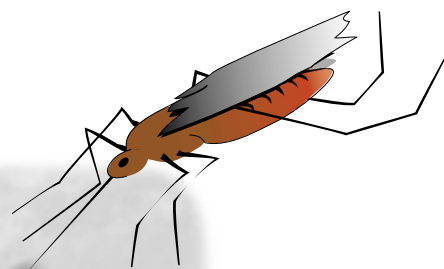


**Republic of Kenya
Ministry of Health**

National Malaria Strategy 2001-2010



**Division of Malaria Control
April 2001**

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Illustrations

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Abbreviations

AFRO	African Regional Office of WHO
AMREF	African Medical Research Foundation
ANC	Ante-Natal Care
CHWs	Community Health Workers
CORPS	Community Resource Persons
DFID-EA	Department for International Development (UK), East Africa
DHMT	District Health Management Team
DMS	Director of Medical Services
DMO	District Medical Officer
DOMT	District Outbreak Management Team
DOMC	Division of Malaria Control
DOMU	Disease Outbreak Management Unit
DVBD	Division of Vector Borne Diseases
EANMAT	East African Network for Monitoring Antimalarial Treatment
EDP	Essential Drugs Programme
EPI	Expanded Programme of Immunisation
ETN	Education Television Network
FPLM	Family Planning Management Unit (DELIVER)
GoK	Government of Kenya
HIS	Health Information Systems
HMIS	Health Management Information Systems
HIV	Human Immunodeficiency Virus
HSR	Health Sector Reform
HSSP	Health Sector Strategic Plan
IPT	Intermittent Presumptive Treatment
IDS	Integrated Disease Surveillance
IRS	Indoor Residual Spraying
IEC	Information, education and communication
IMCI	Integrated Management of Childhood Illness
ITN	Insecticide-treated nets
KBC	Kenya Broadcasting Corporation
KEMRI	Kenya Medical Research Institute
KEMSA	Kenya Medical Supplies Agency
KIE	Kenya Institute for Education
KIMC	Kenya Institute of Mass Communication
KMIS	Kenya Malaria Information Service
MCU	Malaria Control Unit, MoH
MEDS	Mission for Essential Drugs
MoE	Ministry of Education
MoH	Ministry of Health
MSCU	Medical Supplies Co-ordinating Unit
MSF	Médecins Sans Frontières
NGO	Non-Governmental Organisation
NMCC	National Malaria Co-ordinating Committee
NMCP	National Malaria Control Programme
NPHL	National Public Health Laboratories
NQCL	National Quality Control Laboratories
PCPB	Pest Control Products Board
PPB	Pharmacies and Poisons Board
PHC	Primary Health Care
PHMT	Provincial Health Management Team
PMO	Provincial Medical Officer
PSI	Population Services International
PTA	Parent Teacher Association
RBM	Roll Back Malaria movement
SES	Socio-economic status
SP	Sulpha Pyrimethamine
ToR	Terms of Reference
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WG	Working Group
WHO	World Health Organisation

foreword

The National Malaria Strategy (NMS) is more than a major health package. It is a fundamental development issue.

The malaria disease is debilitating, affecting millions of Kenyans each year and fatal to many thousands. The toll it exacts must be viewed not only in terms of the physical, financial and emotional pain it inflicts on individual families (it kills 26,000 children per year in Kenya) but also by its macro-economic impact.

Malaria accounts for 30% of all outpatient attendance and 19% of all admissions to our health facilities. An estimated 170 million working days are lost to the disease each year.

Kenya is, by nature, a prime victim of the malaria parasite. Our climate is conducive to the mosquito - a numerous, widespread, and intrusive vector - and our demographics expose us to both endemic and epidemic transmission conditions.

Previous efforts to combat the scourge have had mixed outcomes. Currently, the incidence and impact of the disease are getting worse.

Today, malaria is so invidious, its consequences so debilitating and its scale so great, that no national plan or aspiration, social or economic, can be divorced from it.

Accordingly, Kenya's National Health Sector Strategic Plan makes malaria a high priority for prevention and treatment; the new Division of Malaria

Control and NMS Plan provide a much more potent strategic approach.

The National Malaria Strategy is based on and carries forward an inclusive partnership between the Ministry of Health, other stakeholders and development partners. The plans are evidence-based, co-ordinated, focused and totally integrated.

In these measures, and explicitly in the over-arching Interim Poverty Alleviation Strategy, the Government of Kenya is pledged to its people and its partners to prioritise malaria control. Kenya has embraced the principles and aims of the global Roll Back Malaria (RBM) movement and has pledged intensive effort to support the RBM's Abuja Declaration.

Significant resources will be required to translate that commitment into effective action, but with the support of all partners Kenya can now effectively respond to the threat malaria poses to national health and development.

The National Malaria Strategy is the instrument of government's determination, and the springboard to partnership action.



Prof SK Onger EGH EBS MP

Minister for Public Health
Government of Kenya

April 2001

the problem

Some 20 million Kenyans - more than half the entire population - are regularly affected by the most deadly malaria parasite: *Plasmodium falciparum*.

The cumulative human suffering and economic damage caused by malaria is immense. Children and pregnant women are most at risk.

- * Each year, an estimated 26,000 children (that is 72 per day¹) die from the direct consequences of malaria infection.
- * Pregnant women suffer severe anaemia, have low birth-weight babies and run a higher risk of death from the disease.
- * Almost every Kenyan household is afflicted by the human suffering and financial hardship caused by malarial illness.
- * An estimated 170 million working days are lost each year as a result of the disease².
- * The economy in general and the health sector in particular are heavily burdened by the cost of

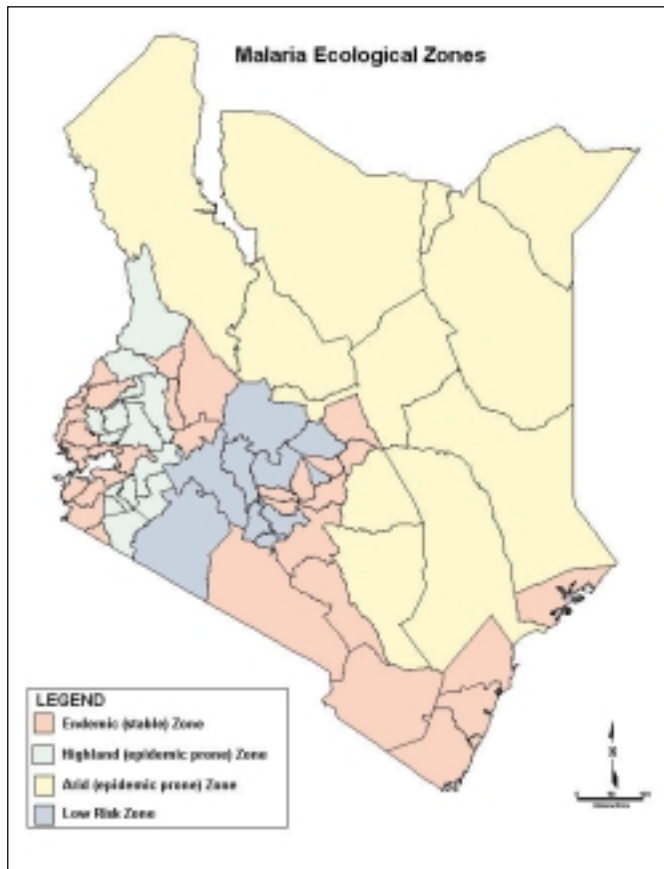


drugs and treatment. Malaria accounts for more than 8 million out-patient treatments at GoK health facilities each year. Hundreds of thousands more sufferers do not reach the formal health system.

- * Worldwide fear of drug-resistant malaria could jeopardise Kenya's tourist industry, and thus threaten shs 6.6 billion of annual foreign exchange earnings²
- * Kenya's ecology provides ideal conditions for the malaria-carrying mosquito, especially in coastal and lake regions.
- * Climatic conditions are conducive to outbreaks of epidemic intensity in other areas, such as intensively farmed highlands and semi-arid North-Eastern parts of the country. Such outbreaks are increasingly frequent.
- * Population growth and mobility, poverty, drug-resistance and depleted health systems create a wide and increasing range of malaria risks across Kenya, including epidemic infection that endangers entire population groups.
- * Capacity and resources for prevention and treatment are inadequate.

Cumulatively, malaria represents a massive barrier to socio-economic development and poverty alleviation.

the outlook



Efforts to control the disease have hitherto been sporadic, piecemeal and, despite some successes, have not effectively reduced or even decelerated overall disease rates.

Indeed, both illness rates and epidemic outbreaks are on the increase.

Recently, however, some preventative measures and treatments have achieved positive control results and there are strong, evidence-based indicators that considerable opportunity exists to reverse the national trend - if adequate resources can be mobilised and applied in a co-ordinated manner.

International commitment to “Roll Back Malaria” is a critical moment for Kenya to seize that window of opportunity, and the National Malaria Strategy is an action plan to do so.

Malaria, a blood parasite, is transmitted when a female Anopheles mosquito bites a person. Symptoms of the disease vary considerably in severity and include fever, headaches, aching joints, loss of appetite, and sometimes diarrhoea, nausea and vomiting. Even relatively mild infections are physically debilitating to the victim, but can be readily treated with sulfa pyrimethamine (SP) drugs. Delay in treatment can lead to much more severe illness, including convulsions, breathing difficulties, unconsciousness and severe anaemia. In these serious cases, unless the victim receives immediate hospital treatment, death can be rapid.



The National Malaria Strategy (NMS) draws on the involved consensus of more than 200 stakeholders from government and the private sector, Missions and NGO's at central, provincial and district level.

It assembles an evidence-based plan of action derived from Ministry of Health working papers and guidelines for case management³, insecticide treated nets⁴, malaria in pregnancy⁵ and malaria epidemics⁶.

It blueprints an enabling environment for:

* **An institutional framework⁷** that will:

- ensure co-ordinated, multi-lateral, national response that harnesses RBM and reflects Kenya's policies on health sector reform⁸ and poverty alleviation⁹.



* **Four strategic approaches** that will:

- guarantee all people access to quick and effective treatment, to significantly reduce illness and death from malaria.
- provide malaria prevention measures and treatment to pregnant women
- ensure use of insecticide-treated nets by at-risk communities, to significantly reduce rates of disease.
- improve epidemic preparedness and response

* **Two vital cross-cutting strategies** on:

- information, education and communication, to better arm the public with preventive and treatment knowledge
- monitoring, evaluation and research, to constantly up-date and up-grade control strategies.

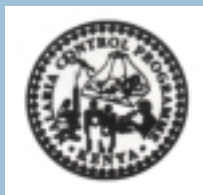
* **Mobilisation of resources** to achieve the proposed targets.

Access to the right drugs and treated nets is pivotal to the strategy. The NMS will help ensure the availability and efficacy of both

the objectives



To reduce the level of malaria infection and consequent death in Kenya by 30% by the year 2006, and to sustain that improved level of control to 2010



The Purpose

The NMS is not a technical manual for prevention and control of malaria. It aims to set up an enabling environment for the creation and implementation of such guidelines, by:

- * co-ordinating stakeholders and efforts
- * strengthening partnerships
- * integrating systems
- * advocating resource priority
- * focusing national commitment
- * designing national guidelines

The NMS will provide:

For the Ministry of Health:

a framework for advocating greater public resource allocation to malaria control

For multi-lateral and bi-lateral agencies

a framework for considering and monitoring effective, co-ordinated support

For implementation partners

a basis for strategic roles and consistent action towards a common goal

For the DOMC

a map for GoK targets and detailed annual work plans for provinces and districts

For provinces and districts

a framework within the Health Sector Strategic Plan⁸ to implement local strategies at district, health facility and community levels.

The NMS is mandated by, embraces and conforms to:

- * MoH Health Sector Strategic Plan⁸
- * Kenya's Interim Poverty Alleviation Strategy⁹
- * The global "Roll Back Malaria" movement

The Abuja Declaration of April 2000 at the African Heads of State Summit on "Roll Back Malaria"¹⁰ recognised "the disease and economic burden that malaria places on hundreds of millions of Africans and the barrier it constitutes to development and alleviation of poverty." The President committed the Government of Kenya to an intensive effort in support of the Abuja Declaration.

The RBM has set a ten-year target to realise tangible differences in malaria control and prevention in Africa. The NMS is Kenya's response to that challenge.



The NMS Plan

This document is compiled for the information of the government and people of Kenya and all potential partners and stakeholders in efforts to prevent and control malaria in Kenya. The Plan:

- * Positions the National Malaria Strategy in Kenya's overall policy and health administration
- * Lists, links and explains the roles of the institutions and organisations involved
- * Gives background to the problems that must be addressed
- * Presents rationale for institutional and strategic remedies
- * Details how these measures will be structured, managed, operated and financed
- * Details control mechanisms, monitoring and evaluation systems, public education techniques, co-ordinating synergies, supporting structures and other ingredients essential to the success of the strategy
- * Sets targets to be achieved by 2006

Division of Malaria Control
Ministry of Health
APRIL 2001

footnotes

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Institutional Approach

2.1 Background

1992: Ministry of Health (MoH) began to develop a National Malaria Plan of Action (1992-1997)¹

1994: The plan was launched, and the Malaria Control Unit (MCU) was set up, under the Division of Vector Borne Diseases, to be the operational arm of the National Malaria Control Programme (NMCP).

1994: The MoH set up a Health Sector Policy Framework.

1998: The "Roll Back Malaria" (RBM) movement was started by WHO.

1998: A MoH Situation Analysis² revealed fragmentation and duplication of effort in malaria control and research, and highlighted the need for effective dialogue and clear responsibilities for the different partners within and outside the Ministry. To embrace RBM, Kenya needed to:

- galvanise donor support
- set consensus-built, evidence-based policies
- put greater emphasis on wide, stakeholder co-ordination
- clearly define roles and responsibilities for each player
- formulate a National Malaria Strategy to achieve these objectives

1999: The MoH published its Health Sector Strategic Plan (HSSP) for the five years to 2004, defining malaria as the highest priority for prevention and treatment.

2000: MoH formally reviewed³ the institutional framework and human resources required to take forward the proposed NMS, and identified three reasons for establishing a new Institutional Framework for malaria control:

- * problems with setting up the proposed staffing of the MCU and appropriate structures at provincial and district levels had undermined the 1992 plan
- * Over the ten years (2001-2010) of the NMS, public sector reform will change the management of health activities, flow of resources and distribution of staff. Traditionally vertical programmes such as malaria control will need to change radically. The Division of Malaria Control (DOMC) will no longer direct, fund and provide staff for activities in districts. Districts will take on this role themselves, turning to higher levels for specialised advice and quality control.
- * Internal restructuring within the Ministry has created a DOMC and its terms of reference are evolving to a strategic role.

The institutional framework for malaria control must be appropriate throughout the ten years of the NMS, and the NMCP will ensure the necessary flexibility to accommodate change.

A critical mass of people is needed at the central and provincial levels to build capacity for decentralising malaria control and integrating it with other services. That same critical mass will provide specialised advice and quality control once the capacity is built.

The Kenya Health Policy Framework of 1994⁴ and the Health Sector Strategic Plan (HSSP) 1999-2004⁵ provide the overall institutional context within which the National Malaria Control Programme will operate.

2.2 The Institutional Framework

Malaria is one of the six essential packages of the HSSP and complete harmonisation between the NMS and the HSSP will guarantee RBM success in Kenya.

The principles and structures articulated in the HSSP will be adopted by the NMS throughout (Figure 2.1).

2.2.1 Community level

The HSSP aims to strengthen community structures to enhance the participation of households in health-related activities at the local level. This integration will continue to be a responsibility of the District Health Management Teams and Boards.

At the community level and in peripheral health facilities there will be integration of all the components of the NMS in the basic health package as outlined in the district health work plan. Planning and implementation will involve local community authorities and leaders, peripheral health workers, drug shop owners, community groups, religious organisations, employers, other GoK administrative systems and community-based organisations. They will all act as important entry points for broader health sector involvement at the community level, with support and access to information from other levels in the system.

The NMS's activities will be integrated with activities of other health programmes and particularly with those provided by the Integrated Management of Childhood Illnesses (IMCI) at this level.

2.2.2 Provincial and District levels

Harmonisation between the NMS and the HSR process will empower the Provincial and District Medical Officers (PMOs and DMOs) to establish clear mechanisms for malaria control - tailored to the particular malaria problems in each area. For example, special arrangements will be needed in epidemic-prone districts.

As far as possible, provinces and districts will build on existing structures and ensure a close relationship with other GoK structures such as Municipal Authorities and Boards. The Stakeholders Forum

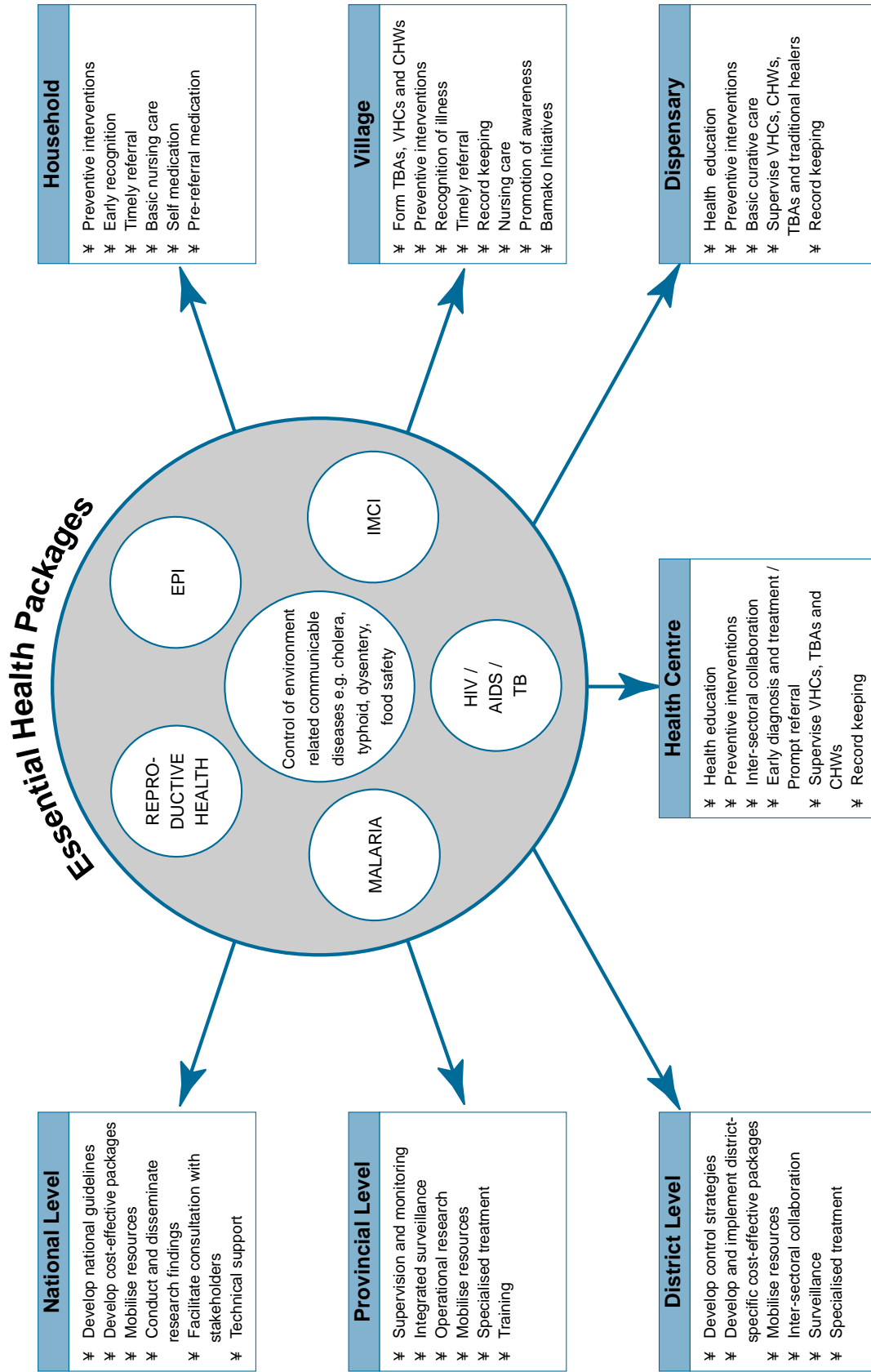


Fig. 2.1 DELIVERY OF ESSENTIAL HEALTH PACKAGES

Fig. 2.1

(as defined in the HSSP) in each district will help identify alliances for malaria control.

In the early years of the NMS, the DOMC and the provinces will work with the districts to establish and maintain a critical mass of resource personnel to build capacity at lower levels, including communities. As IMCI is introduced into districts these teams will be able to take forward ready-integrated malaria and IMCI capacity building.

Over time, the DOMC role will evolve into one of technical guidance, monitoring and evaluation, updating skills, and quality control.

In the short-term, the DOMC will need to define the training needs of Ministry staff involved in the NMS and HSSP.

Training will require close collaboration with the HSR Secretariat, the Kenya Medical Training College and the MoH divisions responsible for key aspects of the strategy, to ensure full complementarity.

A focal point for integration will be the District Health Work Plan that will allow a strategic move away from vertical, parallel training systems.

2.2.3 National level - the DOMC

The DOMC will continue to be the operational arm of the NMCP at the national level. It will be structured according to the components of the NMS, and provide a resource of expertise for partners in

malaria control. Its role will be to:

- * develop and disseminate policy and strategies and keep them up to date
- * provide technical assistance
- * produce and disseminate national guidelines for all components of the strategy
- * monitor and evaluate implementation and impact
- * build capacity through training
- * advocate malaria as a priority disease.

2.3 Partnerships

Key to the success of the NMS is development of effective partnerships at all levels. These include the following:

2.3.1 Within the Ministry of Health

- * Health Sector Reform Secretariat
- * IMCI, particularly on community care for malaria, case management and referral systems, promotion of Insecticide-treated nets (ITNs) and Information education and communication (IEC) for malaria.
- * Reproductive Health, particularly on malaria in pregnancy
- * Division of Communicable and Vector Borne Diseases, particularly on research and, with the Disease Outbreak Management Unit (DOMU), on epidemic preparedness and response
- * Department of Curative Services, on malaria case management
- * Health Management Information Systems (HMIS) and Integrated Diseases Surveillance (IDS), on monitoring and evaluation of malaria activities

- * Public Health Officers
- * Environmental Health, on vector control and environmental assessment of development projects
- * Health Education, on IEC and public information for malaria
- * Chief Pharmacist, National Quality Control Laboratory (NQCL), Medical Supplies Co-ordinating Unit (MSCU)/Kenya Medical Supplies Agency (KEMSA) on drug policy, supply and quality control
- * National Public Health Laboratory Service (NPHL), on diagnostic services for malaria

2.3.2 Other Ministries:

- * The Office of the President on advocacy for malaria and epidemic preparedness and response
- * Ministry of Finance on tax regulations for e.g. mosquito nets and yarns, and on mobilisation of resources
- * Ministry of Information and Broadcasting on IEC and public information for malaria
- * Ministry of Education as part of life-skills curriculum review
- * Ministry of Home Affairs, Culture and National Heritage on community mobilisation for malaria
- * Ministry of Tourism
- * Ministry of Local Government
- * Other relevant ministries

2.3.3 Private Sector:

The National Malaria Control Programme will

promote public/private partnerships at all levels as part of the NMS, particularly on service delivery, regulatory issues, quality and supply of commodities, sponsorship of IEC activities and testing new products.

2.3.4 Donors, NGO's and Research Institutions:

Development partners: on access to technical advice, resources and global initiatives

Implementation partners: to assist in the co-ordinated delivery of services to communities

Research Institutions: on identifying research needs, carrying out projects and translating research results into policy and practice

2.4 Mechanisms for co-ordination and communication

The National Malaria Co-ordinating Committee (NMCC) will provide a forum for partners in the NMS to exchange information, co-ordinate malaria control plans and activities, and monitor progress against objectives. The NMCC will report to the Minister of Health. A complete terms of reference is shown in Annex 1.

The NMCC cannot include all the many partners in malaria control implementation. However, the NMCC and DOMC will work with partners in a number of other ways, including involvement in technical Working Groups, consultation on specific issues, exchange of information, and through annual partner meetings.

The NMCC will focus on high-level strategy and decision-making. Detailed planning and oversight of activities will be the role of the DOMC with support where appropriate from technical Working Groups (terms of reference in Annex 2). Such groups will be convened where additional expert advice is needed, and will promote partner co-operation on specific topics. In general these bodies will have a small membership and a highly focused remit. At least one member of NMCC will be in every group to aid communication and avoid duplication.

Not all aspects of the National Malaria Strategy will call for such formal groups. Some activities will be effectively co-ordinated by the DOMC, or other partners, through one-off meetings, informal networking or other means. The DOMC will sub-contract work in areas where it lacks expertise or capacity.

Development partners will be represented on the NMCC but may need to meet separately from time to time to address particular issues on funding. Work plans (see below) will be an important mechanism for identifying overlaps or gaps in funding and there may need to be some meetings at the drafting stage to negotiate and co-ordinate donor inputs. Twice-yearly donor meetings, convened through the WHO Country Office, may be appropriate to make annual inputs and review mid-year positions.

2.5 Implementation

2.5.1 Annual Plans of Action

Each component of the ten-year NMS will be broken down into milestones, set before the start of each financial year.

A detailed annual plan will be developed to reach these milestones. The plans will identify activities, responsibilities, resources needed (from within and outside the DOMC, including human resources) and time-scales. Draft plans will be used to negotiate for GoK resources and donor funds, and final plans will then be fitted to the resources available.

The DOMC will work with provinces, districts and other partners to ensure plans at each level dovetail. The NMCC will have an important role in agreeing the milestones and priorities, in advocating for the resources required, in galvanising input from partners and in monitoring progress.

2.5.2 Advocacy

The Ministry of Health will press for adequate and sustainable resource allocation for malaria control that honours GoK's commitment to the Abuja Declaration and reflects the priority of the NMS in the HSSP.

2.5.3 Legal provision

The Laws of Kenya relating to wider issues of malaria control will be reviewed by the MoH's legal division in consultation with the DOMC and in the context of the NMS. Any inconsistencies or inadequacies in the current Gazette Laws (CAPS 242, 246, 254, 244 & 502⁶) will be tabled in parliament for revision.

2.5.4 Mobilising Political Support

The MoH will lobby political support for the NMS through the appropriate parliamentary channels.

2.5.5 Information service

Information is vital to the co-ordinated and strategic response to malaria control, enabling all partners at all levels to make decisions in concert with national policy. This is particularly necessary at district-levels, where new information tools are needed to build strategic planning capacity.

The DOMC will continue to develop information dissemination tools through:

- * Distribution of all policy documentation and guidelines to district, provincial, national and international partners.
- * Maintaining the Kenya Malaria Information Service⁷ [Figure] as a DOMC web-site linked to the World Health Organisation (WHO)/RBM web-site to host strategic plans, guidelines, news, strategic data and IEC digests.

- * Producing DOMC, East Africa Network for Monitoring Antimalarial Treatment (EANMAT) and the proposed ITN newsletters
- * Developing malaria-information planning tools tailored to district decision-making (Kenya Malaria Information Service v 3.0) using health facility, population, malaria-risk and administrative data linked through a Geographic Information System.

2.5.6 Rolling-out the NMS to Provincial and District levels

Building roll-out capacity precedes roll-out details. DOMC will focus on capacity building approaches in collaboration with decentralised support as part of the Health Sector Reform process, IMCI and the Division of Reproductive Health.



Capacity building will be developed around the following

- * The four strategic approaches of the National Malaria Strategy (Chapters 3-6)
- * Systems for assessing malaria training needs in sympathy with other training needs
- * Building partnerships
- * Developing materials for IEC through creative workshops (Chapter 7)
- * Ensuring malaria forms an integral part of comprehensive district-health work plans as taken forward by the decentralisation action plan
- * Establishing frameworks with HMIS for effective monitoring and evaluation of annual work plans

2.5.7 Resources

Budgeting will be tied to annual work plans at all levels.

- * At lower levels, as decentralisation proceeds, malaria will be incorporated and earmarked in budgets for delivery of the total health package.
- * At national level a budget will be attached to the DOMC work plan and to malaria control activities. Resources for this plan will come through the recurrent and development budgets and negotiations with development partners, including NGOs and the private sector.

To ensure adequate resources for malaria prevention and control the following will be fundamental:

- * Malaria control must be integrated every year into comprehensive, district health work plans as part of the Health Sector Reform Process.
- * DOMC technical assistance will be available to ensure district work plans conform to NMS priorities.

Because there are so many indirect inputs within the overall national/health infrastructure, it is unrealistic to precisely define the total resource envelope to roll back malaria in Kenya. Nevertheless there are key components of the NMS that, if not adequately resourced, would prevent the strategy reaching its intended goals. These include:

- * adequate supplies of drugs, nets and insecticides.
- * the ability to ensure that district-level planning is entirely consistent with national strategic plans.

The budget commitment from GoK and donors will focus on recurrent costs. Development partners should also consider direct budgetary support for one-off expenditure, such as bulk ITN purchase for short-term impact and to create demand.

FOOTNOTES TO CHAPTER 2

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- 7 Ministry of Health (2000). Kenya Malaria Information Service CD. April 2000. Recently developed as Web-enabled expanded information service at www.kmis.org

Chapter 3

Strategic Approach I

Clinical management: providing effective, prompt treatment

3.1 Background

Access to treatment is a cornerstone of any public health programme. In the absence of any 100% effective preventative intervention (whether a vaccine, ITN or vector control) the management of clinical malaria is the most vital and cost-effective action, globally, to reduce the malaria burden.

Kenya's health services involve a broad range of partners. The GoK has direct responsibility for more than 125 hospitals, 550 health centres and 1,500 dispensaries across Kenya. In addition, approximately 40% of all health institutions are supported by the Mission and NGO sectors. The expansion of the Primary Health Care system in Kenya during the 1980s has created an extensive cadre of community-health care workers (CHWs) supported by GoK and its NGO and Mission partners.

The informal private sector has proliferated since its liberalisation during the late 1980s. For malaria there is a wealth of evidence that most Kenyans self-medicate, using shop-bought anti-pyretics and anti-malarials. Traditional healers are also widely used.

New policies related to malaria management must therefore reflect the myriad treatment options and the varied service providers.

Despite limited information, it can be stated with some confidence that in excess of 30% of new attendances at GoK health facilities are diagnosed and treated as malaria. Malaria thus ranks as the most frequently diagnosed condition among out-patients, in-patients and deaths in most districts.

It is estimated¹ that there are more than 8.2 million malaria out-patient diagnoses in GoK health facilities each year. The number of patients requiring in-patient care in GoK facilities for severe/ complicated malaria is probably in excess of 22,000 each year.

The situation has worsened. The number of admissions to hospital with severe/complicated malaria has been increasing since the late 1980s. The most recent Demographic & Health Survey² findings also suggest mortality in childhood has risen during this period.

These rises co-incide with the emergence of Chloroquine resistance, first detected in Kenya in 1978 and which escalated during the 1980s. Despite mounting evidence of failure, Chloroquine remained the treatment of choice for uncomplicated malaria infections until revised guidelines were launched in 1998 to support the use of pyrimethamine/sulphadoxine or pyrimethamine/sulphalene (SP) as the first line drug of choice³.

Implementation of this policy change to all levels of the client and provider communities has been difficult and remains a priority task of the MoH. In addition, it is accepted that significant resistance to SP will emerge within the next 5-10 years; monitoring and a search for affordable alternatives is of paramount importance.

3.2 Policy⁴

The GoK will ensure all people at risk of malaria and those managing the disease have access to IEC to improve fever recognition and treatment and management of severe/complicated malaria.

The GoK will set policy and guidelines to ensure that:

- * all fevers are treated as early and as close to a patient's home as possible, with acceptable quality and correct dosages of the first line anti malarial and supportive treatment
- * first-line therapeutic failures will be appropriately referred and managed with recommended second line treatment.
- * All complications of malaria will be referred and managed according to national guidelines.

Chemoprophylaxis will be recommended only for people at special risk, such as non-immune travellers or people with Sickle Cell Disease or splenectomy. Intermittent Presumptive Treatment (IPT) of malaria will be recommended for pregnant women (Chapter 4).

3.3 Targets by 2006⁵

- * 80% of households at risk of malaria to receive targeted IEC.
- * 80% of GoK health facilities to have continuous and adequate supplies of drugs essential for the management of malaria.
- * 80% of all anti-malarials provided through formal and informal sectors to be of internationally acceptable pharmacological standards.
- * 60% of fever cases which are treated at **home** by family members or caretakers will be managed appropriately.
- * 80% of all cases of fever treated by CHWs or out-patient **facilities** will be managed according to national recommendations.
- * 80% of first-line therapeutic failures and severe, complicated malaria cases correctly managed by health personnel in appropriate health facilities.

3.4 Implementation of the policy

3.4.1 Awareness among client community

Fundamental to the success of this strategic approach is the confident and correct use of appropriate drugs and services by the community. To this end, a large-scale investment will be made to ensure communities are aware that fevers can kill, that they should be managed early and with nationally recommended first-line drugs and anti-pyretics. The IEC aspects of these approaches and the responsibilities of different partners are presented in more detail under Chapter 7.

3.4.2 Improved case-management by service providers

At national level, the DOMC will ensure that guidelines^{4,6} developed for health service workers are effectively distributed through all MoH, pre-service training, NGO and mission channels. The DOMC will convene a Working Group (WG) (Annex 2.2) to review existing guidelines to provide timely, evidence-based revisions.

The DOMC will work with partners within the Ministry and the Mission (eg MEDS) and NGO (eg AMREF) sectors to ensure adequate support and resources for in-service training of CHWs, nurses, clinical officers and clinicians in the national guidelines.

The DOMC will liaise with pre-service training curricula for medical and para-medical personnel to ensure consistency with, and give appropriate emphasis to, national malaria policy.

The WG on clinical management of malaria will have a role in development, co-ordination and effective implementation of pre- and in-service training. The DOMC and Provincial Medical Officers (PMOs) will work together to develop a critical mass of trainers to build capacity for clinical management, supervision and continuing education at lower levels.

District Medical Officers will drive the development and implementation of their district health work plans and ensure malaria-specific capacity building and case-management activities are included.

The DOMC will work with those responsible at national level for Integrated Management of Childhood Illnesses (IMCI) and Safe Motherhood to ensure

new developments have a strong malaria component and that implementation of the NMS, IMCI and Safe-Motherhood Programmes are co-ordinated and make effective use of resources.

The National Public Health Laboratories (NPHL) will be responsible for general improvements in the provision of microscopy as a diagnostic tool and Hb measuring services nationally. Technical advice will be provided by the DOMC to support the NPHL's efforts to strengthen laboratory services nation-wide.

3.4.3 Ensuring adequate drug supply

Adequate supply of recommended drugs and supporting management supplies is vital to confidence in the new policy.

Provincial and District Medical Offices will be responsible for defining supply requirements in their areas. The DOMC will support them by working with the Essential Drugs Programme (EDP), the Medical Supplies Co-ordinating Unit (MSCU) and, in due course, the Kenyan Medical Supplies Agency (KEMSA). This partnership will advise on and lobby for the procurement, packaging and distribution of all necessary supplies for all levels of the formal health sector.

The MoHs Disease Outbreak Management Unit (DOMU), with technical support from the DOMC, will be responsible for ensuring that MSCU/KEMSA procure and retain buffer stocks for epidemics.

Provinces and Districts will be responsible for monitoring drug supplies and distribution to the formal sector. The DOMC will support the monitoring of national supplies, identifying and dealing with

obstacles to distribution and, until KEMSA is operational, negotiation with MoH, GoK and development partners to fill national resource gaps.

3.4.4 Drug registration, legislation and quality

Registration of all anti-malarial drug products is the responsibility of the Pharmacies and Poisons Board (PPB). The DOMC will be represented at PPB meetings which consider regulation and registration of anti-malarials to ensure adequate technical advice on formulations, packaging and dosing, in concert with national policy and feasibility. In addition the PPB and DOMC will ensure legislation of drug use to allow access to first-line therapeutics through informal drug sellers.

The DOMC will contract the National Quality Control Laboratories (NQCL) to lot-test and assure all GoK-procured anti-malarials. The NQCL will also maintain a product testing service for the MoH of all locally manufactured and imported anti-malarial products available to the informal sector.

Information from the Mission sector's drug quality control service (provided by the Mission for Essential Drugs, MEDS) will also be sought on a regular basis for comparative review. The NQCL and MEDS will provide timely information to the DOMC, NMCC and PPB for MoH action against all sub-standard products.

The DOMC and PPB will maintain close collaboration with the local pharmaceutical industry's umbrella organisations to optimise the working environment, in line with the NMS's objectives and policies.

A WG on Anti-malarial Drug Policy under the auspices of the NMCC will address some of

these issues and other aspects of drug policy (Annex 2.1).

3.4.5 Drug donations

The DOMC, with support and advice from the WG on Anti-malarial Drug Policy, will ensure that proposed drug donations are in concert with the national treatment guidelines and internationally accepted guidelines on drug donations adopted by the MoH in 1999⁷.

3.4.6 Monitoring drug efficacy

In 1998 the East African Network for Monitoring Anti-malarial Therapy (EANMAT)⁸ was established with donor and national Government support to initiate eight sentinel sites in each of the three East African countries for the standardised and routine monitoring of anti-malarial drug sensitivity.

The DOMC maintains eight sites through support from DFID and feeds into the wider sub-regional initiative as members of the EANMAT secretariat. Findings from the sentinel and other sites will be reviewed regularly by the WG on Anti-malarial Drug Policy and reports and recommendations presented to the NMCC. A special Task-Force will be set up if and when action to change drug policy is indicated. All information on levels of drug resistance will be made public through the DOMC web-site and other communication channels.

The MoH will ensure mechanisms are in place to continue sentinel site testing and Kenya's contribution to EANMAT beyond 2002 when donor support is due to end.



3.4.7 The informal sector

The home management of fever is a widely adopted practice across Kenya. The NMS recognises the need to improve self-treatment practices by:

- * Increasing awareness of appropriate action among the community as a whole (Chapter 7).
- * Developing and applying strategies for improving dispensing practices by shop-keepers⁹ and other important health providers in the community, such as traditional healers.
- * Ensuring adequate drug legislation to allow for easy access to effective anti-malarials.
- * Maintaining effective regulatory control of drug products in the community.

Districts will have an important role in planning and implementing the awareness and dispensing elements, with support from the Provincial level and from the DOMC and IMCI programmes.

FOOTNOTES TO CHAPTER 3

- 1 Crown Agents (2001). Review of the essential drugs programme in Kenya and development of an interim strategy. Draft Final report, 6th March 2001.
- 2 Central Bureau of Statistics (1999). Kenya Demographic & Health Survey, 1998. A preliminary report prepared by the National Council for Population & Development, Ministry for Planning and National Development, GoK, April, 1999.
- 3 Shretta R et al. (2000). Using evidence to change anti-malarial drug policy in Kenya. *Tropical Medicine & International Health*, 5: 755-764.
- 4 Ministry of Health (1998). National Guidelines for Diagnosis, Treatment and Prevention of Malaria for Health Workers. January, 1998
- 5 Targets throughout the National Malaria Strategy have been set in concert with a five-year plan of action and will be reviewed to re-define targets for 2010 (Chapter 8).
- 6 Ministry of Health (2000). A Simplified National Guideline for Community Resource Persons. November, 2000.
- 7 Ministry of Health (1999). Kenya National Guidelines on donations for drugs and medical supplies. April, 1999.
- 8 EANMAT (1997). East African Network for Monitoring Anti-malarial Treatment Efficacy. Project Memorandum from Ministries of Health, Kenya, Uganda & Tanzania to DFID, UK. October, 1997.
- 9 Marsh V et al. (1999). Changing home treatment of childhood fevers by training shop-keepers in rural Kenya. *Tropical Medicine & International Health*, 4: 383-389.

Strategic Approach II

Management of malaria and anaemia in pregnancy

4.1 Background

Malaria is a major cause of anaemia in pregnant women in Kenya and increases the risks of severe morbidity and maternal death. Malaria infection during pregnancy poses a risk to the unborn child and, for surviving births, leads to a decreased birth weight.

Approximately 1.5 million women become pregnant each year in Kenya, the majority in areas of moderate-to-intense malaria transmission. Malaria causes severe anaemia in more than 6,000 primi-gravid (first-time pregnancy) women¹ from these areas alone, and some 4,000 infants, born at low weight² because their mothers had malaria during pregnancy, may die.

Studies at Kisumu³ and Kilifi⁴ have demonstrated significant reductions in the incidence of anaemia among pregnant women following the administration of two intermittent presumptive treatment (IPT) courses of SP in the second and third trimesters. In addition there is strong evidence to suggest that the incidence of low-birth weight babies was reduced following IPT with SP. These effects are likely to be most marked among primi-gravidae but there is also evidence of protection among multiparae women. Research evidence from areas of the world where malaria transmission is less intense (similar to the Kenyan highlands) suggests that women of all parities are

severely affected by malaria infection.

Recent evidence from studies at Siaya district⁵ confirm findings from The Gambia⁶ that Insecticide-Treated Nets (ITN) may confer some protection against malaria infection among pregnant women. Evidence from other areas in Africa is less conclusive, but areas of epidemic risk in SE Asia have shown significant protection against anaemia and low-birth-weight through the use of ITN by pregnant women⁷.

4.2 Policy⁸

The GoK will ensure that all pregnant women living in malarious areas will have access to:

- * Two free SP treatment doses (25 mg/kg/dose), one in the second trimester of pregnancy (between 16 and 27 weeks gestation), one in the third trimester (between 28 and 36 weeks gestation) or other prophylactic drug regimen which may evolve.
- * Effective community-based communication to encourage prompt treatment for fever.

Effective case-management of anaemia and malaria during pregnancy will be promoted at all levels of the antenatal health service as part of the renewed efforts to strengthen the Safe Motherhood Initiative. The GoK will promote access to ITN services by pregnant women at all levels of the health sector (Chapter 5).

4.3 Targets by 2006

- * 60% of pregnant women will have two IPT of SP in the second and third trimesters.
- * 80% of fever or anaemia cases will be appropriately managed at ANC services.
- * 60% of pregnant women will sleep under treated nets during their confinement.

4.4 Implementation of policy

4.4.1. Defining Responsibilities

The Division of Reproductive Health will assume principal responsibility for co-ordinated development of training materials, pre-service and in-service training, IEC, and distribution of supplies. The success of this policy will require participation of mission and NGO sectors.

Technical support and monitoring of drug sensitivity and efficacy will be provided by the DOMC. Complaint-friendly, efficacious and safe alternatives to SP during pregnancy will remain a priority area for the NMCP and will involve constant dialogue with the Division of Reproductive Health.

The Provincial and District Health Management Teams (PHMTs and DHMTs) will be key in taking the implementation forward and working towards getting the strategy institutionalised. They will be ultimately responsible for defining drug requirements, quality of antenatal care (including the availability of haemoglobin testing) and post-training supervision.

Delivering the strategic message to all national, provincial and district obstetricians, gynaecologists

and antenatal service providers will be an immediate priority of the Division of Reproductive Health.

4.4.2 Defining Resources

During the early stages of the strategy the DOMC will identify resources required to maintain adequate drug supplies and additional commodities such as nets and insecticides. Funding, procurement and distribution of commodities will be the responsibility of Division of Reproductive Health and The Family Planning Logistics Management Unit (FPLM). The provision of prophylactic iron and folate and IPT SP should be provided free of charge to pregnant women presenting to GoK facilities.

Efforts will be made through appropriate MoH channels to ensure supportive diagnostic services such as microscopy, haematology and stool examinations are also provided free of charge as part of antenatal care.



FOOTNOTES TO CHAPTER 4

- 1 Ministry of Health, GoK (1998). Malaria: A situational Analysis for Kenya, September 1998.
- 2 Guyatt HL, Abdalla JS & Snow RW (2001). The impact of malaria in pregnancy in Kenya. 21st African Health Sciences Congress, 28th - 29th April 2000, KEMRI headquarters, Nairobi.
- 3 Praise M et al. (1998). Efficacy of sulfadoxine-pyrimethamine for prevention of placental malaria in an area of Kenya with high prevalence of malaria and human immunodeficiency virus infection. *American Journal of Tropical Medicine & Hygiene*, 59: 813-822.
- 4 Shulman CE et al. (1999). Intermittent sulphadoxine-pyrimethamine to prevent severe anaemia secondary to malaria in pregnancy: a randomised placebo controlled trial. *Lancet*, 353: 632-636.
- 5 CDC/KEMRI Programme, Kisumu (unpublished observations).
- 6 D'Alessandro U et al. (1996). The impact of a national impregnated bednet programme on the outcome of pregnancy in primigravidae in The Gambia. *Transactions of Royal Society of Tropical Medicine & Hygiene*, 90: 487-92.
- 7 Dolan G et al (1993). Bed nets for the prevention of malaria and anaemia in pregnancy. *Transactions of Royal Society of Tropical Medicine & Hygiene*, 87: 620-626.
- 8 Division of Reproductive Health, MoH (2000). Preventing malaria and anaemia in pregnancy: a summary of discussions with key stakeholders March 13-31 2000. Ways Forward. MoH, August 2000. And Ministry of Health (2001). Insecticide treated nets strategy: 2001-2006. February, 2001

Chapter 5

Strategic Approach III

Vector Control using insecticide-treated nets and other methods

5.1 Background to insecticide treated nets

The use of mosquito nets (bednets) treated with pyrethroid insecticides has been shown to give effective protection against malaria in a wide variety of settings across Africa. Studies have shown on average, a 17% reduction in all-cause childhood mortality associated with ITN use¹. A large study in Kenya demonstrated that over 40% of severe, life-threatening malaria events in childhood could be prevented through the use of ITN, and all-cause childhood mortality could be reduced by 33%².

Despite a paucity of research on ITNs under conditions of low-intensity or epidemic malaria transmission, there is every reason to expect ITNs will provide effective protection against clinical and fatal malaria under the epidemic conditions prevalent in the Kenyan highlands.

There are no national usage figures, but research studies in various parts of Kenya suggest the use of nets by children or pregnant women is often as low as 5-10%. Very few of these nets are treated with insecticide and availability of net treatment services is often limited to NGO project areas. There is, however, an active private sector in net production and there are an estimated one million or more nets in current use in Kenya.

There are some 20 million Kenyans at constant risk of malaria. Covering this population will require not less than 10 million treated nets, and maintaining this level of coverage will require about 2 million new nets and at least 10 million insecticide treatments per year.

5.2 Policy³

The GoK will increase access to insecticide treated net services amongst people at-risk of malaria in Kenya, especially young children and pregnant women.

The GoK will promote alternative approaches to vector control in accordance with special ecological risks.

5.3 Targets by 2006

- * 60% of the at-risk population will sleep under nets
- * at least 50% of these nets will be regularly treated with insecticides

5.4 Implementation of the Policy

Without substantial help from external donors, the GoK does not have the resources to provide nets and insecticide free of charge to everyone at risk. The GoK's long-term vision is to ensure that within 10-20

years ITN will become a social norm in most malarial areas of Kenya.

To achieve this the GoK will facilitate an environment that allows access to a variety of goods, reflecting the varied needs, desires and economic status of the ITN-using public.

With substantial donor assistance it would be possible to protect a large sector of Kenya's at-risk population (see 5.4.5) . Over five years this would amount to 7.5 million nets and associated treatments. Failing donor support, the DOMC recognises that private-sector growth must be complimented by partially subsidised net and re-treatment promotion and distribution programmes. This will include expansion of present ITN social marketing programs and/or other appropriate strategies.

To support complimentary approaches the strategic plan proposes to undertake the following:

5.4.1 Creating an enabling environment

The MoH proposes to develop an enabling environment to:

- * foster private sector growth in the provision of unsubsidised, affordable ITN services
- * ensure complementarity with alternative approaches offered by not-for-profit, social-marketing organisations, NGOs, Missions and the GoK public sector.

It is anticipated that private sector growth in net manufacture and distribution can meet national needs within a few years. However, the provision of insecticide treatment services will require a contin-

ued commitment to social marketing strategies.

5.4.2 Creating demand

The DOMC will ensure that increased community demand for nets and insecticide treatment is stimulated through effective communication strategies (Chapter 7).

5.4.3 Taxation

The MoH and Ministry of Finance will maintain effective dialogue to reduce duty/tax obstacles to cheaper and more accessible ITN products.

5.4.4 Protecting economically vulnerable groups

The MoH, with NGO partners, will develop strictly targeted subsidies to ensure equity of access to nets and insecticide for those excluded from the commercial market.

5.4.5 Provision of subsidised, donor-assisted ITN services to special groups

The DOMC, DOMU and the Division of Reproductive Health will consider approaches to delivering subsidised ITN services to pregnant women and those afflicted by epidemics. This will be feasible only with full donor funding. The provision of nets and insecticide to pregnant women will require at least 1.5 million nets each year. Re-treatments of nets issued to pregnant women will have the advantage of protecting infants during their first year of life.

Free re-treatment services will be considered for mothers with successful EPI coverage. Linking services (ANC, ITNs and EPI) may have the potential

to strengthen compliance and coverage of each service.

Nets issued to either pregnant women or during epidemics will be clearly labelled as “GoK” nets.

5.4.6 ITN Working Group

The DOMC will set up a national ITN Working Group (Annex 2.3) with representation from the public, commercial, not-for-profit and NGO sectors. The WG will monitor:

- * the impact of public, private and NGO sector service delivery upon market growth
- * methods of targeting vulnerable groups
- * leakage of subsidised or free nets.

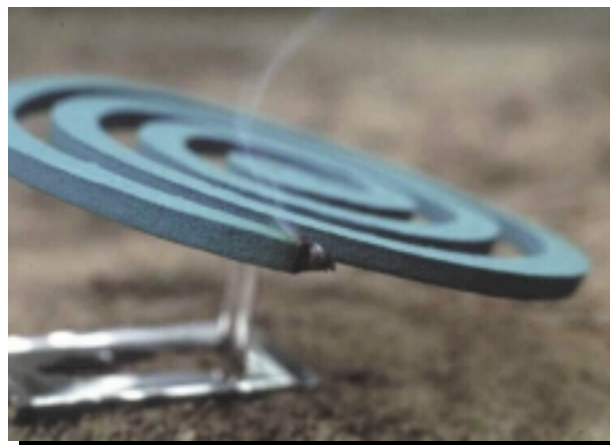
The WG will also be responsible for soliciting and funding research on insecticide resistance and the dissemination of new information through a nets newsletter.

5.4.7 Regulation and registration

The Pest Control Products Board (PCPB) will maintain an effective registration and regulation process to ensure safety, acceptable labelling and instruction, and consistency with the DOMC recommendations for new ITN products.

5.4.8 Donor consistency

The DOMC, with support from the ITN WG, will work to ensure stakeholder and donor consistency with the strategic ITN vision and advise on priority gaps in financial support.



5.5 Other vector control methods

Vector controls most likely to result in significant public health impacts are undoubtedly ITNs and, in some areas, indoor residual house-spraying (Chapter 6). Nevertheless employers, municipalities, communities and households can reduce mosquitoes through a variety of alternative approaches. These include the following:

- * Source reduction through larval control
 - use of larvivorous fish
 - larviciding with chemicals
 - filling in or draining breeding sites.
- * Personal protection
 - through the use of mosquito coils, repellent creams, household screens or the tethering of cattle to act as zooprophylaxis.
- * Aerial space spraying
 - “fogging” for adult vectors in selected urban areas, hotels and housing

* Environmental management

- broad approaches to ensure minimal vector breeding in agricultural schemes such as irrigation or dams.

Chemicals for use in larval or adult vector control will be those officially recommended by the PCPB supported by technical advice from the DOMC, Division of Vector Borne Diseases (DVBD) and the Division of Environmental Health.

The DOMC will provide technical advice to employers, municipal councils, DHMTs and community groups on alternative methods of local vector control, and will ensure supporting reference material.

FOOTNOTES TO CHAPTER 5

- 1 Lengeler C (1998). Insecticide treated bed nets and curtains for malaria control: A Cochrane review. 15th May 1998.
- 2 Nevill CG et al. (1996). Insecticide treated bed nets reduce mortality and severe morbidity from malaria among children on the Kenyan Coast. *Tropical Medicine and International Health*, 1:139-146.
- 3 Ministry of Health (2001). Insecticide treated nets strategy: 2001 - 2006. February, 2001.

Chapter 6

Strategic Approach IV

Epidemic preparedness and response (including indoor residual house-spraying)

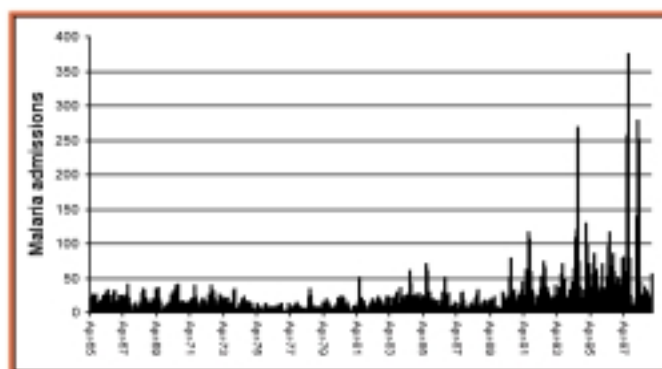
6.1 Background

Between 1918 and the early 1950s, epidemic malaria was the scourge of the economically important Kenyan highlands. Between the 1950s and late 1980s the highlands enjoyed a period free from major malaria epidemics.

Since the late 1980s malaria epidemics have returned to the highlands with increasing frequency, causing considerable public health impact and political concern. At present malaria is a risk in these communities every year, some seasonal rises overwhelm the capacity of the health services. The MoH has classified 14 districts in the Central and Western Highlands as prone to epidemics¹.

In addition, the arid areas of Kenya have recently experienced severe and devastating epidemics following exceptionally heavy rainfall caused by the El Niño Southern Oscillation². In 1997/1998 a dramatic epidemic following floods in North Eastern Province resulted in extremely high mortality. These rainfall-driven epidemics are rare but are of sufficient public health risk for seven districts³ to be classified as epidemic-prone.

The fragile political environment in the sub-region in recent years has resulted in large population movements from neighbouring countries to Kenya.



Refugees from areas not traditionally exposed to malaria and/or malnourished constitute a special at-risk group. Complex-emergency situations posed by conflict and population movement can result in malaria out-breaks of epidemic proportions.

Frequent exposure to epidemics in the highland areas affects approximately 25% of Kenya's population and infrequent exposure to epidemics in the arid areas affects 4%.

Epidemics or complex-emergency situations require responses that would not otherwise be recommended nationwide. These include the use of novel anti-malarial drugs or drug combinations and indoor-residual house spraying (IRS).

During the mid-1950s, successful control of malaria transmission was maintained through the use of Dieldrin house-spraying in Nandi⁴. More recently, two studies in the highland districts of Nandi and Kisii have demonstrated that IRS can significantly reduce the malaria-case burden of health facilities and reduce the prevalence of malaria infection to below 3%⁵.

When epidemics do occur they are widely covered by the media putting pressure on the Government to take action. NGOs and Emergency Relief Organisations have responded promptly to recent GoK requests for assistance. The NMS aims to:

- * strengthen the credibility of epidemic definitions, forecasting, and early warning
- * build evidence-based policies to cope with the unique public health conditions during epidemics⁶ and reduce their impact.

These policies have been developed in concert with a revised institutional framework of the Disease Outbreaks Management Unit (DOMU)⁷.

6.2 Policy

The GoK will encourage districts defined as prone to epidemics to establish an effective early warning and detection system, as part of the Health Management Information Systems and Integrated Disease Surveillance, which support the DOMU's capacity to mount effective responses.

Only districts prone to epidemics will be encouraged to provide indoor-residual house-spraying and novel drug management schemes to prevent and contain epidemics detected through surveillance systems.

6.3 Targets by 2006

- * 80% of epidemic prone districts will have an early warning and detection system for local malaria epidemics.
- * 60% of districts will respond to reliable warning signals through their DOMT and POMT.
- * 60% of confirmed epidemics will be effectively contained through selective interventions, including community mobilisation, effective case-management, ITNs and/or IRS.

6.4 Implementation of the Policy

6.4.1 Responsibilities

The Disease Outbreaks Management Unit (DOMU), MoH, has been established to work inter-sectorially with the National Disaster Operations Centre, under the auspices of the Office of the President. The head of the Division of Communicable Diseases provides the link between the MoH and other Government structures. DOMU has established Provincial and District Outbreak Management Teams (POMT & DOMT). The responsibility for detecting, preparing and responding to malaria epidemics will be through the DOMT, POMT and DOMU infrastructure in partnership with district and national level NGOs with expertise in complex-emergency situations - eg MSF (France, Belgium and Holland), MERLIN and the Red Cross.

The DOMC will continue to provide technical assistance to DOMU in several critical areas:

- * Technical and research input into data and definitions of epidemics under the varied ecologies

in Kenya.

- * Investigation of epidemics at the behest of DOMU into district-level reports.
- * Technical review of drug donations, IEC materials and IRS strategies proposed by NGOs in response to district-level requests for assistance.

6.4.2 Forecasting epidemics

Forecasting provides the longest lead for epidemic preparedness. It is a difficult science and there are no tried-and-tested methods for predicting malaria epidemics. As part of future developments, DOMU will work with national and sub-regional agricultural and meteorological institutions who use climate and food insecurity models to explore approaches to malaria forecasting.

6.4.3 Early warning and early detection

DOMTs will be encouraged to use local meteorological, clinical and parasitological information to establish warning signals to relay to POMTs and DOMU. These data will be established under the IDS system⁸ now being introduced and developed in line with the national efforts to improve the collection and district-level use of health information⁹. These wider health sector initiatives increasingly recognise that responsibility, ownership and use of health information must become decentralised to district-level. Districts will be encouraged to pay particular attention to known risk areas within their district, such as those close to swamps and irrigation schemes.

Guidelines allowing for the simple detection, at the earliest possible stage, based on long-term data will be developed by IDS and DOMU with technical support from the DOMC and based on RBM recom-

mendations¹⁰.

6.4.4 Targeted interventions

The following interventions apply only to districts defined by the MoH as epidemic prone and will be invoked only when epidemics are detected.

- * Community and service provider mobilisation
 - Additional resources may be requested by districts to support awareness campaigns as outlined in Chapter 7.
 - Transport, district-level GoK officers and community-leaders would be required to convey the need for prompt treatment, personal protection through ITNs and the possibility of IRS (if identified as a priority intervention by the district).
 - The DHMTs will also ensure that the wider service provider community (including the prolific private sectors) in their districts are targeted with refresher courses in the National Treatment Guidelines.
- * Securing emergency drug supplies
 - KEMSA will always retain a 20% national buffer stock of SP in preparation for epidemics
 - Stocks will be distributed at the behest of DOMU following confirmed DOMT and POMT warning signals.
 - NGOs and multi-lateral relief organisations will be encouraged to provide additional drug stocks and essential medical supplies during epidemics.
 - Adjunct therapy with gametocidal drugs, such as Artemether, may be recommended as

a containment measure under special circumstances. Advice will be sought from the DOMC and PPB on acceptability of proposed drug management strategies not consistent with National Guidelines.

- * Indoor residual house-spraying (IRS)
 - Districts may decide to mount selective IRS during the early warning or early detection stages of an epidemic.
 - Districts will be encouraged to secure adequate donor and NGO support to ensure sufficient insecticide stocks, backpack sprayers and training materials at the district or provincial level, as it is unlikely that the GoK will have adequate funds to provide for all epidemic prone districts.
 - Implementation of training and resource mobilisation to district levels will be the responsibility of the DOMTs, POMTs.
 - Insecticides used for IRS will be only those recommended by the MoH and registered for household use by the Pest Control Products Board (PCPB).

FOOTNOTES FOR CHAPTER 6

- 1 Narok, Kitui, Bomet, Kisii, Nyamira, Gucha, Trans Nzoia, Uasin Gishu, Kericho, Nandi, Trans Mara, Kakamega, Vihiga and West Pokot.
- 2 Snow RW et al. (1999). The epidemiology, politics and control of malaria epidemics in Kenya: 1900-1998. Report prepared for roll back Malaria, resource Network on Epidemics, World Health Organisation, Geneva.
- 3 Mandera, Wajir, Garissa, Isiolo, Samburu, Turkana and Tana River.
- 4 Roberts JMD. (1964). The control of epidemic malaria in the highlands of Western Kenya. Part II. The Campaign. *Journal of Tropical Medicine & Hygiene*, 67: 191-199
- 5 Division of Malaria Control (2001). Unpublished data from Nandi 1998 and Kisii 2000.
- 6 Ministry of Health (1999). Guidelines for malaria epidemic preparedness and control in Kenya. November, 1999.
- 7 Ministry of Health (1999). Organisational framework for epidemic preparedness and response in Kenya. Disease Outbreak Management Unit, MoH, August 1999.
- 8 World Health Organisation, Regional Office for Africa (1999). Integrated Disease Surveillance in the African Region. A regional strategy for communicable diseases 1999-2003.
- 9 Ministry of Health (2000). Strengthening Health Information Systems (HIS): Towards Health Management Information System (HMIS). April, 2000.
- 10 Roll Back Malaria, WHO (2000). A framework for epidemic prevention and control in Africa. Part I - concepts and indicators. Roll Back Malaria, Technical Support Network on Malaria Epidemic Prevention and Control. August, 2000.

Chapter 7

Supporting Structure A

Information, Education and Communications (IEC)

7.1 Background

Information, education and communications are intrinsic to each of the control and prevention strategies outlined in the previous four chapters. Targeted information is as important as the chemical component of a drug or insecticide. The NMS recognises that effective IEC forms the bedrock of any efforts to effectively change service-provider skills, community behaviour and overall demand for effective services.

Until now, malaria IEC activities have faced three key problems:

- * Activities have been too sporadic and fragmented to secure behavioural change.
- * Information has often been didactic, physically and culturally distant, and has not reached enough of the right target audiences.
- * Advice has not always tallied with availability of advocated services.

IEC has generally been considered a matter of simply producing leaflets, posters and occasional radio spots by a wide spectrum of stakeholders including MoH, NGOs, pharmaceutical and ITN private companies, social marketing groups and religious organisations. The Ministry of Health's over-arching National Health Communications Strategy¹ has now recognised the need for a greater co-ordination of better quality and

more diverse approaches to achieve behavioural change nationally.

The NMS's proposed IEC approach has been developed within the broad framework of the National Health Communications Strategy but focuses on specific solutions required to support sustainable behavioural change in relation to malaria control and prevention.

7.2 Policy

The GoK will ensure all Kenyans have access to appropriate, accurate and culturally relevant information about malaria control and management, so effective behavioural change is achieved.

7.3 Targets by 2006

- * 80% of households nation-wide should have received targeted IEC on all key messages from at least one source every 6 months to support the strategies defined in chapters 3-6.

7.4 Implementation framework

An IEC Working Group will be established (Annex 2.4) as a forum for:

- * co-ordinated and complimentary approaches
- * ensuring messages are in concert with national policy recommendations

- * defining resource needs
- * monitoring strategic direction
- * liaising with other technical Working Groups to set priorities and ensure unmet needs are remedied.

The IEC WG will contract an external agency to establish a framework for implementation of activities (see 7.5) until 2003 and build capacity within the DOMC to continue these activities after 2003².

A Situation Analysis of the stakeholders and implementers of IEC activities in Kenya has identified a significant and diverse array of skills and resources³. The IEC malaria initiative focuses on harnessing these national resources through the development of effective partnerships to optimise the marriage of technical and financial resources. These partnerships will include the following:

- * Partnerships at district and community levels for education and skills building
 - fostering links
 - supporting and initiating local IEC schemes based on “best practices”; eg Parent Teacher Associations (PTA), Religious and Youth Groups.
- * Partnerships with the Ministry of Education
 - working with the Ministry of Education (MoE) and the Kenya Institute of Education (KIE) at national, provincial and district levels to support District Education Officers, Teacher Task Forces, PTAs and adult education extension workers.
 - in addition, the malaria programme will feed into national curriculum development.
- * Partnerships with Non Government, not-for-profit health care providers
 - co-ordination and sharing IEC expertise and tools of Missions, NGOs and Social Marketing Groups which provide extensive community-based and facility based health care services across Kenya around the common goals of the NMS. There is strong support for this among the partners themselves.
 - setting up an implementing agency to develop workshops and a national malaria IEC resource centre.
- * Partnerships with Private Sector manufacturers and distributors of malaria products
 - building public-private partnerships between manufacturers of health products such as antimalarials, insecticides and nets to create an enabling environment for both sectors.
 - wide-scale advertising which includes targeted and acceptable health messages to create demand for products for the private sector and increase the coverage of health messages for the otherwise resource-constrained public sector.
 - The IEC WG will serve as a forum for the Public Sector to draw upon a wider source of IEC skills and serve as a watchdog for the use of MoH logos and as a clearing house for cross-promotional activities whilst ensuring a non-partisan GoK position.
- * Partnerships with other Private Sector Organisations

- The DOMC and the IEC WG will act as a resource for companies and will actively promote these services to national agricultural and industrial concerns (eg tea, coffee, sugar, sisal and tourism industries)
- * Partnerships for sponsorship
 - The IEC WG will foster the Corporate Social Responsibility programmes (CSRs) of business to increase the flow of resource through sponsorship of malaria IEC tools (eg radio spots, live sports, entertainment events and printed materials) in promotional contexts. There is a growing sense of corporate “good citizenship” among large multi-nationals (both pharmaceutical and non-contentious consumer goods) by becoming more involved in major public health issues at grass-roots level.

7.5 Activities

All IEC approaches will focus on several generic message including;

- * the signs and symptoms of malaria
- * prompt SP treatment of fevers
- * use of ITNs
- * use of ANC services by pregnant women.

Special messages on preparedness will be developed for communities in epidemic-prone areas. All approaches to IEC will be developed using Good Communication Practice standards.

7.5.1 Workshops

There will be regular IEC strategy workshops across the country with representatives from target groups and communities to test communication approaches, ideas and messages. These creative workshops will include national IEC partners from NGO, Social Marketing and GoK district-level organisations and develop local links with women’s, youth, religious, PTA, etc groups. The use of locally developed theatre, puppetry and photo stories will be encouraged. DOMC-sponsored annual prizes will reward best community-initiated schemes.

7.5.2 Mass Media

The DOMC will develop generic mass media information campaigns on malaria. Programmes are also a useful medium for building skills - eg TV and radio soaps involving shop-keepers, fact-based programmes on how to treat nets or radio phone-in programmes aimed at women sharing experiences on malaria. Efforts will be made to seed malaria messages into existing national programmes. Radio and TV programmes will be developed with local production organisations (public sector, KIMC/KIE and commercial sector).

The DOMC will work through the MoH to negotiate with the Ministry of Information and Broadcasting for free KBC radio slots during epidemics matched with sponsored time-slots.

7.5.3 Media Relations

Increasing the awareness of malaria among the local and regional news agencies will be a priority of the DOMC. The DOMC recognises the need to improve news coverage of malaria that has often been ill informed and misleading.

The DOMC and MoH Public Relations Office will convene a workshop for editors, health and science journalists with support from Reuters Foundation to present the Kenyan malaria situation and the GoK's response. Press-packs (including data, features, photos and human interest story sound bites) will be developed, with a list of key national health professionals most likely to comment on international malaria news items and local issues.

Developing better working relations with the media will ensure a balanced coverage of good and bad news and enable a wider forum for disseminating creative community-based activities to a wider national audience.

7.5.4 Print materials

Print materials form the greater part of previous efforts in malaria IEC in Kenya. Several good materials already exist and these will be further tested among a cross-section of the Kenyan population and made available for wider use (see 7.5.8). It remains imperative that new materials are pre-tested using standardised methods and the IEC WG will review community-testing results before making materials available for public use.

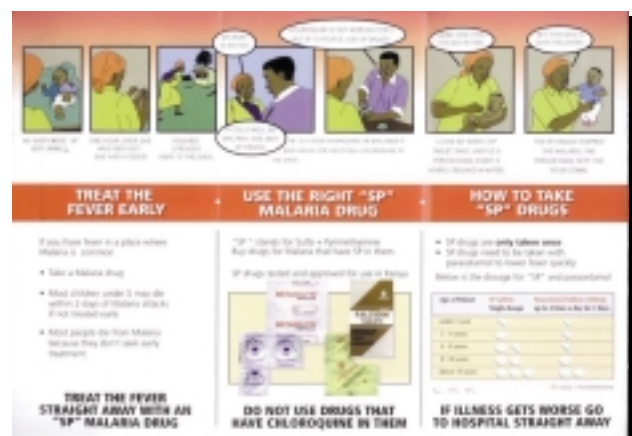
Effective distribution channels will be reviewed constantly by the IEC WG, particularly the district-level responsibilities for displaying and distributing materials. Shops, markets, schools, health facilities, government offices and community meeting points all serve as good vehicles for posters and leaflet distribution. Innovative sponsored distribution networks, eg through non-contentious consumer goods, will also be explored.

7.5.5 School health

Materials⁴ will be developed with the MoE to be distributed through their provincial and district officers as part of adult education materials, science and home economics project packs etc. Lessons learned from existing child-to-child and school health projects in Kenya will define new ways forward⁵.

Sponsored printing of malaria messages on the covers of exercise books will be explored with major printing companies.

The present school-aged population represents the parents of the future and the development of effective life-skills in relation to malaria recognition,



management and prevention will be a long-term priority. The DOMC through the IEC WG will feed into work on a revised integrated health curriculum by 2002 to examine ways in which life-skills can be better integrated into the curricula, as opposed to didactic recitals of malaria parasite life-cycles.

7.5.6 Africa Malaria Day

The African Heads of State Abuja Summit 2000 declared April 25th as a national malaria day across the continent. The GoK will honour this agreement by arranging special events around this date and work with the media to increase coverage of national malaria activities during this period.

7.5.7 Epidemic community awareness schemes

Specialised approaches will be developed to ensure mass-action to raise awareness during times of complex-emergencies and in preparation for epidemics. These more aggressive approaches will include the use of mobile address systems, public service announcements, targeted and co-ordinated media coverage, and emergency information centres.

7.5.8 Resource centre and web-site

Building an IEC resource centre within the DOMC will be a fundamental part of ensuring co-ordinated and consistent IEC materials for wider public use. The resource centre will be housed at the DOMC in Nairobi with satellite centres in Western and Coastal Kenya. Materials will be digitalised and made available with case-histories, pre-testing and post-evaluation reports. This library of posters, leaflets, photos, video clips, news articles and reports will also be hosted on the DOMC website for wider public access and commentary.

FOOTNOTES FOR CHAPTER 7

- 1 Ministry of Health (1999). National Health Communication Strategy: 1999-2010. Division of Health Education, December 1998.
- 2 ETN (2001). National Malaria IEC Strategy. Draft prepared for DOMC by ETN. January, 2001.
- 3 ETN (2001). Partner Resource Evaluation and database. Prepared for DOMC by ETN. January, 2001.
- 4 Modified versions of the Simplified National Guidelines for Community Resource Persons (MoH, 2000) will be used as a template for development of further materials.
- 5 Brooker S et al. (2000). Situation analysis of malaria in school-aged children in Kenya: what can be done? *Parasitology Today*, 16: 183-186.

Supporting Structure B

Monitoring, evaluation and research

8.1 Background

Monitoring and Evaluation has hitherto relied on reactive study of piecemeal data from disparate sources, and has rarely been an integral function of programme objectives or structure.

The Health Sector Reform (HSR) lays emphasis on a co-ordinated and Sector Wide Approach (SWAP) approach to health intervention packages. Similarly, Monitoring and Evaluation (M&E) is now recognized as a key component of any health intervention package.

Accordingly, the DOMC will have the responsibility to monitor the NMS's success toward its stated targets, work in collaboration with national partners to identify ways to measure its intended goal achievement, and actively solicit and advocate research to refine strategic approaches.

8.2 Policy

The GoK will ensure adequate monitoring and evaluation of the strategic approaches to malaria prevention and control as outlined in the NMS.

The GoK will promote targeted, operational research that supports the implementation of the NMS and will provide effective channels of communication between control and research communities.



8.3 Measuring target indicators of the NMS

The RBM¹ core and supplementary indicators (outcome and process) will be tailored to suit Kenya's NMS while ensuring key parameters for RBMs cross-country assessments. Overall process as set out within the NMS will be constantly reviewed by the programme and its donor partners through solicited consultations.

Assessments will be structured to measure outcomes and process by the year 2006. These data will be used to re-define 2010 targets. The DOMC will undertake a series of reviews, facility-level surveys and community-based surveys to assess the targets set out as part of the NMS for 2006. These national surveys will be conducted every three years beginning in 2001. These surveys, tools and funding will

be developed under the direction of a Monitoring & Evaluation Working Group (Annex 2.6).

8.4 Impact assessment

To assess the overall impact of the National Malaria Strategy on the health of the community at large, two approaches will be undertaken:

8.4.1 Facility-level

- * age-structured, malaria case-fatality rates from revised national HMIS database from hospital facilities².
- * annualised and monthly case-burdens presenting as out-patients from national HMIS database for dispensaries and health centres.
- * the proportion of severe malaria admissions to hospitals requiring blood transfusion from IDS-sampled facilities³.
- * the proportion of hospital deliveries with a birth weight less than 2500gm (by parity) derived from annual reviews of data at sampled health facilities.
- * The proportion of women with severe anaemia (Hb < 7 gms/dl) in the third trimester or at the time of delivery.

8.4.2 Community-level:

The GoK National Census undertaken in 1999 and the Kenya Demographic & Health Survey (KDHS) undertaken in 1998 remain the only two contemporary and comprehensive sources of national mortality estimates. Neither provides the detail (national census) or sample-size (KDHS) required to measure

an impact on mortality due to acute fever, by age and by malaria ecological zone.

The two key impact parameters of primary interest to the malaria programme are:

- * All-cause infant and under-five mortality
- * “Malaria”-specific mortality among individuals aged < 1 year, 1-4 years, 5-14 years and adults.

The DOMC will work inter-sectorially with the other health sub-sectors, the Central Bureau of Statistics and the National Council for Population & Development to create more comprehensive demographic mortality assessments, capturing cause and geographical location during future national demographic or health surveys.

8.5 Research

The DOMC will convene a malaria research Working Group (Annex 2.5), chaired by KEMRI, to identify



research essential to the effective implementation of the NMS, mechanisms of funding and ways to cascade new research into policy and practice.

The DOMC will maintain a web-accessible, annotated database in KMIS of all published research on malaria and its control in Kenya to allow greater access to literature sources and avoid duplication of research effort.

FOOTNOTES TO CHAPTER 8

- 1 Roll Back Malaria Initiative in the African Region (2000). Monitoring & evaluation guidelines. WHO Regional Office for Africa, Harare.
- 2 Ministry of Health (2000). Strengthening Health Information Systems (HIS): Towards Health Management Information System (HMIS). April, 2000.
- 3 World Health Organisation, Regional Office for Africa (1999). Integrated Disease Surveillance in the African Region. A regional strategy for communicable diseases 1999-2003.

Further information on malaria
can be obtained from the
Kenya Malaria Information Service
website

www.kmis.org

National Malaria Co-ordinating Committee

Terms of Reference

- 1 To advise and guide the Ministry of Health on national malaria policy, strategy and priorities, and on RBM in Kenya, including cross-border issues
- 2 To advise and support the DOMC and MoH in advocating resources for malaria
- 3 To advise and guide the DOMC and other participating partners on the content and organisation of their malaria work plans
- 4 To act as a forum for exchange of information on partners' malaria control and research activities
- 5 To identify and advise on areas for co-ordination nationally and internationally
- 6 To define and review the output of technical working groups and sub-committees and take account of their findings in formulating advice and recommending action
- 7 To receive and review reports from partners on progress against objectives
- 8 To identify problems and obstacles to implementation of malaria control activities and recommend solutions
- 9 To report to the MoH twice yearly on achievements and progress against objectives

Membership

Permanent Secretary MOH (Chairman)
Director of Medical Services MOH
Head, Health Sector Reform Secretariat
Head, Division of Malaria Control
Head of Preventive and Promotive Health Services
Chief Pharmacist
Head of Curative Services
Deputy Secretary Finance
Head, Division of Vector Borne Diseases
Head, Division of Reproductive Health,
Head, IMCI
Head, Division of Primary Health Care
Head, Division of Health Education
Head, Health Management Information System (HMIS)
Head, Division of Communicable and Vector Borne Diseases
Head, Malaria Control Programme
2 Provincial Medical Officers (rotating, ie all PMOs attend one meeting each per year)
Chief Public Health Officer
Deputy Director Research and Development KEMRI
Technical Adviser to MOH on malaria, Wellcome Trust
Ministry of Education
Ministry of Finance
Ministry of Information and Broadcasting
USAID/CDC, AMREF
WHO, DFID, JICA, UNICEF

The Committee will meet quarterly, with the volume of business and hence frequency of meetings kept under review. Ad hoc meetings on specific business may be arranged in exceptional circumstances.

Technical Working Groups

Terms of Reference and Membership

The NMCC will focus on high-level strategy and decision-making. Detailed planning and oversight of activities will be left to the DOMC with, where appropriate, the support of working groups (WGs).

Such groups will be convened where there is a need to obtain additional expert advice and promote partner co-operation on specific topics. In general these bodies will have a small membership and a highly focused remit.

All groups will have a member of NMCC as a Chairman or member to aid communication and avoid duplication. Not all will be responsible to NMCC, though all will have a strong link to the NMCC. For example, a group on malaria in pregnancy would fall under the Division of Reproductive Health as the lead implementers, but should have cross-representation with the NMCC.

Where there is likely to be an ongoing need for advice on a specific topic, the group may be a standing sub-committee, although the need will be kept under review. Where there is a need for a specific piece of work to be done that requires input from several partners, the working group will be time-limited, with a set number of meetings and deadline for producing a defined product.

Not all aspects of the malaria strategy will call for such formal groups. Some activities will be effectively co-ordinated by the DOMC, or other partners where appropriate, with one-off meetings, informal

networking or other means of communication between partners and team members as appropriate.

Membership will be essentially determined by the specific problems facing the programme and whilst a core group has been identified for each WG these will be supported by other experts and implementers as and when required.

Details of WGs are summarised in tables on the following pages:

Annex 2.1: Drug Policy Working Group (Long Term)

Purpose	Terms of reference	Chairman	Secretariat	Membership
To advise on implications of drug sensitivity data and on formulation and implementation of policy (Chapter 3)	<ul style="list-style-type: none"> Constantly review status of drug resistance from EANMAT and other studies and make recommendations on implications Maintain a review of the quality of anti-malarial drugs and manufacturing practices and recommend action as necessary to deal with sub-standard product Monitor the implementation of current drug policy, identify problems and recommend solutions, liaising with WG on clinical management as necessary Advise government policy related to anti-malarial drug donation Provide regular reports to NMCC 	Director of Medical Services	DOMC	DMS, DOMC, Chief Pharmacist, PPB, PMO's, KEMSA, EANMAT, KMA, University of Nairobi, MEDS, KEMRI, AMREF, Pharmaceutical Manufacturers Association, Pharmaceutical Society of Kenya

Annex 2.2: Clinical Management Working Group (Long Term)

Purpose	Terms of reference	Chairman	Secretariat	Membership
To review and update clinical guidelines (Chapter 3)	<ul style="list-style-type: none"> Review pre-service and in-service training needs for case-management and laboratory diagnosis and recommend changes to curricula or training packages to meet these needs Liaise with WG on drug policy on issues of drug needs and supply Review needs and supplies of ancillary supplies for the management and diagnosis of malaria Report regularly to NMCC 	Head Curative Services	DOMC	DOMC, IMCI, Chief Nursing Officer, Chief Clinical Officer, Nursing and Clinical Officer National Councils, KEMSA, NPHLs, KMTC, AMREF, Universities, KEMRI

Annex 2.3: ITN Working Group (Long Term)

Purpose	Terms of reference	Chairman	Secretariat	Membership
To provide policy direction and technical support to ITN activity (Chapter 5)	<ul style="list-style-type: none"> Provide a forum for private and public sector interest groups to consider and review policy direction against solicited market research Solicit and tender targeted research on market-sizes and consumer behaviour in private sector Review modalities and costs of GoK/ donor assisted targeted distribution of ITNs to vulnerable groups Liaise with WG on IEC on messages to consumers and communities Provide technical advise to PCPB on new ITN products Advise on policy direction to NMCC 	Director Preventive and Promotive Health Services	DOMC	DOMC DOMC, DOMU, Div Reprod. Health, Div PHC, Div. Health Education, Private sector representation, PCPB, PSI, DVBD, UNICEF, Div. Of Environmental Health

Annex 2.4: IEC Working Group (Long Term)

Purpose	Terms of reference	Chairman	Secretariat	Membership
To advise on IEC strategy and co-ordinate partner activity (Chapter 7)	<ul style="list-style-type: none"> Advise on all aspects of the IEC strategy including research, design, production, dissemination, monitoring and evaluation Contribute to and support the establishment of a network linking all major stakeholders in malaria IEC activity Identify best practices in malaria IEC and advise on updating and dissemination of the same Work with MoE and KIE on life-skills curriculum development Advise on the establishment of IEC resource centres under the DOMC Support and contribute to long-term implementation of national malaria IEC activity, co-ordinated by DOMC with other stakeholders Report regularly to the NMCC 	Head Division of Health Education	DOMC	Div. Health Education, DOMC, MoE, MIB, UNICEF, WHO, AMREF, PSI, World Vision, MEDS, JHPEIGO and other implementation partners.

Annex 2.5: Malaria Research Working Group (Long Term)

Purpose	Terms of reference	Chairman	Secretariat	Membership
To assess research needs and implications of emerging evidence (Chapter 8)	<ul style="list-style-type: none"> Advise on needs for malaria research to support <i>National Malaria Strategy</i> implementation Mobilise partners and advocate for funds for such research Disseminate research needs to national partners Monitor emerging research evidence nationally and international in relation to policy issues in the <i>National Malaria Strategy</i> Report regularly to NMCC 	Director, KEMRI	KEMRI /DOMC	KEMRI (Nairobi), DOMC, DVBD, KEMRI partners (Kilifi & Kisumu), National Universities, EANMAT, Health Sector Reform Secretariat, Health Research Development Council.

Annex 2.6: Time--limited Working Groups

Purpose	Purpose	Terms of reference	Chairman	Secretariat	Membership
Monitoring and Evaluation Methodology (Chapter 8)	To agree tools and mechanisms for monitoring and evaluating progress against strategic objectives	<ul style="list-style-type: none"> Agree methods for measuring indicators for malaria and malaria control (Chapter 8) Identify logistical and resource issues associated with applying proposed methodology and recommend ways forward including tendering Advise on methods and routes for disseminating results of M&E Report regularly to NMCC Establish modalities of feeding M&E results into revised strategic direction 	Director, Preventive and Promotive Health Services	DOMC	DOMC, HMIS, Health Sector Reform Secretariat, KEMRI/ Wellcome Trust, CBS, NCPD
Malaria in pregnancy (Chapter 4)	To agree roles, responsibilities and co-ordination of activities	<ul style="list-style-type: none"> Agree upon a work plan for the first year of implementation of IPT of malaria in pregnancy setting out activities, time scales, responsibilities and resources required Agree training packages and information materials needed to implement the policy Monitor progress against the work plan and identify problems and solutions Report regularly to Committee on Reproductive Health and NMCC 	Head, Primary Health Care	Div. Reprod. Health/ DOMC	Div. PHC, Div. Reprod. Health, DOMC, Kenya Society of Obs. & Gyn., Provincial Gynaecologists, KEMSA, MEDS, Population Council, Plan International, JHPEIGO

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