaluation, and communications and advocacy.

The AFRO Malaria Unit (MAL), as a regional centre of excellence in the major malaria intervention areas, coordinates with partners to ensure that the supply of technical
support meets demand in quality and specialization. Meetings at the intercountry level, including the Malaria Annual Review and Planning meeting, provide fora for interaction with countries, partners and staff involved in Malaria Control.

To achieve malaria control objectives, AFRO takes an integrated approach across its Division of Prevention and Control of Communicable Diseases (DDC), with close collaboration, joint planning, implementation, monitoring and evaluation in some malaria control interventions. Promotion of ITNs, epidemic preparedness and response and operational research are implemented by other units/areas of work, specifically Vector Biology and Control (VBC), Communicable Disease Surveillance and Response (CSR), and Communicable Disease Research and Development (CRD).

Based on the regional strategy for malaria prevention and control, the following seven expected results were developed for the 2004-2005 biennium:

**Box 1: Expected results of the Malaria Unit Workplan, 2004-2005**

1. Technical standard guidelines for malaria control updated regularly and disseminated to countries.
2. Capacity developed within countries for key areas of policy making, programme management and social mobilization.
3. National authorities and their partners able to carry out cost-effective malaria control measures as part of development of health systems.
4. Support provided to countries to carry out community-based malaria control activities.
5. Technical support provided to strengthen RBM partnerships at regional and country levels.
6. Priority research and development issues, including artemisinin-based combination treatment, rapid diagnostic tests, long-lasting nets and IPT-supported and research results, incorporated into large-scale control efforts according to strategic plans.
7. Enhanced national capacities to develop and implement the monitoring and evaluation components of malaria control.
Achievements by Expected Result

Technical standard guidelines for malaria control updated regularly and disseminated to countries

Winning the war against diseases, including malaria, depends on the definition, adoption and implementation of evidence-based norms and standards. Within the mandate of the World Health Organization are the setting, validation, monitoring and pursuit of proper implementation of these norms and standards, made operational through production of guidelines and tools for health systems management. Pursuant to its mandate, AFRO in 2004 developed, reviewed and/or updated technical guidelines and tools in support of countries’ efforts to prevent and control malaria.

Achievements

Effective Treatment

The WHO 2001 recommendations on antimalarial drug combination therapy urged countries in the Region to adopt artemisinin-based combination therapies (ACTs) for effective treatment of uncomplicated malaria. In furtherance of this recommendation, and in order to guide countries in the decision-making process and implementation of new treatment policies, AFRO in 2004 elaborated and disseminated to countries a “Framework for updating national antimalarial treatment policy, 2003” and a document entitled “Combination therapy in malaria: orientations and options for the African Region.” Other guidelines developed in 2004 in support of countries’ efforts to scale up effective treatment of malaria were a training manual for management of fever at peripheral health facilities and another for traditional health practitioners treatment and prevention of malaria.

“The changing face of malaria... forces malaria programmes across Africa to continually adapt and reorient their efforts. Countries are introducing new tools, policies, and training... but they need strong support from the international community.”

Roll Back Malaria Partnership’s Executive Secretary, Awa Marie Coll-Seck, 17 November, 2004
Community-based Interventions

The effectiveness of community-based interventions in the control and prevention of malaria is well documented. However, countries needed guidance on scaling up effective interventions. Thus in 2003, AFRO began development of technical guidelines for community-based initiatives for malaria control. In 2004, the following technical guidelines were finalized:

- Guidelines for training community members in malaria control;
- Guidelines for the supervision of the implementation of malaria control activities at community level; and
- Tools for community-based surveillance in malaria control.

Box 2: Recommendations from a WHO technical consultation on the role of parasitological diagnosis in malaria disease management (Oct 2004)

- Parasitological diagnosis should be used as part of good clinical practice for malaria case management at all levels of health care in the public sector. Where microscopy is not available, RDTs should be introduced with quality assurance systems in place;
- In the over five-year-old age group, it is recommended that clinical diagnosis be parasitologically confirmed, with treatment based on a positive result due to high consumption of antimalarial drugs, the higher treatment costs and higher levels of over-diagnosis in this age group;
- In the under five-year-old age group, diagnosis of malaria should be based on Integrated Management of Childhood Illness (IMCI) guidelines, adapted to local epidemiological situation, due to the high risk of severe malaria and mortality. Currently, there is insufficient evidence to recommend withdrawing treatment based on a negative parasitological test;
- Parasitological diagnosis should be promoted in pregnant women as part of good clinical practice, and RDTs may be preferable to microscopy;
- HRP2 is the test of choice in areas where P. falciparum is the predominant species. In areas where mixed infections are common, a pan-specific test should be used (HRP2 + Aldolase or pLDH) where the treatment differs.
Home Management of Malaria

In 2004, AFRO standardized the technical definition of home management of malaria (HMM) as: “early recognition of, and prompt and appropriate response to and treatment of, malarial illness in the home or community.” Subsequent to this standard, the following components for HMM were agreed upon: assurance of access to good quality pre-packaged drugs and supplies; effective communication strategy to ensure correct treatment-seeking behaviour; training of community-based providers to ensure that they have the necessary skills and knowledge to manage malarial illness; establishment of an effective communication strategy leading to appropriate caretaker recognition and response to malaria; and development of supervisory, monitoring and evaluation systems. With many countries adopting ACTs, an AFRO position paper on ACTs and HMM was developed (Box 3).

Box 3: Summary of AFRO’s position statement on HMM

This emphasizes that, consistent with WHO recommendations, malaria-endemic countries which are experiencing resistance to currently used antimalarial drug monotherapies (chloroquine, sulphadoxine/pyrimethamine, amodiaquine) should change their drug policies to the highly effective artemisinin-based combination therapies. The statement recommends that first-line ACTs should be made available for community management of malaria. Countries are encouraged to take the lead in deploying these medicines at the community level, and in the process, LEARN BY DOING.

In support of the above standard definition and components, development of “Guidelines for implementation of home management of malaria in the African Region” was started in 2004.

Malaria Prevention and Control During Pregnancy

With pregnant women being the second most vulnerable group to malaria after children under-five years of age, MAL/AFRO in 2004 focused on providing guidelines and standards to countries to prevent and control malaria in pregnancy. To guide policy-makers in the development and implementation of appropriate interventions, the document “Strategic framework for malaria prevention and control during pregnancy in the African Region” was published in English and disseminated. The French and Portuguese translations are being prepared. Draft clinical guidelines on malaria in pregnancy assisted countries to move from policy to practice. Malaria Control Unit
drafted a document called “Cadre de Collaboration Entre les Programmes de Santé de la Reproduction et de Lutte Contre le Paludisme pour la Prévention du Paludisme Pendant la Grossesse”, which will be available in 2005.

Health Systems

To support national malaria control programmes (NMCPs) to plan, a guideline entitled “Planning for Malaria Control in the African Region” has been drafted. It provides countries with a template to help them better structure and develop their strategic plans. By drawing on the experience of WHO-AFRO, it provides a consistent planning message. When fully developed, it will assist countries prepare strategic and operational plans to enable them to take advantage of the opportunities provided by the GFATM, Poverty Reduction Strategy papers (PRSPs), highly indebted poor countries (HIPC) and other resources.

Concern has been raised over the varying degrees of success and failure achieved by various national malaria control programmes. Management skills were identified as one of the major weaknesses of the NMCPs. Therefore, “Guidelines for management of national programmes in the African Region” have been drafted, based on case studies of best practices in Ethiopia, Mali, Mozambique and Tanzania and input from regional experts. In October 2004, programme managers and management experts reviewed the draft guidelines before they are finalized and deployed in the Region. The guidelines will support managers to meet the stewardship demands of scaling-up malaria control efforts.

Vector Control

The Regional Office continued coordination of African Network on Vector Resistance (ANVR) activities. A standardized protocol for insecticide resistance monitoring was updated and finalized, and draft guidelines on insecticide resistance management for malaria vectors were developed.

Challenges and Priorities for 2005

To enhance its role as a catalyst for establishing norms and standards within countries, by year-end 2004 AFRO had developed a robust package of technical guidelines for countries in the Region. The challenge ahead is to support countries in translating the guidance into action, keep the guidance current and facilitate the sharing of experiences in implementation.

In 2005, attention will focus on the following guidelines:
Communication strategy for behaviour change in support of the integration of various interventions at community level;

Guidelines for scaling up the implementation of CBIs in the African Region;

Strategic document and guidance to countries on the standards for effective HMM;

Guidelines for implementation of HMM in the Region;

French and Portuguese language translations of the Strategic Framework for Malaria Prevention and Control During Pregnancy in the African Region (AFR/MAL/04/01);

“Cadre de Collaboration Entre les Programmes de Santé de la Reproduction et de Lutte Contre le Paludisme pour la Prévention du Paludisme Pendant la Grossesse.”
Investing in adequate human resources and institutional development is critical to achieve the targets of Abuja, Roll Back Malaria (RBM) and MDG. Throughout the year, activities were undertaken to improve the capacity of malaria control personnel in different settings in Africa. Malaria control is expected to be a pathfinder for strengthening health systems at country level. The AFRO Division of Health Systems Development (DSD) has areas of work in common with the Malaria Unit, including national health systems (NHS) strengthening, particularly in relation to the need to improve country capacity for micro-planning (at district level) and budgeting; and human resources development (HRD), especially for malaria control.

Achievements

Curriculum Development and Review

The Malaria Control Unit undertook a comprehensive curriculum evaluation of the International Courses on Malaria and Planning Its Control, with participation of experts in maliariology, medical education sciences and other stakeholders in order to determine their relevance in the temporal context. During the review, it became apparent that if a critical mass of skilled health workers for malaria control is to be created, the international course should play a complementary role to national courses. The review also recommended that the international course curriculum be modified to meet the emerging needs for malaria control in the Region. WHO and partners should work together to ensure countries have the capacity to continue planning, implementing and sustaining national courses.

In response to the recommendations made in the review, the curriculum for the international courses was updated with major changes made in content and its duration reduced from 12 to 6 weeks. National training institutions are being encouraged to be proactive in planning and implementing the courses and following up their trainees. In addition, a tool for assessing national malaria training needs was developed and a technical support mission for strengthening the quality of national training on malaria was undertaken in Benin.
Capacity Development through the Gates Malaria Training Centres

The collaboration between MAL/AFRO and Gates Malaria Partnership (GMP) was improved in the area of capacity development. Collaboration between GMP and WHO ensured harmonization of the training plans of GMTC and WHO/AFRO. Monitoring and evaluation plans for the four GMP training centres were drafted. The results of the skills needs assessment were used to plan training activities and staff development. Local collaboration between the Gates Malaria Training Centres (GMC-Ghana, CEEMI-Tanzania, CIAM-Gambia and MAC-Malawi) and the NMCPs in the countries where GMTCs are situated were encouraged.

Training Efforts for Nationals and Consultants

To develop a pool of African experts able to provide technical support to countries and to build a network of consultants, a workshop for malaria consultants was jointly organized with the Gates Partnership where 14 potential consultants from the public and private sectors were briefed on the WHO Consultancy process. AFRO also organized a workshop for 20 potential consultants who were trained in consultancy skills and malaria control and prevention. In an additional workshop, 25 young scientists were trained in data management, analysis and scientific report writing following completion of AFRO-supported research projects.

A workshop on advocacy and communication for malaria prevention and control during pregnancy organized for participants from 14 countries resulted in development of advocacy and communication strategies to promote prevention and control of malaria during pregnancy.

AFRO, in collaboration with the International Centre for Insect Physiology and Ecology (ICIPE), Nairobi, trained 15 nationals from 12 countries in planning and implementation of integrated vector management (IVM).

Planning and Resource Mobilization

To enhance planning of malaria control interventions at the country level, AFRO collaborated with the RBM Partnership Secretariat to develop a costing tool for malaria interventions. The tool permits national programmes to obtain estimates of costs involved in achieving pre-determined levels of coverage of different interventions, either individually or collectively. The input data could be parameters such as current or anticipated coverage levels of any given drug of choice, given dosage and given route of administration. The data will guide managers to allocate efficiently the supply of key inputs (human resources, storage/delivery capacity, clinic or hospital space, etc) within the country or district. Twenty-eight national malaria programme managers and 12 WHO health economists were trained to use the tool.
Organization of Community Resources

Benin was supported to develop modules for training traditional health practitioners (THP) and a tutors’ guide on malaria prevention and control. Subsequently, Benin trained 390 THPs and traditional birth attendants (TBA) in six districts using conventional tools. The Democratic Republic of Congo, Mali, Mozambique and Niger are developing similar training programmes.

Challenges and Priorities for 2005

Coordination between major partners was a major challenge to capacity building in 2004. The fragmented involvement of local training institutions in supporting country capacity development contributed to countries’ slow adoption of national courses on malaria control. Until now, malaria has not been integrated into pre-service training of health professionals in a systematic manner and there has been insufficient use of new technology and pedagogic methods in scaling up malaria training at country level. The limited resources focused on training health professionals are an ongoing impediment.

Beginning in 2005, the course on malaria and planning its control will be supported at national and international levels. Institutions will be supported to organize and conduct the courses and follow up their trainees. Countries and institutions will be supported to integrate malaria courses into pre-service training, promote self-sustaining training initiatives and strengthen the network of consultants.

It is expected that the malaria intervention costing tool will be finalized in 2005, translated into French and Portuguese, and disseminated to the countries for use as an essential resource when selecting single or groups of interventions for malaria control.
AFRO supported several strategic interventions aimed at supporting countries to enhance access to effective treatment of malaria illnesses, malaria in pregnancy (MIP) prevention services and malaria vector control measures. Specifically, countries were supported to adopt and implement new malaria drug policies and accelerate control measures for malaria in pregnancy, like the intermittent preventive treatment (IPT) with SP. In malaria vector control, the focus was on supporting countries to expand coverage of insecticide-treated mosquito nets (ITNs), undertake indoor residual house spraying (IRHS) and monitor and evaluate priority activities, including vector resistance.

Because several areas of the Region remained susceptible to malaria epidemics, AFRO supported countries in epidemic preparedness. Such epidemic-prone areas are the Sahelian countries in West and Central Africa, the highlands in eastern and Great Lakes countries and the southern Africa countries. The Regional Office continued to monitor malaria epidemics through the regional strategy for Integrated Disease Surveillance and by supporting countries for malaria epidemic early detection and response.

Achievements

Many countries have begun to adopt and implement new strategies, with achievements in: malaria drug policy change and implementation; malaria case management; prevention and control of malaria in pregnancy; malaria vector control; documentation of African traditional health resources; and epidemic preparedness. AFRO supported countries in strategic and operational planning, taking into account the various opportunities provided by the GFATM, and World Bank mechanisms, such as poverty reduction strategy papers (PRSPs), highly indebted poor countries (HIPC) and other initiatives.

A review was made of the status of country strategic plans and 16 countries were identified that needed support in evaluating plans that were ending. The countries were
engaged to evaluate these plans and to re-plan for the next five years. Eritrea was successfully supported to develop its new plans.

**Malaria Drug Policy Change**

In 2004, 13 countries in the Region were supported to adopt ACTs. This accelerated adoption of ACTs policy was attributed to unacceptable levels of chloroquine (CQ) and sulfadoxine-pyrimethamine (SP) resistance, availability of GFATM resources to procure malaria medicines and international pressure for countries to provide effective treatments. Trends in adoption of ACTs in the Region from 2000 are presented in Figures 2 and 3.

![Figure 2: Trend of country adoption of specific ACTs](image)

Source: WHO/AFRO

Implementation of ACT policies, however, has remained slow. This is because countries are expected to deal with registration and regulation of new antimalarial molecules, update standard treatment guidelines, procure and supply management of ACTs, which have a short shelf-life, orient public and private sector health workers on the new treatment policy, and set up pharmacovigilance systems to document and report adverse drug reactions, among others. In addition, global availability of ACTs has become critical, not only due to increased demand, but because artemisinins are derived from the *Artemisia annua* plant, which requires nine months lead time for cultivating, harvesting the leaves and processing by the pharmaceutical industry. Important lessons are learned from the drug policy change process (Box 4).
Malaria Case Management

Provision of prompt, effective treatment remains a major pillar for malaria control in all endemic countries. However, as countries move from monotherapies to combination drugs containing artemisinin derivatives, deployment of prompt effective treatment becomes more challenging. First, after a decision has been taken to adopt a new drug, the immediate challenge is how to manage the transition before the new medicine is
procured and made available. Second, a decision needs to be taken as to how implementation should be phased (geographically or by age groups), given that most countries will not have enough resources for nationwide deployment immediately.

A survey of health facilities conducted in Eritrea, Rwanda, Zambia and Zanzibar described how health facilities prepared to provide quality health care services, particularly antimalarial services, to identify the gaps in the support services, resources, or the process of providing quality services. The survey also described the extent to which patients understand what they must do to prevent and treat malaria. The survey concluded that after adoption of a new drug policy, implementation needed to be supported closely. Strengthening health systems is key to successful implementation and improved malaria case management.

In 2004, Benin, Ghana, Ethiopia, São Tomé and Príncipe were supported to update malaria treatment guidelines and training manuals following treatment policy change. The harmonization of age and weight bands in the dosages of ACTs, particularly in the under fives, was an issue that needed special attention in countries adapting generic treatment guidelines.

**Prevention and Control of Malaria during Pregnancy**

Currently, IPT is implemented or piloted in 23 malaria-endemic countries in the Region (Figure 4), with AFRO supporting IPT adoption and implementation through technical support missions and facilitation of appropriate workshops. Two advocacy-training workshops in West Africa were conducted for 15 countries. In addition, financial assistance for implementation of malaria in pregnancy activities was provided. Technical support was also provided to Gambia, Liberia, and Sierra Leone to initiate introduction of IPT.

AFRO provided support to six countries (Cameroon, Madagascar, Guinea-Bissau, Togo, Angola, Rwanda) to update national policies for MIP. Nigeria and Senegal were also supported to elaborate guidelines for MIP.

AFRO organized a workshop in Central Africa for elaboration of MIP implementation plans for eight countries and four countries finalized their plans (Cameroon, Chad, DRC and Gabon).
Part of the strategy of implementation of MIP is to develop sub-regional MIP networks to share experiences and best practices. During 2004, Malaria in Pregnancy network of Eastern and Southern Africa (MIPESA) was supported in the review of its GFATM round four grant application. The West Africa Network for Malaria in Pregnancy (RAOPAG) received technical and financial support in implementing its plan of action.

Promotion of Insecticide-treated Mosquito Nets

Recent evidence from Eritrea shows that a massive scaling up of interventions, including insecticide-treated mosquito net (ITN) usage and re-treatment, will impact on the transmission of the disease (Figures 5 and 6). In 2004, Chad, Guinea, Kenya, Mozambique and Madagascar received technical support to develop their ITNs policy guidelines. Burundi was also supported to develop its ITNs implementation plan. To date, advocacy efforts led to 20 countries reducing or abolishing taxes and tariffs on nets or insecticides for net treatment.

Figure 5: Trends in malaria cases and ITN distribution, Eritrea (1997-2004)

Source: HMIS

Effective coverage of vulnerable groups remained a serious challenge in 2004 (Figure 7). To move countries towards achieving the Abuja target of 60% of ITN coverage among vulnerable groups by 2005, AFRO supported distribution of free ITNs and mass re-treatment of nets including during immunization activities, such as during polio national immunization days (NIDs), measles vaccination campaigns and measles supplemental immunization activities (SIAs). This was possible through strengthened collaboration with the Expanded Programme on Immunization (EPI) at country and global levels.
Ghana received support to plan and distribute ITN coupons to children under-five years of age and 213,000 nets/insecticide kits were distributed to health facilities. Support was also provided for the planning and distribution of 500,000 coupons to mothers of children under five during NID in 2004 Campaign. The Regional Office supported Togo, among other partners, in planning, organizing and distributing 878,601 long-lasting ITNs free of charge to children under five with measles and polio vaccination.

Figure 6: Annual net re-treatment in Eritrea since 2000

Source: HMS

Figure 7: Vulnerable groups sleeping under ITNs

Source: DHS
and mebendazole distribution campaign in December 2004. With financial support from the Netherlands government, AFRO also supported six other countries (Burkina Faso, Chad, The Gambia, Guinea Bissau, Madagascar and Mali) to plan similar ITN distribution initiatives.

Ten countries (Angola, Chad, Eritrea, Malawi, Mauritania, Mozambique, Niger, Uganda, Zambia and Zimbabwe) received support to undertake mosquito net re-impregnation campaigns (NICs). In southern Africa, mass ITN re-treatment campaigns are annual national events carried out during SADC malaria week and child health week. In Malawi, for example, 1.5 million ITNs were re-treated during SADC malaria week (Table 1); in the Guinea-Bissau campaign in September, 127,000 nets were treated with the support from local partners (WHO, UNICEF, WB, Plan International) and Eritrea achieved about 79% of net re-treatment with the support of WHO/AFRO and other partners (Figure 6).

Also during the year, AFRO established a regional ITN implementation status database.

### Indoor Residual House Spraying

Technical support was provided to six southern African countries (Botswana, Madagascar, Mozambique, Namibia, Zambia and Zimbabwe) for planning and monitoring and evaluation of IRS implementation. Training of malaria control personnel in these countries was supported, and cross-border collaboration strengthened to control seasonal malaria transmission and prevent epidemics. Additional support was provided to Angola to review the malaria situation in the cross-border region, define control strategies and develop an action plan in the four malaria epidemic-prone provinces bordering Namibia. Three countries (Cape Verde, São Tomé and Príncipe and Uganda) introduced IRS in their malaria control programmes. Uganda was

<table>
<thead>
<tr>
<th>Estimated Total number of nets</th>
<th>% of nets treated in past 12 months</th>
<th>% of HH with at least one net</th>
<th>% of HH with an ITN</th>
<th>Average no. of nets in net owning HH</th>
<th>Average no. of ITNs in ITN owning HH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malawi</td>
<td>1,802,31</td>
<td>73.5</td>
<td>45.8</td>
<td>35.8</td>
<td>1.9</td>
</tr>
<tr>
<td>North</td>
<td>322,248</td>
<td>72.2</td>
<td>56.1</td>
<td>42.9</td>
<td>2.2</td>
</tr>
<tr>
<td>Centre</td>
<td>569,550</td>
<td>78.4</td>
<td>35.7</td>
<td>29.9</td>
<td>1.8</td>
</tr>
<tr>
<td>South</td>
<td>910,515</td>
<td>69.8</td>
<td>45.7</td>
<td>34.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Rural</td>
<td>1,309,855</td>
<td>72.0</td>
<td>39.3</td>
<td>30.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Urban</td>
<td>492,458</td>
<td>75.2</td>
<td>63.3</td>
<td>52.3</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Source: ICP SAMC
supported to develop policy and strategy guidelines for IRS and a training manual on indoor spraying. Training in the use of DDT was provided and standard protocols for DDT use were developed and distributed to countries. In southern Africa, following an estimation of the need for emergency supplies for malaria vector control, the commodities were procured and stocked in the sub-regional emergency store in Harare.

**Vector Resistance Monitoring**

WHO recommends contact bioassays, mosquito susceptibility testing and vector surveillance for entomological monitoring and evaluation of malaria vector control programmes. Bioassay and susceptibility kits were distributed to countries and entomological capacity was strengthened by training entomologists and upgrading insectaries. Support in vector resistance monitoring continued in the reported period. Mozambique, Namibia, São Tomé, Swaziland, Zambia and Zimbabwe received technical support to test the susceptibility of malaria vectors to insecticides. Togo was supported to develop a proposal to evaluate lambdacyhalothrin.

**Epidemic Preparedness and Response**

Proposals were elaborated and submitted to partners for cross-border epidemic control activities in West Africa, southern Africa and Great Lakes. About US$6 million was approved for malaria cross-border activities in southern Africa. Madagascar was supported to implement a malaria epidemic early warning system. Support was provided to Botswana, Burundi, Chad, Democratic Republic of Congo, Madagascar, Namibia, Rwanda, South Africa, Zambia and Zimbabwe for elaboration of national plans of action for malaria epidemic surveillance, preparedness and response.

A joint WHO/World Bank mission assessed malaria burden in displaced populations in Ethiopia. A malaria outlook forum was organized in Harare in September 2004 for forecasting and preparing for the malaria season 2004-2005 in southern Africa. Nine countries participated and updated their epidemic preparedness and response plans for the next transmission season. The regional contingency stock of drugs and supplies was replenished for rapid support to countries.

In the Region, three countries (Ethiopia, Botswana and Zimbabwe) reported malaria epidemics to the Regional Office in 2004. In Zimbabwe, as of week 43, the total cumulative number of cases was 672,074 and 1,092 deaths (CFR=0.16%). The high transmission period was from week 8 up to week 21 (Figure 8). The most affected districts were Gokwe, Guruve, Kariba and Hwange. The district of Okavango in Botswana reported epidemic during week 13.
Challenges and Priorities for 2005

In 2005, the Unit will focus on providing support to countries for implementation of ACT policies other than treatment policy change. Efforts to prime the global market for production of ACTs shall be maintained and local production promoted. Putting into operation the MIP strategy was slow mainly because some countries had not anticipated implementation of MIP plans in their annual operational plans. In view of the remaining problem of resistance to SP and lack of alternative drug of choice for IPT, studies are urgently needed on alternatives to SP. Advocacy efforts are needed to increase awareness in MIP, especially among policy makers. Countries will be supported to put in place appropriate national policies for malaria control among pregnant women, scale up its implementation and monitor IPT utilization. Sustainable strategies for increasing ITN coverage among pregnant women will also be promoted.

Vector control was hindered by inadequate coordination and follow up with countries due to communication failures, delays within countries initiating tender processes for ITNs and IRS, resulting in poor implementation of interventions. Entomological capacity and enabling facilities for effective monitoring and evaluation of malaria vector control programmes are inadequate, as are financial resources to implement vector control activities. Penetration of ITNs into rural areas remains poor. Because many countries do not yet have national systems to distribute and re-treat ITNs, ITN coverage and re-treatment rates are limited. To address these issues, AFRO will work with partners, particularly UNICEF, to strengthen national systems and capacity for early forecasting of ITN needs. To tackle the inequity in ITN ownership in most countries, the Regional Office will intensify advocacy and support for provision of ITNs free of charge to the most vulnerable groups. In 2005, an atlas on the distribution of malaria vector resistance to insecticides will be developed in collaboration with CSR/AFRO.
In the countries at risk of malaria epidemic, emphasis in 2005 will be on strengthening capacities for malaria epidemic detection and response through implementation of the integrated disease surveillance and response (IDSR). Malaria epidemics will be given the same considerations for reporting and officially declared for appropriate control interventions like other epidemic-prone diseases such as meningitis, cholera, viral hemorrhagic fevers, etc.

In 2005, the strategic plans to Roll Back Malaria are coming to an end in Benin, Burkina Faso, Central African Republic, Côte d’Ivoire, Democratic Republic of the Congo, Ethiopia, Guinea-Bissau, Malawi, Mali, Namibia, Niger, Nigeria, Senegal, Togo and Uganda. AFRO will provide support in review and evaluation of the existing strategic plans and development of new ones.
Support for community-based malaria control activities

A strong health care delivery system ideally provides early and reliable diagnosis and prompt effective treatment at all levels of the system. However, access to curative and diagnostic services by the most vulnerable, particularly in rural areas outside the reach of health facilities, is limited. Recognizing these constraints, national malaria control programmes in the African Region have sought to make treatment available as near the home as possible, in the community or the home. Home management of malaria (HMM) is a strategy that ensures early recognition of, and prompt and appropriate response (treatment) to, malarial illness mainly in children under five in the home or community. The objectives of the strategy are the following: enabling caretakers to recognize malarial illness early and take the appropriate response within the community; ensuring that providers of care have adequate capacity to respond; and creating an enabling environment to implement the strategy by making medicines available near the home. The HMM strategy calls for community involvement in malaria prevention and control.

Children in Guinea-Bissau – they remain a target group in the community for recurrent malaria illness

The strategic importance of community participation in health programming was demonstrated by the success of the Onchocerciasis control programmes (OCP and APOC), the Guinea Worm and polio eradication programmes. Studies in Burkina Faso, Ethiopia and Mali documented the effectiveness of community participation in malaria control. Community-based interventions in malaria control include identifying
A mid-term evaluation of the implementation of community-based interventions in sample districts was conducted in 2001 and again in May 2004. Even though, the Abuja targets are not yet reached, progress has been made towards achieving them for 2005, as compared to the situation in 2001 (Figure 9).

CBIs are a priority for the Benin Ministry of Public Health. The 2001-2005 Roll Back Malaria strategic plan includes a national policy document on CBIs and a national strategy for 2003-2005 for scaling up CBIs. In Cotonou, more than 1,000 health inspectors were trained as community relays, in collaboration with the Department of Hygiene and Sanitation on home management and prevention of malaria. In 2003, another 1,500 community relays were trained in the six health districts. A total of 55,212 mothers and caretakers of children under-five-years old were trained at village level on home management of the child with fever. Eighty women’s associations, 600 primary school teachers, 75 religious leaders and 23,120 school children were trained on prevention and management of simple malaria illness and how to recognize severe malaria for referral.

Within the outreach strategy, 22,466 nets were treated free of charge in 2002, 65,455 nets and curtains in 2003, and 77,136 people were sensitized on the prevention measures of malaria. Also 2,600 community relays from other health programmes such as the national Onchocerciasis control programme, Guinea Worm eradication programme, Department of Hygiene and Community-Based Sanitation, were trained on the promotion of treated nets.

A national communication and social mobilization plan developed for 2001-2005 focused on two levels of social mobilization for malaria control, with concerted action and capacity building. As a result, 90 journalists were trained on the role of the media in informing and educating people about malaria control.

Figure 9: Achievements in malaria control in sentinel districts in 2001 to 2004
problems and setting priorities, planning and implementing interventions and monitoring and evaluating activities. The rationale is to create a sense of ownership through involving people in solving their own health problems.

Achievements

In 2004, technical assistance was provided to Ethiopia to evaluate the community-based malaria programme started in 1992 in Tigray district. The lessons learnt from this programme were used to develop large-scale implementation plans for HMM in the rest of the country using a GFATM grant. AFRO also supported development of implementation plans to deliver ACTs at community level in Nigeria and Zambia. In Zambia, implementation is expected in early 2005 and later that year for Nigeria. AFRO promoted and supported the development and implementation of national strategic plans for scaling up community-based interventions for malaria prevention and control in 10 countries (Burkina Faso, Cameroon, Chad, Congo, Eritrea, Gabon, Guinea, Niger, São Tomé and Príncipe and Togo). In addition, community-based interventions were documented in 20 countries (Box 5). AFRO maintains a database for use by countries and other partners involved in CBIs. The main components of the database include institutions, NGOs, and resource persons involved in CBIs.

Challenges and Priorities for 2005

In many countries, changing drug policy to ACTs required community-level health agents to be retrained. Limited access to health facilities to support referral of cases and poorly resourced health facilities, however, limit the effectiveness of community-owned resource persons in malaria control.
More emphasis will need to be placed on advocacy with policy makers and opinion leaders to empower THPs to deliver basic health care at primary level. The training modules available in French will be translated into English and Portuguese, piloted and validated, and distributed to Member States.

Selected countries will receive intensified support to deploy ACTs at community level so that experiences and lessons learned can strengthen AFRO’s future guidance and orientation to countries on CBIs.

Priority will be given for publication and dissemination of technical guidelines for implementing and scaling up CBIs. Technical support will emphasize development of a communication strategy for change in health-seeking behaviour and to pilot the strategy for integration of various priority health interventions at community level.
Technical support to strengthen RBM partnerships at regional and country levels

Malaria is as much an economic and developmental challenge as it is a public health problem. This reality calls for concerted efforts by all to win the war against a disease that perpetuates poverty in Africa. Only by developing broad-based partnerships can interventions begin to reach vulnerable groups. The Malaria Control Unit is committed to maintaining and expanding partnerships with organizations and agencies that share its vision of a malaria-free future within the RBM movement. Pursuant to this commitment, in 2004 Malaria continued to facilitate the activities of the African representatives on the RBM Partnership Board and expanded, strengthened and initiated partnerships with European and Developing Countries Clinical Trials Partnership (EDCTP), Malaria Action Coalition (MAC), the World Bank and the Arab Gulf Programme for the United Nations Development Organizations (AGFUND).

Achievements

African Representatives on RBM Partnership Board

AFRO organized a consultative meeting in Harare in March 2004 between the African representatives on the RBM Partnership Board and selected constituents from malaria-endemic countries. The meeting reviewed the strategic malaria control and prevention interests of Africa and malaria-endemic countries. It resolved that the African representatives on the Board must speak with one voice and articulate the need for enhanced financial and technical support for malaria control in constituent countries. The Harare meeting prepared Board members to better represent their constituencies at subsequent RBM Board meetings.

To further the objective of establishing a functional network and facilitating information sharing among members and constituents, an e-mail network was established for the Board members and constituents. With the AFRO partnership coordinator serving as anchor person, a teleconference mechanism was set up to ensure continuous consultations, communication and information sharing among the representatives and between them and partners at country level through RBM country focal points. Twenty-five countries nominated RBM focal points with clearly defined terms of reference; a list of these focal points at country level is being compiled. A concept paper for the induction of partnership focal points with the chairperson of CCM and senior policy makers was developed. Board members were facilitated in using regional forum meetings to provide and receive feedback from their constituents.
During the year, African representative board members who completed their terms (Ghana, Senegal and Zambia) were replaced by representatives from Benin, Nigeria and Tanzania for two-year terms beginning March 2005. This process was undertaken through the Regional Committee of Ministers of Health of the African Region. A mechanism to facilitate the selection of alternates for each member of the Board was started during the year.

RBM Sub-regional Networks

Mapping of regional stakeholders into a database and directory was developed and piloted with partners in the Southern Africa sub-region. Establishment of the Southern Africa sub-regional network (SARN) was started during the year. A draft proposal on the terms of reference for the network is under review in the sub-region. The first steps for the establishment of the Central African sub-regional network have also been initiated.

Country Resource Mobilization through GFATM

By year-end 2004, the Global Fund’s cumulative allocation for malaria grew to US$ 697,628,791 for 35 countries, with 15 successful malaria proposals in the Fourth Round with a two-year total of US$350,364,380. To assist these countries complete their round four Malaria proposals support was deployed to 15 countries identified as needing to apply for GFATM support: Congo, Ethiopia, Equatorial Guinea, Gabon, The Gambia, Ghana, Guinea Bissau, Cote d’Ivoire, Kenya, Liberia, Madagascar, São Tomé and Príncipe, Sierra Leone, Tanzania and Zambia. Additional support was provided to these and other countries through the National staff of the WHO office.

In September, a meeting was organized to assess the implementation of GFATM funded activities in the African region, bringing together participants from 20 countries and focusing on an urgent need to improve on communication between the GFATM Secretariat, technical assistance partners and country level structures for the GFATM such as the Country Coordination Mechanism and the Principal Recipient.

Africa Malaria Day 2004

With the theme "A Malaria-Free Future" and slogan "Children for Children to Roll Back Malaria," most malaria-endemic countries in the Region observed Africa Malaria Day 2004.
Day 2004. In Senegal, a high-profile regional event commemorated the day with the coordinated support of regional partners. A consolidated report of the commemoration across the region has been produced.

**Malaria Action Coalition**

The Malaria Action Coalition (MAC) is a partnership between the US Centers for Disease Control and Prevention (CDC), USAID/JHPIEGO ACCESS Project, USAID/MSH Rational Pharmaceutical Management Plus (RPM Plus) Project and, the World Health Organization. It was founded in 2000 to provide technical support to selected countries in Africa in the fight against malaria. With considerable financial support from USAID over five years (2002-2007), MAC’s goal is to contribute to the attainment of the Abuja targets and RBM goals by focusing on strengthening health systems for the appropriate prevention and management of malaria. During the year, MAC contributed to enhanced capacity of the Malaria Unit to support countries by deploying three staff members to the unit: MAC coordinator, malaria treatment officer and malaria-in-pregnancy officer. This improved capacity enhanced the collaboration between the Malaria Control Unit, the DRH/MIP and partners and national authorities in the implementation of priority malaria control activities in the Region.

**African Economic Blocs**

Expanding malaria control interventions to the most vulnerable requires strategic support from regional institutions. In line with this, MAL/AFRO obtained support and collaboration from regional economic blocs in the fight against malaria. Letters from the Regional Director were sent to the heads of the African Union (AU), ECOWAS, SADC, COMESA and CEEC. A proposal to recruit a SADC RBM focal person was developed and approved by SADC Council of Health Ministers. In response, the African Union proposed setting of an ad hoc committee on malaria. MAL/AFRO has drafted terms of reference for the proposed committee, and the committee is expected to advise the AU on issues related to malaria control in the continent.

**Partnership with World Bank**

The Unit worked closely with World Bank during the year. A joint mission to Rwanda in May led to the prioritization of malaria control in the PRSP. Subsequently, in October, the World Bank Board of Executive Directors approved a total facility of US$65 million, comprising an International Development Association (IDA) credit of US$15 million and an IDA grant of US$50 million. Malaria will draw on resources from this facility to

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“Less talk and more action - The Road to a Malaria Free Southern Africa”

Slogan for the Southern African Development Community (SADC) malaria campaign week
expand ITN coverage, procure antimalarial drugs, and design and implement a malaria epidemic early warning system.

Also during the year, Malaria supported Kenya to review a World Bank-supported district decentralization project. This support enabled the MOH to develop an interim operation plan (IOP) to bridge the National Health Sector Strategic Plan (1999–2004).

The objective of the national campaign of mass impregnation of mosquito nets (CIAS) was to help reduce transmission of malaria. The campaign, initiated in all regions from 13-19 September 2004, treated 126,905 mosquito nets, of which 36,412 had been re-treated. The partners of the NMCP mobilized considerable resources from within the country to fight against malaria. Despite the low subsidies and some logistical difficulties, partnerships for mass impregnation campaigns work.

Recommendations from evaluation of the campaign include:

- Regional Directorate of Health must ensure that the centres for impregnation of mosquito nets are capable of impregnating mosquito nets not treated during the campaign;
- Begin community sensitization campaigns at least 15 days before the start of the impregnation campaign;
- Develop regional microplans for mass impregnation campaigns.

**Strong Points**
Partners and resources through the CIAS well mobilized; Existence of large amount of mosquito nets in the community; Traditional participation of the religious heads and organizations; Impregnation team and supervisors well motivated; Participation of NGOs with experience in the impregnation campaign; Contribution of the communitarian radios during the process.

**Weak Points**
Insufficient logistics (transport, fuel and impregnation materials); Insufficient number of members on impregnation teams; Campaign carried out in farming season and period of intense rain; Use of public transport to facilitate the supervision; Insufficient financial resources.
and the new one being prepared for 2005-2010. Malaria was prioritized in the IOP, leading to incorporation of essential malaria drugs and supplies into the government’s medium-term procurement plan. These efforts are expected to result in more resources for malaria control in Kenya. About US$6 million dollars from African Development Bank (ADB) is earmarked for malaria cross-border initiative in southern Africa.

**Partnership with the Arab Gulf Programme for the United Nations Development Organizations**

Expanding Africa’s partnership for malaria control continued to be the Unit’s priority in 2004. During the year, Malaria submitted funding proposals to the Arab Gulf Programme for the United Nations Development Organizations (AGFUND) to support scaling up of home-based management of malaria, malaria in pregnancy and drug policy changes in Guinea Bissau and Mauritania.

**Challenges and Priorities for 2005**

In spite of the efforts of the GFATM, timely access to funds remains a major hindrance to malaria control programs in malaria-endemic Africa. The Unit will, therefore, continue its efforts to strengthen and expand partnerships for malaria control. An analysis will be undertaken to understand the nature of good and poor performing countries to guide GFATM planning and implementation. Driven by the phase two review process, WHO is currently evaluating how best to analyse the dynamics and issues present in a set of countries receiving GFATM grants to illustrate best practices and to guide WHO’s Technical Cooperation programme.

Countries will be supported to look critically at the resource envelope to obtain more funding through PRSC and SWAp. Building on the experiences and successes in Rwanda, follow-up support will be provided to Kenya and Senegal. This form of support will be extended to other countries to ensure that national programmes are able to increase the fiscal space and remove hindrances and bottlenecks for better flow of resources to the critical operational levels.

The Unit will facilitate the selection of alternates for each member on the RBM partnership board, mobilize resources to support African representatives to use opportunities of regional meetings to advocate for more resources and increased commitment from individual countries and sub-regional political institutions. The Unit will also establish a system for the induction of newly
selected African representatives on the board and selected RBM focal points in countries for effective partnership development in countries and in the Region.

Expanding on the potential of RBM sub-regional networks, the experiences gained in EARN will be used to support WARN and ensure the effective take-off of SARN and CARN. Also, the experiences from MAC will be used to motivate core regional partners to work together for coordinated support for country action. Countries will be supported to manage the partnerships in country for scaling up malaria control interventions.
Priority research and development issues incorporated into large-scale control efforts according to strategic plans

In order to provide evidence-based guidance on sound technical strategies to the countries, AFRO continued to support implementation of priority operational research and health systems-related research in the countries. Most of the supported activities were in areas of effective treatment, vector control and health systems strengthening, including traditional resources mobilization.

Up to 80% of the population in sub-Saharan Africa is estimated to depend on traditional medicines at one time or other, and that in some instances up to 60% of children with fever, presumed to be malaria, are treated with traditional medicines at the onset of symptoms. Efforts to increase coverage levels with effective malaria interventions must, therefore, address traditional health systems. AFRO has prioritized the need to work with the countries and research institutes to carry out scientific evaluation of traditional medicines and other home remedies being used for priority diseases, including malaria, to determine their quality, safety and efficacy.

For instance, the efficacy and safety of many herbal medicines is based on ethnomedical evidence and evidence of use for generations, and, for some, their exact nature is always concealed. AFRO, therefore, will support the creation of inventories of traditional medicines and support scientific evaluation to enable countries to make informed decisions to use or restrict the use of certain traditional medicines.

Achievements

Operational Research for Evidence-based Decisions

In the area of malaria treatment studies, technical support was provided to 36 operational research projects in 15 countries in the Region funded in previous years. Technical support in the form of supervisory visits and on-line consultations for project implementation were provided to these projects. To date, six final projects and 11 progress reports were received and two manuscripts were submitted for review and eventual publication in peer-reviewed journals.

Studies supported by MAL/AFRO on malaria treatment effectiveness were conducted in Benin, Burkina Faso, Congo, Côte d’Ivoire, Madagascar and Niger and have
contributed or have the potential to influence antimalarial drug policies and practice in those countries. The study in Burkina Faso would evaluate the impact of home and community management of malaria in children. Also a study addressing the community approaches for home management of childhood malaria among nomadic Fulani populations in Nigeria was supported. A survey on home management of malaria in Nigeria with potential to inform and direct the implementation of this important intervention was initiated.

A study on malaria vector resistance to pyrethroides in Cameroon provided national authorities with current data on alternative and effective chemicals for use in vector control.

To strengthen traditional health systems for malaria control, AFRO (MAL and TRM) supported implementation of a CIDA-funded project. Priority operational research to evaluate potential herbal medicines for treatment of malaria was supported in four countries (Ghana, Kenya, Mozambique and Zambia). Also AFRO supported the Mozambican Ministry of Health to facilitate cultivation of the plant source for its antimalarial herbal tea and the establishment of a steering committee for the project. In Kenya, evaluation of potential traditional mosquito vector control strategies was started. In Ethiopia, a similar study will begin in 2005.

Health Systems Research

A study of employer-based malaria control activities in Kenya demonstrated the potential contribution of the private sector to malaria control initiatives. The findings showed a marked improvement in net ownership and re-treatment rates, accompanied by reduced absenteeism at work and school. In Tanzania, a study in Korogwe district investigated the effects of user charges at public health facilities on household health-seeking behaviour for malaria-related services. The results from this study indicate that although there has not been improvement in quality of care in health facilities, the introduction of user fees has not reduced patient attendance.

AFRO and partners have supported a multicentric study to determine the impact of malaria in pregnancy in settings of low transmission in five countries (Madagascar, Mali, Mauritania, Niger and Senegal) selected on the basis of their transmission
patterns. This study is ongoing and data from the study sites will be available in the second quarter of 2005.

Efforts to encourage countries to evaluate innovative ways to deliver priority health interventions was exemplified in at least two countries by organizing TBAs to deliver IPTp and provide counselling on essential ANC attendance to pregnant women. To improve the unacceptably low IPTp coverage in the Region, AFRO/CIDA project is working with countries to engage TBAs and THPs to participate in community-based delivery of IPTp and provide basic counselling on the importance of ANC attendance. Pilot implementation of this initiative is being undertaken district wide in at least two countries (Uganda and Kenya), and two others (Mali and Congo Republic) are planning similar pilot activities.

The TBAs must be trained to appreciate their role as partners and facilitators of facility-based ANC. The minimum package of IEC for the TBAs must emphasize the need for referral to formal health facility for assessment of the pregnant woman and to ensure this is adhered to. IPTp 2 must be taken only at the health facility.

Challenges and Priorities for 2005

In 2005, research capacity strengthening will need to be promoted in view of the urgent need to produce and communicate research results to policy makers and the international scientific community on major changes to the more effective, but not less costly, interventions. Sharing research findings will be facilitated, and including final project reports on the AFRO website will be encouraged.

Opportunities will be harnessed to equip programme managers with the research design skills and analytical tools necessary for selecting and prioritizing problems
facing malaria control interventions in their countries and with capabilities for interpretation of operational and health systems research results.

Malaria Control Unit will increase support to countries and national malaria control programmes (NMCP) participating in traditional medicine related activities, including evaluation of traditional medicines and utilization of traditional human resource for delivery of priority health interventions.

Funding for malaria operational research projects has been limited, and delays in the preparation of reports and publication of the results in scientific journals has precluded many study findings from influencing policy and practice. Also, countries urgently need to conduct rapid studies to evaluate the feasibility, acceptability and safety of ACTs for use in the community and at home. Equally urgent are the determination of the utility of parasite-based diagnosis of malaria, including rapid diagnostic test (RDT), when ACTs are used at the community level and in areas of perennial transmission, as occurs in most of Africa.

MIM/TDR/RBM/AFRO research initiative on malaria will support seven projects in four countries, including one in Uganda addressing malaria treatment at community level and the use of ACTs in HMM strategy, and one each in Tanzania and Zambia on the cost-effectiveness and optimal use of RDTs for malaria diagnosis in the deployment of ACTs.

The initiative to utilize TBAs and THPs for counselling of pregnant women and delivery of IPTp 1 must not be allowed to undermine routine ANC and must be structured to augment and facilitate ANC at the health facility.

The MIM/TDR task force has identified for support four studies in three countries, including two from Sudan on pregnancy-associated malaria in semi-immune Sudanese women and on the epidemiology of malaria in areas characterized by seasonal transmission. The other two to be supported will be on vector-parasite-host interactions and on insecticide resistance in Kenya and South Africa, respectively. AFRO is expected to actively participate in these studies.

Lastly, in close collaboration with TRM and CSR, efforts will be redoubled to engage as many countries as possible in documenting traditional medicines and knowledge and creating databases to facilitate intellectual property protection and systematic evaluation of the medicines.
National capacities enhanced to develop and implement monitoring and evaluation components

The ability to monitor and evaluate implementation of malaria control strategic interventions is the backbone of the Unit’s efforts. In this regard, AFRO has intensified the provision of technical support to countries to help them develop comprehensive and efficient national monitoring and evaluation systems for malaria control in the African Region. Furthermore, a database that facilitates storage and management of data on changes in malaria control core outcome and impact indicators is regularly updated at the Regional Office in Harare.

Achievements

As many malaria-endemic African countries have intensified their efforts for malaria control since the launch of the RBM initiative, WHO-AFRO has helped Member States build capacity for malaria surveillance and programme monitoring and evaluation at national and district levels through country support missions and the provision of malaria M&E guidelines. During 2004, AFRO technical support missions to strengthen national M&E systems were fielded to Cameroon, Liberia, Eritrea, Ethiopia, Guinea, Rwanda, Zambia and Zanzibar. The mission to Cameroon identified specific M&E capacity development needs, established a composite database for malaria control, and steps towards integration of M&E activities within the country were defined, including development of a national M&E network. The mission to Liberia supported the collection and management of malaria data, and the missions to Eritrea, Rwanda, Zambia and Zanzibar supported the collection and analysis of data from the 2004 health facility surveys. AFRO provided technical support to train 15 epidemiologists in Guinea on the management of national data on malaria.

The first Abuja progress report on the implementation status of the Plan of Action of the Abuja Declaration was produced. Despite progress made by countries in implementation of the Plan, the report shows that considerable gaps exist. These gaps are depicted in Table 2. The report will be useful for national governments and their partners as a source of inspiration to accelerate and intensify their efforts to achieve the targets set in Abuja.

In southern Africa substantial developments had taken place and the following were supported: annual and quarterly reviews of country malaria control programme; documentation of progress made in malaria control towards Abuja indicators in Malawi, Zambia, and Zimbabwe.
In an effort to assess the impact of in-service case management training on quality of care of malaria illness in health facilities, health facility surveys were carried out in Rwanda, Zambia and Zanzibar. The countries were selected because they recently adopted and were implementing new policies, thus case management training had recently been undertaken. Results are indicated in Box 7.

Despite these achievements, the malaria M&E system in most countries has not reached the level where it can generate on a regular basis the information that can guide priority setting, planning, management, implementation and monitoring and evaluation of malaria control interventions. The reality is that efforts to develop comprehensive and efficient malaria M&E systems in the Region have been hampered by enormous human, financial, institutional and logistical constraints. Furthermore, the current malaria M&E guidelines need to be updated to include new strategies such as intermittent and preventive treatment for pregnant women and home management of malaria.

To address the highlighted issues and challenges, WHO-AFRO held two workshops on M&E systems for malaria control in the African Region. The workshops reviewed the current malaria M&E guidelines and helped Member States agree on and implement priority actions and key steps that must be taken to strengthen national malaria M&E systems.
Specific objectives

- To describe how the health facilities are prepared to provide quality health care services, particularly antimalarial services;
- To identify the gaps in the support services, resources, or the process used in providing quality services;
- To describe the extent to which patients understand what they must do to prevent and treat malaria.

Methodology

- Facilities selected for the survey were a sample of those that offer outpatient care;
- Assessment of facility inventory for basic equipment and supplies for malaria case management was done, health worker practices and prescription habits were observed, and exit interviews for patients and caretakers carried out on the appropriateness of care and counselling received.

Summary of Findings

- The survey included 228 health facilities, 799 health care workers (HCW), with 1444 consultations observed, and 1431 caretakers/patients interviewed;
- The results of HCW training and performance are presented in the chart below and include appropriate prescription patterns and caretaker knowledge assessment.

<table>
<thead>
<tr>
<th>Country</th>
<th>HCW training in malaria case management (%)</th>
<th>Appropriate 1st line prescribed (%)</th>
<th>Availability of 1st line drugs in facilities (%)</th>
<th>Health facilities with a functional microscope (%)</th>
<th>Appropriate caretaker knowledge on danger signs %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eritrea</td>
<td>28</td>
<td>74</td>
<td>93</td>
<td>30</td>
<td>84</td>
</tr>
<tr>
<td>Rwanda</td>
<td>46</td>
<td>62</td>
<td>89</td>
<td>97</td>
<td>44</td>
</tr>
<tr>
<td>Zambia</td>
<td>33</td>
<td>27</td>
<td>72</td>
<td>39</td>
<td>46</td>
</tr>
<tr>
<td>Zanzibar</td>
<td>66</td>
<td>91</td>
<td>78</td>
<td>55</td>
<td>48</td>
</tr>
</tbody>
</table>

Observations

- HCW training in malaria case management (and IMCI) are below 50% except in Zanzibar;
- Appropriate first-line prescription and functioning equipment remained low in Zambia despite availability of appropriate drug;
- First-line antimalarial drug availability ranged between 72% and 93% in the facilities surveyed;
- Caretaker understanding of instructions was unacceptably low despite HCW training (except in Eritrea).

Main recommendations

- The countries should intensify appropriate training in order to improve on prescription patterns and effective counselling of caretakers and patients;
- Availability of first-line antimalarial drugs throughout the year in all facilities in endemic areas should remain the goal of the national authorities in effective malaria control;
- Availability and use of laboratory services should be intensified in order to augment appropriate use of the available antimalarial drugs.
It was established that national capacity for M&E was very weak in many countries, especially in West, Central and East Africa. Capacity gaps in the countries of these regions included insufficient or high turnover rate of M&E human resources, insufficient funding, lack of M&E focal points, lack of a data managers, multiplicity of formats for data collection, the development of vertical M&E systems by organizations that operate in the field of malaria control, lack of appropriate office space and/or equipment, limited opportunities for supervisory missions that focus on malaria-specific issues and lack of functional databases for malaria control.

Challenges and Priorities for 2005

The main challenge for AFRO is to encourage countries to take advantage of opportunities within their national boundaries and from RBM partners to strengthen their M&E systems. The most pressing task is to help countries collect timely data that are needed to report on the Abuja mid-term targets by the end of 2005.

In 2005, increasing emphasis will be on capacity development for implementation of all malaria control strategic interventions, including monitoring and evaluation. A stronger country capacity in M&E will be needed to generate the data necessary for reporting on the Abuja mid-term targets.

AFRO will also focus on providing support on monitoring performance and process indicators on implementation of country plans.
Issues and Challenges for 2005

To date, countries in the African Region have made progress in implementing key malaria prevention and control interventions. For example, 18 countries have already adopted ACT for malaria case management, 35 countries had their malaria proposal approved between GFATM rounds one and four and in many countries delivery of ITNs is steadily growing. Countries’ efforts to expand delivery to 60% of targeted groups must address reaching those who often do not benefit from the formal health system. Home management and community-based strategies promoted by AFRO are beginning to be adopted by countries to address these issues. AFRO support in policy change, strategy adoption, capacity building, resource mobilization and partnership development must be strengthened to meet global development targets.

Based on a review of progress in 2004, the critical issues and challenges for 2005 are:

- The more effective artemisinin-based combination therapies (ACTs) for malaria are not readily available because of a sudden upsurge in demand for the drug combined with a huge strain on production to keep pace with demand. The need for sustainable financing for countries to fully implement this more expensive option remains a challenge.
- There are few safe and effective antimalarials for the treatment and prevention of malaria in pregnancy. This should become a priority area for research in the coming year.
- Key preventive strategies, such as nets, are unaffordable to the economically disadvantaged. Governments and their partners should review their policies on taxes and tariff waivers and on subsidies to ensure enhanced accessibility to these tools for the vulnerable and the poor.
- Implementation of GFATM-funded programme activities has challenged the countries with new demands and workloads. Appropriate technical and managerial support to countries by WHO and Roll Back Malaria partners is required.
- Although GFATM is the major resource for malaria commodities for most countries, countries should seek resources from other sources as well.
- Performances in some countries towards achieving the Abuja targets are very encouraging and need to be better documented and shared with other countries and partners.
- The malaria M&E systems in most of the African countries are still weak and need to be supported for the evaluation of the Abuja targets: the upcoming DHS, and MICS survey represent key opportunities to include the malaria module (see Annex 2).
Conclusion

The burden of malaria can be halved by 2010, but only if countries are prepared to scale up interventions nationwide to reach the most vulnerable groups. Adoption of appropriate policies and strategies and mobilization of partners and resources commensurate to the challenge must be in place for countries to expand coverage rates. The achievements of 2004 reflect AFRO’s intensified guidance to accelerate this effort.

2005 must represent the turning point for malaria control. In the course of the year, countries will be reporting back to the highest political leadership of the continent on the level of achievement of the Abuja targets. Clearly much progress has been made, but there is much more work to be done.

- Countries who have not developed policies and strategies for prevention and control including IPT and effective malaria treatment must be supported to do so;
- Countries where there is slow uptake of ITNs must adopt and implement policies that will allow rapid access to ITNs for the vulnerable groups (including free distribution);
- Advocacy for waiver on taxes and tariffs for antimalarial products must continue;
- Countries must improve allocations for malaria from the total resource envelopes available at country level in addition to GFATM resources, to create diversification and minimize over dependence on a single source;
- Countries with risk of epidemics (unstable malaria) must strengthen their surveillance systems and capacity for effective prevention and response, especially by indoor residual spraying and setting up of early warning systems;
- Countries must emphasize reliable monitoring and evaluation supported by surveys and good use of health service data, in order to adjust policies and implementation and to document results and thereby motivate communities, health staff and all stakeholders to maintain momentum; and
- Countries must establish long-term plans for human resource development to support implementation of various health programmes, including malaria.
- Operational research should continue to be supported to guide decision-making at country level.

The Malaria Control Unit with its staff of nearly 80 dedicated malaria professionals operating in the Regional Office, inter-country programmes and country offices remains a catalyst for country progress in all malaria-affected countries. The Unit will redouble its efforts to ensure provision of timely and high quality technical support to countries, focussing intensified support to accelerate efforts. Country policies on access to effective treatment, particularly at the community level and prevention of malaria in pregnancy, need to be emphasized. Also, continuous advocacy for increased ACT production and price reduction will greatly facilitate effective treatment. AFRO will support the evaluation of countries’ strategic plans to ensure integration of strategies into national and district planning and intensify initiatives to deliver interventions to vulnerable groups.
Annex 1: Abuja indicators for selected countries

Table 1: Percentage of pregnant women age 15-49 who slept under an insecticide-treated net (ITN*) the night before the survey, by background characteristics

<table>
<thead>
<tr>
<th>Background characteristics</th>
<th>Country</th>
<th>Source</th>
<th>Total</th>
<th>Wealth quintile</th>
<th>Residence</th>
<th>Mother’s education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lowest</td>
<td>Second</td>
<td>Middle</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Burkina</td>
<td>DHS 2003</td>
<td>2.6</td>
<td>0.6</td>
<td>0.7</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Ghana</td>
<td>DHS 2003</td>
<td>2.7</td>
<td>4.7</td>
<td>2.8</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Kenya</td>
<td>DHS 2003</td>
<td>4.4</td>
<td>1.7</td>
<td>2.2</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>Mauritania</td>
<td>DHS 2003-04</td>
<td>6.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Nigeria</td>
<td>DHS 2003</td>
<td>1.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Uganda</td>
<td>DHS 2000-01</td>
<td>0.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Zambia</td>
<td>DHS 2001-02</td>
<td>7.9</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* An insecticide treated net (ITN) includes a long lasting net (LLN) that does not require any treatment, a pre-treated net obtained within the last six months, or a net that has been soaked with insecticide within the past six months.

** Just secondary education.

Table 2: Percentage of children under five years who slept under an insecticide-treated net (ITN*), by background characteristics

<table>
<thead>
<tr>
<th>Background characteristics</th>
<th>Country</th>
<th>Source</th>
<th>Total</th>
<th>Wealth quintile</th>
<th>Residence</th>
<th>Mother’s education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lowest</td>
<td>Second</td>
<td>Middle</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Burkina</td>
<td>DHS 2003</td>
<td>1.6</td>
<td>1.1</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Ghana</td>
<td>DHS 2003</td>
<td>3.5</td>
<td>6.2</td>
<td>1.6</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>Kenya</td>
<td>DHS 2003</td>
<td>4.6</td>
<td>1.2</td>
<td>2.2</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td>Mauritania</td>
<td>DHS 2003-04</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Nigeria</td>
<td>DHS 2003</td>
<td>1.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Uganda</td>
<td>DHS 2000-01</td>
<td>3.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Zambia</td>
<td>DHS 2001-02</td>
<td>6.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* An insecticide treated net (ITN) includes a long lasting net (LLN) that does not require any treatment, a pre-treated net obtained within the last six months, or a net that has been soaked with insecticide within the past six months.

** Just secondary education.
Table 3: Of women who had a live birth in the five years preceding the survey, percentage who took any antimalarial drug for prevention during pregnancy for the most recent birth, by background characteristics

<table>
<thead>
<tr>
<th>Background characteristics</th>
<th>Mother's education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Source</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>DHS 2003</td>
</tr>
<tr>
<td>Ghana</td>
<td>DHS 2003</td>
</tr>
<tr>
<td>Kenya</td>
<td>DHS 2003</td>
</tr>
<tr>
<td>Mauritania</td>
<td>DHS 2003-04</td>
</tr>
<tr>
<td>Nigeria</td>
<td>DHS 2003</td>
</tr>
<tr>
<td>Uganda</td>
<td>DHS 2000-01</td>
</tr>
<tr>
<td>Zambia</td>
<td>DHS 2001-02</td>
</tr>
</tbody>
</table>

* Data not available

Table 4: Of women who had a live birth in the five years preceding the survey, percentage who received intermittent preventive treatment (IPT*) during antenatal care visits for the most recent birth, by background characteristics

<table>
<thead>
<tr>
<th>Background characteristics</th>
<th>Mother's education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Source</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>DHS 2003</td>
</tr>
<tr>
<td>Ghana</td>
<td>DHS 2003</td>
</tr>
<tr>
<td>Kenya</td>
<td>DHS 2003</td>
</tr>
<tr>
<td>Mauritania</td>
<td>DHS 2003-04</td>
</tr>
<tr>
<td>Nigeria</td>
<td>DHS 2003</td>
</tr>
<tr>
<td>Uganda</td>
<td>DHS 2000-01</td>
</tr>
<tr>
<td>Zambia</td>
<td>DHS 2001-02</td>
</tr>
</tbody>
</table>

* Data not available

* Intermittent preventive treatment (IPT) refers to receiving two or more doses of SP during antenatal care visits
### Table 5: Percentage of children under age five with fever and/or convulsions in the two weeks preceding the survey who took an antimalarial drug the same day or next day, by background characteristics

<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Total</th>
<th>Lowest</th>
<th>Second</th>
<th>Middle</th>
<th>Fourth</th>
<th>Highest</th>
<th>Urban</th>
<th>Rural</th>
<th>Mother's education</th>
<th>Secondary or plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>DHS 2003</td>
<td>34.8</td>
<td>23.4</td>
<td>29.2</td>
<td>34.1</td>
<td>45.6</td>
<td>46.9</td>
<td>47.4</td>
<td>33.3</td>
<td>40.0</td>
<td>50.9</td>
</tr>
<tr>
<td>Ghana</td>
<td>DHS 2003</td>
<td>44.2</td>
<td>37.8</td>
<td>35.6</td>
<td>46.5</td>
<td>55.8</td>
<td>49.0</td>
<td>49.4</td>
<td>41.4</td>
<td>34.3</td>
<td>66.3</td>
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<tr>
<td>Kenya</td>
<td>DHS 2003</td>
<td>83.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>87.0</td>
<td>82.6</td>
<td>85.1</td>
<td>88.9</td>
</tr>
<tr>
<td>Mauritania</td>
<td>DHS 2003-04</td>
<td>420.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>17.2</td>
<td>22.7</td>
<td>19.2</td>
<td>22.4</td>
</tr>
<tr>
<td>Nigeria</td>
<td>DHS 2003</td>
<td>24.6</td>
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### Annex 2: Household survey status in the African Region (as of 16 November 2004)

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Red colour indicates no malaria coverage indicator questions.

* partial DHS, last full DHS 1997

AIDS survey (MacroDHS)
CSUNICEF International surveys being conducted with CPH/CDC Technical Assistance
CWQ Core Welfare Indicators Survey (World Bank)
DHS Demographic and Health Survey (MacroDHS)
Hb National anaemia survey (usually conducted by MoH, primary contact WHO Nutrition Department)
HBS Household Budget Survey (Tanzania)
LSMS Living Standards Measurement Survey (World Bank)
MICS Multiple Indicator Cluster Survey (UNICEF)
NET NETMARK baseline survey (USAID/AED)
NMS National Malaria Survey
OM Omnibus surveys (RMS Market Research)
PSI Population Services International (ITN KAP)
RBM RBM baseline survey (WHO/AFRO)
RHS Reproductive Health Surveys of women (W) or men (M)
WHS World Health Survey (WHO HQ)
Annex 2: Household survey status in the African Region (as of 16 November 2004) (continued)

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* red colour indicates no malaria coverage indicator questions
* partial DHS, last full DHS 1997

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NMS: National Malaria Survey

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RBM: RBM baseline survey (WHO AFRO)

RHS: Reproductive Health Surveys of women (f) or men (m)

WHS: World Health Survey (WHO HQ)
Notes