



GOVERNMENT OF MALAWI

MALARIA POLICY

National Malaria Control Programme
Community Health Sciences Unit
Division of Preventive Health Services
Ministry of Health and Population

January 2002

GOVERNMENT OF MALAWI

MALARIA POLICY

National Malaria Control Programme
Community Health Sciences Unit
Division of Preventive Health Services
Ministry of Health and Population

Contents

Abbreviations	ii
Foreword	iii
Acknowledgements	iv
Executive summary	vi
1.0 INTRODUCTION	1
1.1 Purpose of the malaria policy	1
1.2 Method of policy formulation	2
2.0 BACKGROUND	2
2.1 Country profile	2
2.2 Malaria situation	3
2.3 Importance of malaria in various sectors	3
2.4 International response	5
2.5 National response	6
2.6 Lessons learned	7
3.0 AIMS, OBJECTIVES AND EXPECTED RESULTS	8
3.1 Vision	8
3.2 Mission	8
3.3 Goal	8
3.4 Objectives	9
3.5 Expected results	9
4.0 SPECIFIC POLICIES AND KEY ACTIONS	10
4.1 Overview	10
4.2 Target populations	10
4.3 Priority interventions	11
4.4 Malaria control in the essential health care package and sector-wide approaches	24
5.0 CONCLUSION	33
ANNEX	34
ANNEX: Roles and responsibilities of key stakeholders in malaria control	34

Abbreviations

ADP	Agricultural Development Division
ANC	antenatal clinic
CDC	Centers for Disease Control and Prevention
CHAM	Christian Health Association of Malawi
CMS	Central Medical Stores
CPAR	Canadian Physicians for Aid and Relief
DHB	district health budget
DHMT	District Health Management Team
DHP	district health plan
DHS	demographic and health survey
DRE	drug revolving fund
EHP	essential health care package
EIA	environmental impact assessment
EMA	Environmental Management Act
EPI	Expanded Programme on Immunisation
GOM	Government of Malawi
HIPC	highly indebted poor countries
HIV	human immunodeficiency virus
HMIS	Health Management Information System
HRC	Health Research Committee
HSAs	health surveillance assistants
IEC	information, education and communication
IRS	indoor residual spraying
ITMs	insecticide-treated materials
ITNs	insecticide-treated nets
IMCI	integrated management of childhood illness
JICA	Japanese International Cooperation Agency
LCH	Lilongwe Central Hospital
MCHS	Malawi College of Health Sciences
MDHS	Malawi Demographic and Health Survey
MOHP	Ministry of Health and Population
NGO	non-governmental organisation
NMCC	National Malaria Control Committee
NMCP	National Malaria Control Programme
NRCM	National Research Council of Malawi
NSMP	National Safe Motherhood Programme
PIT	presumptive intermittent treatment
PMPB	Pharmacy, Medicines and Poisons Board
RBM	Roll Back Malaria
SP	sulfadoxine-pyrimethamine
SWAs	sector-wide approaches
TB	tuberculosis
TBA	traditional birth attendant
UNEP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization

Foreword

Malaria is the leading cause of morbidity and mortality, particularly in children under five years of age and pregnant women. It is the commonest cause of outpatient visits, hospitalisation and death. Malaria is also a development problem as it has a serious socio-economic impact on families and the nation, through loss of work, school absenteeism and high levels of expenditure on malaria treatment, especially by poor households.

This policy marks an important milestone in malaria control and prevention in Malawi. Organised malaria control efforts started in 1984 with the establishment of the National Malaria Control Programme (NMCP) to spearhead the struggle against malaria as part of the response to the emergence of chloroquine-resistant *Plasmodium falciparum*. The NMCP led a systematic study of the efficacy of chloroquine and other antimalarial drugs. This resulted in the development of editions of guidelines for the management of malaria in 1985, 1986, 1994 and 1997.

In the absence of a policy to guide activities, efforts and resources by the Ministry of Health and Population (MOHP) and partners nationwide, malaria control and prevention strategies and activities have been uncoordinated and incomplete. The launching of the Roll Back Malaria (RBM) movement through the Abuja Declaration, which was signed by African Heads of State and Government in April 2000, gave malaria a high profile globally, regionally and nationally. To achieve the Abuja targets, RBM calls for concerted efforts through the development of partnerships. The expected increased number of stakeholders in malaria makes a policy essential.

The policy covers the main areas of malaria control and prevention, namely effective case management, especially in children under five years of age, use of insecticide-treated nets and other vector control measures as well as operational research and information, education and communication. The policy also addresses crosscutting issues such as management, financing and human resources; without improvement in these areas, enhanced malaria control and prevention efforts will not succeed.

The fourth National Health Plan emphasises the need to improve the health status of all people in Malawi by "strengthening coordination and collaboration between all health partners in supporting the district health care delivery structure as the main health care delivery system". The policy has been developed within the context of essential health care package and sector-wide approaches.

I am hopeful that concerted efforts to implement of this policy with the support of global, regional and national partnerships will enable Malawi to reduce the health and socio-economic burden of malaria.

Hon. Yusufu Mwawa, MP

Minister of Health and Population

Acknowledgements

The Ministry of Health and Population (MOHP) is indebted to many individuals and organisations without whose support and collaboration the development of this policy would not have been possible. We are grateful to UNICEF and the Centers for Disease Control and Prevention, USA for funding the two consultants: Eliab S. Some MBChB, MPH, PhD, DLSHTM (UNICEF) and Michael W. Mbvundula MD, FRCPC, FAAP (CDC). In addition, UNICEF provided support for the district and national consultation meetings as well as the printing of the policy document.

We thank the following key informants for sharing their insights regarding malaria and its control in Malawi: H. Somanje (MOHP); R. Mpazanje (MOHP); G. Malenga (College of Medicine); J. Kuplin (Wellcome Trust); J. Theu (CHAM); J. Ortiz (UNICEF); A. Launiala (UNICEF); P. Kazembe (LCH); D. Chavasse (PSI); E. Kachale (JICA); L. Gondwe, MP; A. Macheso (MOHP); M. Qoto (CPAR); M. Nyirongo (USAID); W. Dodoli (WHO); F. Chavula (CPAR); G. Kamba (Plan International); NMCP Secretariat (G. Kalanda; J. Chiphwanya, J. Zoya); M. Molyneux (Wellcome Trust); T. Harada (JICA); T. Rashid (NSMP, MOHP); H. Ashwood-Smith [SMP (South)-MOHP/DFID]; K. Nindi (IMCI-MOHP); C. Moyo (HMIS-MOHP); S. Kambale (IMCI-WHO).

We are grateful to participants at district consultation meetings who provided critical input on operational issues: G.S. Tsandoka (Community Services, Nsanje District); M.Z. Bodzalekani (ADD. Salima District); G. Mafelta (Education, Mangochi District); A. Nkomwa (Commerce and Industry, Karonga District); District Health Officers/Representatives (R.M. Banda, M.C. Joshua, Mwansambo, A. Phiri, H.B. Banda, P. Nyasulu; N.K. Ghambi); Zone Malaria Officers (E. Kaunda, B. Kalonga, H. Nsona); District Malaria Coordinators (G.L.F. Mlolo; L.A. Chimutha, E.C. Gondwe, P.W.C. Phiri, E. Hara, E. Chado, Z. Nkhono, J.C. Labana, M. S. Nyangulu, S.E. Mkwate, W.M. Gausi, A.J. Sande).

We greatly appreciate the contributions of participants at the All Stakeholders National Consultation Meeting who provided important insights into the incorporation of malaria control into the proposed essential health care package and the sector-wide approach namely: W.O.O. Sangala; H. Somanje; R. Mpazanje; J.M. Nyasulu; A. Macheso; P. Kazembe (LCH); B. C. Moyo (Ministry of Commerce and Industry); A. Kavinya (Ministry of Information); M. Jere (Department of Local Government); Y. Nyasulu (University of Malawi); S.R. Chuka (MCHS); F. Nyondo (NRCM); J. Theu (CHAM); D. Malemia (CHAM); R. Naukungwi (Medical Council); Y. Nose (UNDP); W. Dodoli (WHO); D. Chavasse (PSI); C. Yuma (PSI); V. Thiery (InterAide); D. Beyene (CPAR); S.P. Mkandawire (EAD); M.W. Mikuwa (EAD); M. Wiebe (World Vision); E. Kachale (JICA); M. Nyirongo (USAID); District Health Officers (C.K. Munthali, A.K. Mhango); NCMP team (J. Chiphwanya, E. Kaunda, H. Nsona, H.C. Chiuma, B. Kalonga, S.M. Ndau).

We would like to recognise the contributions of internal and external reviewers of a final draft. K. Mukelabai (UNICEF NY), J. Ortiz (UNICEF-Malawi); Mary Hamel, C. Cambell, R. Steketee, (CDC, Atlanta); W.O.O. Sangala (MOHP); H.

Finally, we thank the policy formulation team comprising W.O.O. Sangala, Chief Technical Advisor; H. Somanje, Controller of Preventive Health Service; R. Mpazanje, Controller of Clinical Services; G. Kalanda, out-going Manager NMCP; J. Chipwanya, acting Manager, NMCP; W. Dodoli, WHO; J. Zoya, NMCP; H. Nsona, NMCP; Majawa, NMCP.

Dr. R. P. Pendame
Principal Secretary
Ministry of Health and Population

Executive summary

Background

Following the launch of the Roll Back Malaria (RBM) movement in 1998, malaria has assumed a high profile globally, regionally and nationally, and there are now many stakeholders in malaria control in Malawi. There is therefore a need for an encompassing policy to guide activities, efforts and resources.

This Malaria Policy is based on an in-depth analysis of malaria and its control in Malawi. It serves two purposes: (1) to guide the Government of Malawi (GOM) and partners in malaria control based on a shared protocol and consistency of approach and (2) to set malaria control priorities and prioritise malaria interventions in the health and other sectors in Malawi. Its formulation included a review of existing plans, strategies and guidelines as well as in-depth interviews of key informants. Drafts of the policy document were reviewed at district and national consultation meetings. Finally, it was circulated for internal and external review. The external review involved UNICEF New York and CDC Atlanta.

Malawi is a landlocked country which lies entirely within the tropics. Malaria is the leading cause of mortality and morbidity. From 1985 to 1993 malaria control primarily focused on disease management. The main activities have been training of health workers and shop-owners in on rational prescribing practices; treatment of uncomplicated malaria at health centres and community level; treatment of severe malaria in hospitals; training of laboratory technicians; training of health surveillance assistants as health centre microscopists and monitoring of drug efficacy at sentinel sites. From the early 1990s Malawi has placed more emphasis on prevention of malaria by promoting insecticide-treated nets and use presumptive intermittent treatment during pregnancy. Malawi was the first country in Africa to change its first-line treatment for uncomplicated malaria from chloroquine to sulfadoxine-pyrimethamine (SP) in 1993. Quinine is the second-line drug for malaria treatment in Malawi.

A number of key lessons have been learned in the fight against malaria in Malawi. Most of the successes in malaria control have been realised where there has been substantial political and international support. Evidence-based decision making has great influence in the design and implementation of malaria control programmes. Clear policies and programmes need capacity building of workers to implement them as well as information, education and communication and advocacy for communities to adapt to new approaches. Using existing structures such as antenatal and under-five clinics with built-in incentives for health personnel can markedly increase the uptake of subsidised insecticide-treated nets. An environmental health impact assessment of development interventions and projects has been undertaken as part of conditionality for donor funds. The Environmental Management Act has made it mandatory, and there are guidelines which have made it possible to incorporate malaria mitigation measures in some projects.

Aims and objectives

The vision for the Malawi malaria policy is to keep all people in Malawi free from the burden of malaria. The mission is to reduce the malaria burden to a level of no public health significance. In line with the overall aim of the RBM movement, the goal is to reduce by half the malaria morbidity and mortality in Malawi by the year 2010 and to reduce this burden by a further 50% by 2015. The objectives of the malaria policy are to ensure that by 2010:

- At least 60% of children under five years of age and pregnant women have access to effective treatment within 24 hours of the onset of symptoms (up from 20% in 2001)
- At least 60% of children under five years of age and women aged 15-49 sleep under ITNs which are accessible and affordable (up from 13% in 2001).
- At least 60% of all pregnant women receive presumptive intermittent treatment for malaria in pregnancy (up from 30% in 2001).
- At least 90% of the districts experiencing increased seasonal malaria have capacity to detect and respond effectively;
- Basic and applied research capacity has been strengthened to permit and promote the regular assessment of the malaria situation in Malawi, including ecological, social and economic determinants of malaria and successful interventions.

The expected results of malaria control efforts will include: reduced all-cause childhood mortality from the present 189 to 95 per 1000 live births by 2010; reduced malaria-specific mortality among children under five years of age by at least 25% by 2006 and 50% by 2010; reduced incidence of reported fever in previous two weeks from 42% to 30% by 2006 and to 20% by 2010 and reduced age-structured, malaria case-fatality rate by 25% by 2006 and 50% by 2010.

Specific policy statements

The following statements constitute the policy for each aspect of malaria control in Malawi:

Early recognition and prompt effective treatment

The policy on case management is that:

- The GOM encourages presumptive treatment for the first episode of febrile illness suspected to be malaria in persons of all ages at all health facilities except hospitals
- Fever accompanied by any one of the following headache, chills, shivering and loss of appetite, and without other identifiable cause.

and busy health centres. However, for children under five years of age and pregnant women the presumptive treatment should be given within the first 24 hours of onset of fever. Caretakers, trained HSAs and other health workers should provide the treatment. Self-treatment is also encouraged. The correct dose of the recommended first-line antimalarial drug should be used in line with the national malaria treatment guidelines.

- At all hospitals and busy health centres, where microscopy is available, microscopic diagnosis of malaria should be made for children over five years of age, non-pregnant females and men experiencing a first episode of febrile illness. This does not apply to children under five years of age and pregnant women who present at all hospitals and busy health centres with the first episode of a febrile illness suspected to be malaria.
- Where possible the GOM promotes microscopic diagnosis of malaria in children over five years of age, non-pregnant females and men experiencing a second episode of febrile illness within 7 days of first presumptive treatment as part of the evaluation of fever. However, where malaria microscopy is not available the patient should be given the recommended second-line anti-malarial drug.
- All persons of all ages with persistent or recurrent fever or other symptoms of simple and uncomplicated malaria despite taking appropriate doses of the recommended first-line antimalarial drug should be given the recommended second-line anti-malarial drug.
- All persons of all ages with severe malaria or failed to respond to second-line anti-malarial drug should be referred to a higher level of health care for further assessment including thick blood film microscopy for malaria parasites.
- Where there is no microscopy, all postpartum women with febrile illness should be treated for bacterial infection and malaria as possible causes of puerperal fever. However, where there is microscopy malaria should be excluded by a blood film examination, if parasites are present, SP should be provided in addition to the antibiotic therapy.
- The GOM will ensure that all people at risk of developing malaria or those managing the disease have access to information aimed at improving appropriate fever management, recognition and management of severe complications.
- All patients with severe malaria, irrespective of their ages, will be appropriately referred and managed according to the current malaria treatment guidelines.
- The GOM will participate in global and regional efforts to identify and make accessible alternative first-line antimalarial drugs.

- The MOHP and partners will undertake a vigorous IEC campaign to promote good treatment practices and rational drug use to delay emergence of drug resistance by improving compliance with treatment regimens and other measures.

Presumptive intermittent treatment for all pregnant women

- All pregnant women should receive at least two treatment doses of SP at least one month apart at the ANC and at trained TBA venues under direct observed therapy.
- Any pregnant women with febrile illness for which other causes (urinary tract infections, respiratory infection, etc) cannot be found should receive a treatment dose of three tablets of SP to be taken under direct observation. Women should be counselled that it is safe to take SP on an empty stomach. Women with known allergy to sulfa drugs (typically a skin rash) should be treated with quinine which is safe in pregnancy.
- Pregnant women should be encouraged to sleep under ITNs to avoid mosquito bites.

Chemoprophylaxis

- Chemoprophylaxis is recommended for people at special risk such as non-immune visitors, people with sickle-cell disease, those who have had splenectomy and those with tropical splenomegaly syndrome.
- The MOHP encourages visitors from non-malarious countries to be on chemoprophylaxis and comply with the drug regimens in accordance with recommendations from their countries of origin.
- Visitors who travel to Malawi without having taken any prophylaxis will be given chemoprophylaxis as set out in a brochure to be produced and updated from time to time.

Use of ITNs and other vector control measures

- The GOM will increase access to ITNs among people at risk of malaria, especially children under five years of age and pregnant women.
- The GOM will promote and support the following as channels and mechanisms for making ITNs widely available and accessible: utilisation of under-five and antenatal clinics, community-based outlets and commercial outlets.
- The GOM, through the Pharmacy, Medicines and Poisons Board (PMPB) will regulate and register insecticides for public health use to ensure efficacy, effectiveness, acceptable labelling and instructions as well as safety to the environment, flora and fauna. Early detection of and rapid response to increased seasonal malaria

- The GOM promotes and supports early detection and rapid response to increased seasonal malaria above the threshold set for that particular area.
- All health workers in areas experiencing increased seasonal malaria should use malaria forecasting systems or mechanisms (e.g., previous years antimalarial drug need surveillance systems showing increased outpatient visits for febrile illness or malaria or inpatient admissions for malaria; school absenteeism; climatic conditions; vector density) to prepare for, detect and adequately respond to the increase.

Information, education and communication/advocacy

- The MOHP will implement a coordinated, comprehensive and cost-effective IEC campaign to reach most of those at risk of malaria in Malawi.
- The MOHP promotes the education of health workers, policy makers in the public and private sectors, political leaders and other influential persons in the communities about malaria transmission and control, and encourage them to provide malaria information and advice to their communities.
- The GOM will observe a malaria week to coincide with the start of the malaria transmission period (November-May) to mark the beginning of all-year IEC and advocacy activities.

Operations research, monitoring and evaluation

The GOM will

- Support and promote operations research to generate evidence for decision making and ensure that findings can be translated into effective malaria interventions.
- Ensure that operations research has clear linkages that are applicable under the prevailing programme conditions.
- Encourage involvement of multiple partners in research to optimise the utilisation of the research findings.
- Build the capacity of district health management teams and their partners to undertake district-specific research.
- Ensure adequate monitoring and evaluation of malaria control programmes and projects.
- Promote regular dissemination of research findings to all stakeholders.

Environmental health impact assessment

- The MOHP will advocate for malaria risk assessment as part of environmental health impact assessment in the development interventions and projects to identify the populations at risk disaggregated by age, gender or social status, expected impacts and mitigation measures.

Malaria control in essential health care package and sector-wide approaches

Malaria control efforts will gradually be incorporated into the EHP in the context of SWApS at all stages of programme or project cycle.

- All national stakeholders in malaria control will adopt national malaria plan and budget, clearly indicating the activities and districts they will support.
- The framework for integrating malaria into the district health plans in the context of EHPs and SWApS will be developed in partnership with all stakeholders.
- All districts will incorporate malaria control activities in their district health plans and district health budgets. These plans and budgets will relate to (1) hospital-based health services; (2) health centre, dispensary and community-based health services; and (3) the conditions identified in the EHP.
- All donors will re-define their malaria support efforts in line with the DHPs and district malaria plans of action. This will involve joint review and planning by district and areas of focus, e.g., case management, presumptive intermittent treatment, ITNs, etc.
- A framework for integrated implementation, supervision and monitoring will be developed, covering all the elements in the EHP.

1.0 INTRODUCTION

1.1 Purpose of the malaria policy

Despite having many authoritative documents and plans, Malawi has had no malaria policy to guide collaborative action nationally. This is because there have been few players in malaria control and that the strategic health plans and guidelines were considered adequate. However, following the launch of the Roll Back Malaria (RBM) movement in 1998, malaria has assumed a high profile globally, regionally and nationally and there are now many stakeholders in malaria control in Malawi. There is therefore a need for an all-encompassing policy to guide activities, efforts and resources.

This Malaria Policy is based on an in-depth analysis of malaria and its control in Malawi. It will be adopted throughout the country and will serve two purposes. The first purpose is to guide the Government of Malawi (GOM), multilateral agencies, bilateral agencies, non-governmental organisations (NGOs), research institutions, civil society, the private sector, service providers and communities as a basis for decisions and actions based on a shared protocol and consistency of approach. Specifically it will be:

- a framework for the Ministry of Health and Population (MOHP) to advocate for greater resource allocation from public expenditure to malaria control;
- a framework for United Nations and bilateral agencies to provide an effective and coordinated support to GOM malaria control efforts;
- a basis for identifying and developing strategic roles and consistent approaches by all implementation partners around a common goal;
- used by the National Malaria Control Programme (NMCP) as a basis for identifying milestones towards the achievement of malaria control targets and for developing more detailed annual work plans in support of districts;
- a national framework within which district authorities and their partners identify and develop locally appropriate strategies, targets and work plans.

The second purpose of this policy is to provide broad priorities and criteria for malaria interventions in the health and other sectors in Malawi.

It is hoped that all stakeholders in malaria control in Malawi will find that the Malaria Policy has a number of important characteristics: that it is clearly related to global, regional and national objectives of malaria control; is written in understandable language; is acceptable and beneficial to all persons to whom it is to apply; predicts the limits and measurements for change; is reasonable and capable of being accomplished; and allows for discretionary interpretation by implementors.

² These are stakeholders in malaria control, and throughout this document the term *stakeholders* refers to these groups.

In developing this policy, it has been noted that malaria control cannot be effectively undertaken in isolation from wider health system development. Malaria control should be within health systems reform, defined as a sustained process of fundamental change in policy and institutional arrangements to improve the functioning of the health system and hence people's health. Health sector reforms require human, material and financial inputs to execute strategic actions for implementing policy decisions. Well-intended policies and reforms, however, cannot be put into practice until resources are budgeted, allocated and released.

1.2 Method of policy formulation

The Malaria Policy formulation was undertaken by two consultants supported by UNICEF and CDC in close collaboration with the Division of Preventive Health Services of the MOHP through the Malaria Control Programme Team. The formulation process included a review of existing plans, strategies and guidelines and in-depth interviews of key informants. Draft policy documents formed the basis of a district level consultation meeting. The input of the district consultation formed the basis of a consultation meeting at national level. A third draft prepared after the national consultation meeting was circulated for internal and external review. The external review involved the UNICEF New York and CDC, Atlanta.

2.0 BACKGROUND

2.1 Country profile

Malawi is a landlocked country with a total area of 118,484 sq km. It lies entirely within the tropics. Lake Malawi and other small lakes cover an area of about 28,000 sq km. The topography of the country is determined by the Rift Valley which runs the entire length of the country. The Shire River drains Lake Malawi into the Zambezi River in Mozambique. To the west and the south of Lake Malawi are fertile plains and mountains ranging from 1,700 to 3,000 metres above sea level. Administratively, the country is divided into 27 districts. Malawi has a tropical, continental climate. From May to August, the weather is cool and dry. From September to November, the weather is hot. The rainy season is from November to April.

The estimated population for 2001 in Malawi is about 10.6 million (projected from 1998 population census); with approximately 14% of persons living in urban areas. Children under five years of age constitute 17% of the population and women 15-49 year old constitute approximately 25%. The average household is about 5.7 persons per household, with an estimated 1.9 million households. The literacy rates in urban and rural areas are 45% and 23%, respectively. The infant and child mortality rates are 104 and 189 per 1000 live births respectively. The country's domestic product per capita is estimated at US\$200.

National Statistical Office, GMD, 1998; Malawi population and housing census: report of final census results, 2000.

2.2 Malaria situation

Malaria is the leading cause of mortality and morbidity in Malawi. In 1996, malaria accounted for 33.2% of all outpatient visits. Malaria and anaemia (usually attributed to malaria) are estimated to be responsible for about 40% of all under-five hospitalisations and 30% of all hospital deaths in under-five children. *Plasmodium falciparum* is by far the commonest species, accounting for 98% of the infection. Other species, including *P. malariae* and *P. ovale*, account for up to 2% of cases. *P. vivax* is very rare. *P. falciparum* is responsible for severe disease and most deaths. Malaria presents with any of the following signs and symptoms: fever, generalised body pains, vomiting and diarrhoea, headache, joint pains, convulsions, unconsciousness and anaemia.

Female anopheles mosquitoes transmit malaria from one infected person to another. The most common malaria vectors in Malawi are *Anopheles gambiae*, *A. funestus* and *A. arabiensis*. It is estimated that there are between 30 and 50 infective bites per person per year. These contribute to an estimated 8 million episodes of malaria per year in the general population. Although no systematic surveys have been conducted to determine malaria endemicity, Malawi can be generally divided into three zones based on location, topography and human activities:

- Lakeshore zone - covering Karonga, Nkhata Bay, Nkhotakota, Salima, Dedza and Mangochi districts.
- Highland zone - covering Chitipa, Rumphi, Mzimba, Kasungu, Mchinji, Lilongwe, parts of Dedza, parts of Ntcheu, Blantyre, central parts of Zomba, central parts of Thyolo, and northwest parts of Mwanza.
- Lowland zone - covering Balaka, eastern parts of Ntcheu, southeastern parts of Mwanza, Chikwawa, Nsanje, parts of Thyolo, parts of Mulanje, part of Blantyre and parts of Zomba.

2.3 Importance of malaria in various sectors

2.3.1 Economy

In economic terms, malaria has both direct and indirect costs. Direct costs borne by individuals, households and government include the cost of treatment, which can be as much as US\$25 monthly, and those of prevention, which may be as high as US\$15 per month. In addition, outpatient care costs are approximately US\$1.10 per consultation, and 10-15% of hospital admissions, at US\$35 per admission, is due to malaria. The indirect costs of

¹National Statistical Office, GOM; Malawi Demographic and Health Survey, 2000.

²UNGOM, Situation analysis of poverty in Malawi, 1963.

³MOHP, Basic Health Statistics, 1996.

⁴MOHP, Malawi National Health Plan, 1999-2004.

⁵The Global Partnership to Roll Back Malaria: Proposed Strategy and Work Plan for the Roll Back Malaria Cabinet Project (1998-2001), World Health Organisation, June 1999.

malaria do not only include negative economic impact due to mortality and morbidity in terms of working days lost in agriculture and industry, but are also related to absenteeism in the education system, further contributing to loss in productivity. Malaria has macro-economic impact: countries with a substantial amount of malaria grow at 1.3% per year less than their less malarious counterparts. A 10% reduction in malaria was associated with 0.3% higher growth rate per year. Poor regions are more affected by malaria. Internationally, malaria represents 2.8% of productive lives lost due to an illness, while in poor areas, these indicators can be as high as 10% or more. Malaria therefore aggravates poverty.

2.3.2 Education

Apart from the school days lost, malaria is also associated with anaemia, convulsions and growth retardation which affect early childhood development. The immediate effects of these include poor psychological and intellectual development as well as learning disabilities. In the long-term, these are considered to be important explanations of future variations in productivity and earnings of individuals. Thus, it is important that the education sector contribute to the fight against malaria, both in the school setting and in the surrounding communities.

2.3.3 Water and sanitation

The availability of water is a major determinant of location and pattern of human settlement and lifestyle. Wherever water is allowed to stand long enough for mosquitoes to breed, malaria transmission will be increased. Fresh water is suitable for the breeding of Anopheline mosquitoes, while dirty and polluted water is suitable for other biting mosquitoes. Large numbers of these nuisance mosquitoes, especially in urban and other densely populated areas, often cause communities to perceive that malaria control measures are ineffective. Thus, it is important to control both malaria vector and nuisance biting mosquitoes.

2.3.4 Private sector

A key concept of Roll Back Malaria is that coordinated action by people from different sections of society is essential in order to reduce the burden of malaria. The private sector consists of manufacturers, distributors, retailers and vendors of antimalarial products. As part of health sector reforms, the private sector should play an increasingly important role in the provision of health services, with malaria receiving the attention it deserves as the leading cause of mortality and morbidity in Malawi.

⁹ Kirigia JM, Snow RW, Fox-Rushby J and Mills A (1998). The cost of treating paediatric malaria admissions and the potential impact of insecticide-treated mosquito nets on hospital expenditure, *Tropical Medicine and International Health* 1998; 3: 145-150.

¹⁰ Gallup JL and Sachs JD (1998). The economic burden of malaria. Cambridge, MA: Center for International Development, Harvard University, 1998.

¹¹ Boisnier M, Knight JB and Sabot RH (1985). Earnings, schooling, ability and cognitive skills, *American Economic Review* 1985; 75 (December): 1016-1030. Boyle CA, Decoufle P, Yeargin Allsopp M (1994). Prevalence and health impact of developmental disabilities in US children, *Pediatrics* 1994; 93(3): 399-403. Brewer DK, Kwiatkowski D and White NJ (1990). Neurological sequelae of cerebral malaria in children, *Lancet* 1990; 336 (8722): 1039-1043.

2.3.5 Tourism

Because malaria is increasing in most of tropical Africa, its risk to visitors from outside the tropics is also increasing. This may have a negative impact on tourism. Because 90% visitors who contract malaria do not become ill until they return home they should comply with drug prophylaxis and their home medical and travel advice centres should be alert to malaria as a probable cause of fever among returning visitors. It should be noted that no chemoprophylactic regimens are 100% effective; therefore, visitors should take other preventive measures, such as sleeping under mosquito nets and using insect repellents.

2.4 International response

When the World Health Organization (WHO) declared the global eradication of malaria in 1955, Africa was not officially included in the efforts. Instead, a number of eradication pilot projects, utilising residual house spraying and mass drug administration demonstrated that it was not possible to interrupt malaria transmission in Africa. Eventually efforts to eradicate malaria in the world were officially abandoned in 1969. In response to the obstinate nature of malaria, the UNDP/World Bank/WHO Special Programme for Research in Training in Tropical Diseases was established in 1974 to lead and coordinate the development of new tools for malaria control. These efforts culminated in the adoption of the global malaria control strategy in 1992, based on improved case management, prevention using insecticide-treated materials (ITMs) and prevention and control of malaria epidemics and building capacity for basic and applied research for assessment of control interventions.

In May 1996, the Director-General of WHO was requested by the World Health Assembly to establish a special programme on malaria. Subsequent efforts included the establishment of the Accelerated Malaria Control Programme which had the objective of establishing a foundation for further development and sustainable implementation of malaria control programmes in targeted districts in selected countries. Africa, as the epicentre of the malaria problem, spearheaded the global malaria control efforts. A bottom-up development of malaria control programmes from community level with support from higher levels was encouraged. The focus was on sustainability by strengthening capacity and capability at lower levels of the national health system.

The call for RBM was made in 1998 by WHO "not as a revamped vertical programme but by developing a new sector-wide health approach to combat the disease." . Founding partners WHO, UNICEF, WB and UNDP rely on partnerships between national governments, international agencies, bilateral donors, civil society organisations, the private sector, the research community and other important stakeholders.

RBM has the following six elements:

- Evidence based decisions. Community awareness provides families with the necessary information to understand the risk of malaria and take appropriate and timely action. Health authorities respond to malaria effectively using reliable information. Climate forecasts and case detection provide surveillance where malaria outbreaks are identified.
- Rapid diagnosis and treatment. The home is the first health facility where a pack of effective drugs availed to parents can treat children with malaria. Bringing treatment to people and ensuring that treatment is based on drug efficacy. Widely available health services provide rapid diagnostic facilities, and effective case management saves people with severe malaria.
- Multiple prevention. People at risk use ITNs. Mosquitoes are controlled using the right mix of control methods for the local situation. Women experience safer pregnancy by taking antimalarial drugs.
- Focused research. Effective action is made possible by well-directed research. Industry helps to develop effective, safe and inexpensive medicines and insecticides. Development of malaria vaccine is accelerated.
- Dynamic global movement. Partnerships involving schools, community groups and organisations are synchronised in an effort to reduce malaria illness and death. Political support is stimulated through global advocacy. National actions are backed by regional and global partnerships.

2.5 National response

In 1984, the Ministry of Health and Population established the National Malaria Control Committee (NMCC) to systematically study the efficacy of chloroquine and other antimalarial drugs and to develop sound management guidelines. In the same year, the first National Malaria Control Programme Manager was appointed. Currently, the NMCP is one of the nine disease control programmes within the Community Health Sciences Unit in the Division of Preventive Health Services of the MOHP. Programme activities focus on disease management. The main activities in case management have been training of health workers and shop-owners; treatment of uncomplicated cases at health centre and community level; treatment of severe cases as in-patients; training of laboratory technicians; training of health surveillance assistants for community and health centre microscopy and monitoring of drug efficacy through the six sentinel sites (Karonga, Rumphi, Nkhoshe, Lilongwe, Machinga and Mangochi districts).

Malawi was the first country in Africa to change its first-line treatment for uncomplicated malaria from chloroquine to sulfadoxine-pyrimethamine (SP) in 1993. Since then, treatment failures of 20% were reported from sentinel sites in 2001. This is worrying because there are no affordable alternatives to replace SP. Amodiaquine may offer a temporary interim solution, but there is reluctance to use it due to reports of toxic side effects and cross-resistance with chloroquine that may limit its therapeutic life. Combination therapy may not be affordable given the insufficient funds available to the MOHP.

Treatment in public health facilities in Malawi is free, although user charges are being introduced in a phased manner. It has been reported that 72% of fever treatments occur outside the formal sector.¹ Central Medical Stores distributes drugs to MOHP and Christian Health Association of Malawi (CHAM) health facilities. There are frequent shortages of essential drugs in the public health facilities due to unpredictable supply from the Central Medical Stores and inadequate funding from MOHP. Community participation in drug financing is being explored through partnership with NGOs. Currently, drug revolving fund (DRF) schemes are being implemented in a few rural areas.

2.6 Lessons learned

An overriding lesson learned is that most of the successes in malaria control have been realised where there has been substantial political and international support. The RBM movement provides the framework and mechanism for availing technical and financial support to malaria control in Malawi.

Evidence-based decision making has greatly influenced the design and implementation of malaria control programmes. In Malawi, the change from chloroquine to SP in 1993 was due to the emergence of chloroquine-resistant malaria. The change has been successful because there is good compliance of treatment as SP is given as a single dose. However, a study in Blantyre district showed that underdosing of SP is still common in the community.² Unlike chloroquine, it is not bitter and has fewer side effects. SP is available without prescription in most shops and in communities through DRFs. Its lack of antipyretic properties necessitated the concomitant use of antipyretics. Nevertheless, there has also been a downside to SP in the form of misconceptions which say that it makes malaria worse, causes convulsions and that it is too strong and somehow harmful. Experience has shown that patients often present at health facilities with severe malaria due to a number of reasons: delayed referral due to poor assessment of severity, traditional beliefs, poverty, unavailability of transport and distance to health facilities.

¹ MOHP, UNICEF and WHO: Household baseline survey for family and community key care practices in selected districts in Malawi, 2000.

² Holtz et al., 2000, Blantyre Integrated Malaria Initiative

Another key lesson is that clear policies and programmes need capacity building of workers to implement them as well as IEC and advocacy for the communities to adapt to the new approaches. For example, in the presumptive intermittent treatment of pregnant women with two doses of SP, it has been found that only 37% of pregnant women take the full two doses due to late first attendance and confusion by nurses about the timing of the two doses, i.e. at the first antenatal visit occurring after the first trimester of pregnancy is complete and a second dose at the beginning of the third trimester (between 28 and 34 weeks).³ It is necessary to improve this situation.

In the use of ITNs and other vector control measures the main lesson learned is that the uptake of subsidised ITNs can be markedly increased by using existing structures such as the antenatal and under-five clinics with built-in incentives for health personnel. Community-based ITN committees also assist in promoting ITNs. Re-treatment of ITNs with insecticide is poor. There is a need for long-acting or permanently treated nets. Indoor residual spraying (IRS) is effective but not practicable because of high cost and possible harm to the environment. Traditional mosquito repellents require study.

Before the enactment of the Environmental Management Act (EMA) of 1996, environmental health impact assessment of development interventions and projects was undertaken as part of conditionality for donor funds. The EMA has made environmental health impact assessment mandatory and there are guidelines. These have made it possible to incorporate malaria mitigation measures into some projects.

3.0 AIMS, OBJECTIVES AND EXPECTED RESULTS

3.1 Vision

The vision for the Malawi Malaria Policy is to keep all people in Malawi free from the burden of malaria.

3.2 Mission

The mission is to reduce the malaria burden to a level of no public health significance in Malawi.

3.3 Goal

In line with the overall aim of the RBM movement, the goal of the Malawi malaria policy is to reduce by half the 2000 levels of malaria morbidity and mortality in Malawi by the year 2010 and to reduce this burden by a further 50% by 2015

³ M DHS, 2000.

3.4 Objectives

The objectives of the national malaria policy are to ensure that by 2010:

- At least 60% of children under five years of age and pregnant women have access to effective treatment within 24 hours of the onset of symptoms (up from 20% in 2001).
- At least 60% of children under five years of age and women aged 15–49 sleep under ITNs which are accessible and affordable (up from 13% in 2001).
- At least 60% of all pregnant women receive presumptive intermittent treatment for malaria in pregnancy (up from 30% in 2001).
- At least 90% of the districts experiencing increased seasonal malaria have the capacity to detect and respond effectively;
- Basic and applied research capacity has been strengthened to permit and promote the regular assessment of the malaria situation in Malawi, including ecological, social and economic determinants of malaria and successful interventions.

3.5 Expected results

The following will be the expected results of malaria control efforts in Malawi

- Reduced all-cause¹⁶ childhood mortality from the present 189 to 95 per 100 live births by 2010.
- Reduced malaria-specific mortality among children under five years of age by at least 25% by 2006 and 50% by 2010.
- Reduced incidence of reported fever in previous two weeks from 42% to 30% by 2006 and to 20% by 2010.
- Reduced malaria case-fatality rate by 25% by 2006 and 50% by 2010.
- Reduced proportion of hospital delivery with a birth weight less than 2,500 grams by 25% by 2006 and 50% by 2010.

¹⁶ Malaria interacts with malnutrition and cannot be easily differentiated from death from acute respiratory and other febrile conditions; thus mortality from all causes is a good indicator.

¹⁷ A baseline survey will be undertaken later.

4.0 SPECIFIC POLICIES AND KEY ACTIONS

4.1 Overview

Various methods will be necessary for achieving the aims and objectives of the Malawi Malaria Policy. Establishing a framework will ensure a coordinated, multilateral and national response into the concerted regional and global actions on malaria. The framework should be within the GOM National Health Plan and linked to other important development frameworks such as the poverty reduction strategy paper, the highly indebted poor countries (HIPC) debt relief initiative, health sector reforms, essential health care package (EHP), sector-wide approaches (SWAPs), environmental impact assessment and Vision 2020.

Another method is to maximise access by communities most at risk from malaria to effective, evidence-based preventive and curative malaria interventions. This can be done through quick and effective treatment both at family and community levels for uncomplicated cases and in public and private health facilities for more serious cases. And by providing malaria prevention and treatment to pregnant women, using ITNs and other vector control measures by at-risk population groups and through preparedness, continuous surveillance and effective response to increased seasonal malaria.

Also, the health system in general needs to be strengthened to respond effectively to malaria and other priority health conditions. Strengthening the health system should specifically control malaria with regard to coordination, human resource development, drug supply, health financing, information, education, and communication; and monitoring, evaluation and research.

4.2 Target populations

In Malawi, persons most at risk for malaria are as follows:

- Children under five years of age who have not yet acquired an adequate level of clinically protective immunity;
- Pregnant women whose immune-response is impaired to the extent that they are at higher risk of malaria-related anaemia and placental insufficiency, particularly in the first two malaria exposed pregnancies, resulting in low birth weight;
- HIV positive pregnant women;

- People of all age groups in areas of highly seasonal malaria transmission;
- Visitors and expatriates from non-malarious countries.
- Splenectomised individuals, Malawians returning from long stays of at least one year in non-malarious countries and persons with poor splenic function such as patients with sickle-cell disease and tropical splenomegaly syndrome.

4.3 Priority interventions

4.3.1 Early recognition and prompt effective treatment

Prompt treatment means access to effective treatment within 24 hours of the onset of malaria symptoms. Prompt treatment is vital because most of the deaths from malaria occur within the first 48 hours. Effective treatment eliminates parasites from the human body, thus stopping transmission by preventing mosquitoes from picking malaria parasites from sick persons who have malaria parasites. Treatment arrests disease from progressing to severe form thus preventing death and long-term sequelae of malaria.

Owing to chloroquine resistance, first confirmed in 1984 and increased to over 80% by 1991, the GOM switched to SP as a first-line drug in 1993. The choice of SP was based on superior efficacy, safety, low cost and ease of administration. Drug efficacy studies recently done on SP show parasitological resistance ranging from 15 to 25% and clinical resistance that ranges from 5 to 20%. This calls for continued monitoring of SP efficacy while actively looking for alternative first-line antimalarial drugs. Quinine is available as second-line treatment as there is no known resistance reported.

Studies at Queen Elizabeth Central Hospital and Lilongwe Central Hospital indicated that out of all adults presenting with febrile illness only 15% and 3%, respectively, were positive for malaria on microscopy.⁶ With the rising prevalence of HIV/AIDS in Malawi and higher incidence of febrile illnesses due to non-malaria infections, these figures suggest that presumptive treatment of malaria in hospitals and busy health centres, where microscopy is available, is not cost-effective and leads to wastage of antimalarial drugs.

There is widespread treatment of malaria illness outside the formal health sector. In Malawi, a survey which included home treatment of children with fever⁷ revealed that a high percentage of families (72%) give some medication at home before taking their children to a health facility. The drugs administered for fever

⁶ G. Malenga and P. Kazembe, personal communications.

⁷ Household Baseline Survey for Family and Community Child Key Care Practices in Selected Districts in Malawi: MOHP, UNICEF and WHO, 2000.

⁸ Holte, et al., 2000: Blantyre Malaria Initiative, MOHP/CDC.

were aspirin or paracetamol (65%), SP (30%) and quinine (5%). Of the febrile children not taken to hospital, 30% did not receive any medication. A study in Blantyre district, however, showed that 37% of febrile children received accurate treatment with an antimalarial drug or were brought to a health centre within two days. Only 4% of children were promptly treated in the home with SP and among those 38% were underdosed.⁸

Such findings reflect a number of issues: inconvenient or poor quality public health services, (e.g., too difficult to get to, long queues, lack of drugs, unfriendly staff), economic barriers and the cost of seeking treatment (user fees and the cost of transport or lost work) and traditional beliefs about malaria. Examples of traditional beliefs are that exposure to rain is a cause of malaria; mosquitoes are just a minor way in which malaria is transmitted; simple or uncomplicated malaria is recognised as “hot body”; malaria anaemia and splenomegaly are distinct disease entities requiring a traditional healer; convulsions are attributed to evil spirits and require a spiritual healer.

Self-treatment has four potential disadvantages. It may be inappropriate treatment in that patients or drug vendors do not know which drugs are appropriate. Often there is delay: patients resort to the formal health services only after several days of failed home treatments, by which time malaria may be severe. Self-treatment with antimalarials is frequently associated with under-dosing because carers do not know the correct dose or the need for full compliance. A drug vendor sells less than a full course, treatment is stopped when the fever subsides or expired drugs are used. Against this, self-treatment is the common source of malaria therapy in Malawi. Control programmes must therefore understand and build on the patterns of treatment-seeking behaviour.

The policy on case management is that:

- The GOM encourages presumptive treatment for the first episode of febrile illness suspected to be malaria²¹ in persons of all ages at all health facilities except hospitals and busy health centres. However, for children under five years of age and pregnant women the presumptive treatment should be given within the first 24 hours of onset of fever. Caretakers, trained HSAs and other health workers should provide the treatment. Self-treatment is also encouraged. The correct dose of the recommended first-line antimalarial drug should be used in line with the national malaria treatment guidelines.
- At all hospitals and busy health centres, where microscopy is available,

²¹ Fever accompanied by any one of the following headache, chills, shivering and loss of appetite, and without other identifiable cause.

microscopic diagnosis of malaria should be made for children over five years of age, non-pregnant females and men experiencing a first episode of febrile illness. This does not apply to children under five years of age and pregnant women who present at all hospitals and busy health centres with the first episode of a febrile illness suspected to be malaria.

- Where possible the GOM promotes microscopic diagnosis of malaria in children over five years of age, non-pregnant females and men experiencing a second episode of febrile illness within 7 days of first presumptive treatment as part of the evaluation of fever. However, where malaria microscopy is not available the patient should be given the recommended second-line anti-malarial drug.
- All persons of all ages with persistent or recurrent fever or other symptoms of simple and uncomplicated malaria despite taking appropriate doses of the recommended first-line antimalarial drug should be given the recommended second-line anti-malarial drug.
- All persons of all ages with severe malaria or failed to respond to second-line anti-malarial drug should be referred to a higher level of health care for further assessment, including thick blood film microscopy for malaria parasites.
- Where there is no microscopy, all postpartum women with febrile illness should be treated for bacterial infection and malaria as possible causes of puerperal fever. However, where there is microscopy malaria should be excluded by a blood film examination, if parasites are present, SP should be provided in addition to the antibiotic therapy.
- The GOM will ensure that all people at risk of developing malaria or those managing the disease have access to information aimed at improving appropriate fever management, recognition and management of severe complications.
- All patients with severe malaria, irrespective of their ages, will be appropriately referred and managed according to the current malaria treatment guidelines.
- The GOM will participate in global and regional efforts to identify and make accessible alternative first-line antimalarial drugs.
- The MOHP and partners will undertake a significant D/C campaign to promote good treatment practices and rational drug use to delay the emergence of drug resistance by improving compliance with treatment regimens and other measures.

Targets for the year 2010 are that:

- 95% of the households at risk of malaria will have received targeted IEC;
- 90% of GOM health facilities will have continuous and adequate supplies of drugs essential for the management of malaria;
- 90% of all antimalarial drugs provided through formal and informal sectors are of internationally acceptable pharmacological standards;
- 80% of children with fever receive first-line antimalarial drugs as first action.
- 90% of children with fever receive first correct treatment within 24 hours of onset of fever;
- 90% of people with fever should be managed at point of contact with health system according to the national guidelines on malaria treatment.

Key actions are necessary at home and community level. For example, counselling and advice should be given to caregivers, families and communities to enable them recognise malaria and know how it is transmitted prevented and treated. Antimalarial drugs should be available in the home, nearest shopping centre or community pharmacy. At the same time, MOHP and partners will:

- Deliver malaria control services within the EHP, use the integrated management of childhood illness (IMCI) approach for children under five of age and presumptive treatment for children over five years of age and adults;
- Train health workers in all hospitals and busy health centres on management of severe malaria and train health workers in other health centre and HSAs on uncomplicated malaria as part of training in IMCI;
- Promote rational drug use by reviewing and updating treatment guidelines; train health workers, pharmacists and drug vendors to use guidelines; and educate patients and opinion leaders about the guidelines;
- Increase availability and quality of antimalarial drugs which are based on the essential drug list concept and close regulation of manufacture and distribution of drugs;
- Ensure that all hospitals and busy health centres have microscopes and other diagnostic tests and are appropriately staffed;
- Ensure referral of severe malaria cases and therapeutic failures;

²¹ See operations research in Section 4.3.7 below.

²² Shulman CE, Dorman EK, Talisuna AO, et al. (1998). A community randomised controlled trial of insecticide-treated bednets for the prevention of malaria and anaemia among primigravid women on the Kenyan coast, *Tropical Medicine and International Health*, 1998; 3(3): 197-204

- Promote multiple measures to combat drug resistance by reducing the selection and spread of drug-resistant parasites by effective treatment such as use of high quality drug preparation and prescription of correct dose; by ensuring that patients complete the course; by promoting more rational use of antimalarials; by supporting development of new antimalarials (e.g., chlorproguanil-dapsone)¹⁰ and by monitoring drug resistance.
- Undertake IEC and creation of awareness across all sectors.

4.3.2 *Presumptive intermittent treatment of all pregnant women*

Pregnant women are at particular risk of malaria infection. Its consequences in the mother are anaemia and fever, while newborns suffer low birth weight. Placental parasitaemia may be high with undetectable peripheral parasitaemia. Presumptive intermittent treatment (PIT) in pregnancy prevents development of malaria and eliminates malaria parasite from the placenta. PIT with SP has been shown to reduce low birth weight, anaemia and severe disease.¹¹

The following constitute the policy on PIT:

- All pregnant women should receive at least two treatment doses of SP at least one month apart at the ANC and at TBA venues under direct observed therapy.
- Any pregnant women with febrile illness for which other causes (urinary tract infections, respiratory infection, etc) cannot be found should receive a treatment dose of three tablets of SP to be taken under direct observation. Women should be counselled that it is safe to take SP on an empty stomach. Women with known allergy to sulfa drugs (typically a skin rash) should be treated with quinine which is safe in pregnancy.
- Pregnant women should be encouraged to sleep under ITNs to avoid mosquito bites.

The target for the year 2005 is that 60% of all pregnant women will receive at least two doses of SP in their pregnancy.

In addition to the key actions for case management, MOHP and partners will provide free of charge SP or any other drug used for treatment of malaria in pregnancy and train TBAs to administer SP or any suitable other drug used for treatment of malaria in pregnancy.

4.3.3 Chemoprophylaxis

Tourism is an important sector of the economy in Malawi, especially as an earner of foreign currency. As indicated in Section 2.3.5, malaria threatens this sector. Usually visitors consult their own travel centres before departure to a tropical country like Malawi. Unfortunately, different countries outside the tropics recommend different regimens for chemoprophylaxis. What is important, however, is that the visitors should be on some kind of chemoprophylaxis. Like visitors from non-malarious countries, people who have impaired immunity experience very severe and often fatal malaria. On a case by case basis, clinicians should assess such individuals and put them on appropriate chemoprophylaxis.

The following constitute the policy on chemoprophylaxis:

- Chemoprophylaxis is recommended for people at special risk such as non-immune visitors, people with sickle-cell disease, those who have had splenectomy and those with tropical splenomegaly syndrome.
- The MOHP encourages visitors from non-malarious countries to be on chemoprophylaxis and comply with the drug regimens in accordance with recommendations from their countries of origin.
- Visitors who travel to Malawi without having taken any prophylaxis will be given chemoprophylaxis as set out in a brochure to be produced and updated from time to time.

By the year 2006, the MOHP and partners will ensure that:

- Guidelines on chemoprophylaxis are developed and presented in a brochure;
- Over 90% of visitors from non-malarious areas take appropriate chemotherapy while in Malawi;
- Over 90% of clinicians in Malawi who see visitors have a copy of the brochure and are aware of this policy.

Key actions to implement the policy include development of a brochure on chemoprophylaxis and its distribution to all strategic places visited by people from non-malarious countries. The brochure should be reviewed at least every three years. All clinicians in public and private sectors should be made aware of the policy on chemoprophylaxis.

²⁴ Lengeler C. (1998). Insecticide-treated bednets and curtains for malaria control (Cochrane Review). In the Cochrane Library Issue 3, 1998; Oxford, Update Software.

²⁵ WHO (2000). Persistent Organic Pollutants (POPs): Use of DDT in Vector Control, World Health Organisation.

4.3.4 Use of ITNs and other vector control measures

Insecticide-treated nets

By preventing mosquitoes from biting people carrying malaria parasites and infected mosquitoes from infecting people, ITNs have been shown to reduce all-cause childhood mortality by approximately 25%, malaria illness by 50% and severe malaria by over 40%.¹² Bednets have been shown to reduce malaria transmission and to provide protection to other members in same house not sleeping under bednets and to reduce maternal and infant anaemia and neonate low-birth-weight when used by pregnant women. Other ITMs also prevent mosquito bites, e.g., eave-curtains.

Modes of action of ITNs include repelling and killing of mosquitoes, thus drastically reducing their abundance and longevity to less than the number of days needed for malaria parasites to develop to infective stages in the mosquito. ITNs are, however, not 100% effective in preventing exposure to malaria-infected mosquitoes; therefore, they still allow humans to develop natural immunity.

Indoor residual spraying

Indoor residual spraying (IRS) kills mosquitoes, thus drastically reducing their abundance and longevity to less than the number of days needed for malaria parasites to develop to infective stages in the mosquito. Like ITNs, IRS reduces infant mortality by 40–60%, child mortality and crude death rates. IRS is potentially hazardous, requires specialist equipment and is therefore usually carried out by trained staff rather than the community. IRS is therefore used in a selective manner and is the method of choice for preventing and containing malaria epidemics or in well-defined or high-risk situations. IRS requires large human and financial resources, selects for vector resistance to insecticide, carries some risks to the environment¹³ and will seldom be relevant in Malawi.

Other measures

Under special circumstances, such as specific urban sites, at refugee camps and at agricultural projects that increase breeding sites, permanent environmental modifications, such as drainage, filling, larviciding and biological control reduces mosquito breeding. Appropriate siting of human dwellings, especially in new settlement schemes or during establishment of irrigation, could avoid mosquito-breeding sites and therefore reduce the number of mosquitoes biting people.

The following constitute the policy on ITNs and other measures:

- **The GOM will increase access to ITNs among people at risk of malaria especially children under five years of age and pregnant women.**
- **The GOM will promote and support the following as channels and mechanisms for making ITNs widely available and accessible: utilisation of under-five and antenatal clinics, community-based outlets and commercial outlets.**
- **The GOM, through the Pharmacy, Medicines and Poisons Board (PMPB) will regulate and register insecticides for public health use to ensure efficacy, effectiveness, acceptable labelling and instructions as well as safety to the environment, flora and fauna.**

The target for the year 2003 is that in line with GOM Abuja commitment taxes and tariffs on nets and insecticides are removed by the year 2003. Also least 60% of the at-risk population (pregnant women and children under five years) sleep under ITNs during the peak malaria transmission period by 2006. Another target is that at least 75% of the nets in use are treated every 12 months by 2006.

Various key actions are necessary to implement the policy. The MOHP and Ministry of Finance will continue to maintain dialogue to ensure that tax and other tariffs to provide cheaper and more accessible ITN products for consumers. Without external support the GOM does not have the resources to provide ITNs free of charge to everyone at risk. However, the government, private sector and NGOs should consider providing highly subsidised nets to the disadvantaged, (e.g., orphans and disabled), and to those most at risk for developing severe malaria, especially children under five years of age and pregnant women, and those with immuno-suppressive disorders, or sickle cell disease. With substantial donor assistance it would be possible to protect a large number of those at-risk for severe malaria with subsidised ITNs. The GOM will promote the establishment of cost-sharing, cost-recovery and revolving fund schemes. In the long-term, the GOM will develop an enabling environment to foster private sector growth to provide unsubsidised, affordable ITM products and services. It will also ensure complementary alternative approaches offered by non-profit, social marketing organisations, NGOs, CHAM and the public sector.

The MOHP will support regular monitoring of insecticide resistance and issuing of schedules indicating the recommended insecticides for public health use, especially for ITNs. It will regularly inspect the storage, use and disposal of insecticides as well as the quality of impregnation services. The MOHP will constitute a national ITN Working Group with representation from the public, CHAM, commercial and not-for-profit and NGO sectors. The Working Group

will monitor the policy implications of public and private sector complementary roles as well as the technical aspects of ITNs. Finally, the MOHP will support manufacturers and distributors of ITNs to establish outlets across the country and make the nets and insecticides more affordable.

4.3.5 Early detection of and rapid response to increased seasonal malaria

Increased seasonal malaria is associated with the start of rains in months with average daily temperatures above 18°C the accompanying increase in malaria vectors and the humid and warm conditions favouring mosquito survival. A two-fold increase in the weekly average of febrile illnesses or deaths or a two-fold increase in school absenteeism may form the basis for detecting increased seasonal malaria.

The following constitute the policy on increased seasonal malaria:

- **The GOM promotes and supports early detection and rapid response to increased seasonal malaria above the threshold set for that particular area.**
- **All health workers in areas experiencing increased seasonal malaria should use malaria forecasting systems or mechanisms (e.g., previous years antimalarial drug needs; surveillance systems showing increased outpatient visits for febrile illness or malaria, or inpatient admissions for malaria; school absenteeism; climatic conditions; vector density) to prepare for, detect and adequately respond to the increase.**

Targets for the year 2010 are that 80% of health facilities will be ready to respond to increased seasonal malaria, 75% of increased seasonal malaria recorded in a year are predicted or detected and controlled within two weeks of onset, and 90% of the population in affected districts/areas are protected by correct application of transmission control measures within two weeks after detection.

Key actions by the MOHP and partners will be to:

- Prepare thresholds for each district on increased seasonal malaria;
- Establish and regularly update plans for increased seasonal malaria preparedness and response;
- Maintain adequate buffer stocks of first-line and second-line antimalarial drugs as well as supporting drugs and other medical supplies;
- Ensure that the malaria surveillance system is strengthened and sustained by training health workers in data management and ability to correctly organise teams for transmission control activities;
- Train and support vector-control teams for transmission control activities.

4.3.6 Information, education and communication/advocacy

Information, education and communication (IEC) improves recognition of malaria by individuals and child carers. IEC encourages people to seeking prompt care and take preventive measures. IEC also promotes participation by individuals, families and communities in planning. It enhances resource mobilisation and actions to control malaria. The 2000 MDHS suggested that health education messages must be designed for a large number of individuals and heads of households who have little or no formal education and limited access to mass media. Health education messages must explore a variety of means to effectively communicate to the public.

The following constitute the policy on IEC, advocacy and social mobilisation:

- The MOHP will implement a coordinated, comprehensive and cost-effective IEC campaign to reach most of those at risk of malaria in Malawi.
- The MOHP promotes the education of health workers, policy makers in the public and private sectors, political leaders and other influential persons in the communities about malaria transmission and control, and encourage them to provide malaria information and advice to their communities.
- The GOM will observe a malaria week to coincide with the start of the malaria transmission period (November-May) to mark the beginning of all-year IEC and advocacy activities.

By the year 2006, 80% of health facilities should use malaria IEC materials. By the year 2010, 95% of the households will be covered with messages on malaria adequate for awareness, understanding and motivation to adapt new behavioural changes that lead to recognition, appropriate health seeking behaviour and prevention of malaria.

The MOHP and partners will:

- Identify gaps in community knowledge, attitude and practices on communities on malaria and its control and use the results to develop IEC strategies for malaria control;
- Regularly review, update and disseminate IEC and advocacy materials as well as curricula for training institutions.
- Strengthen the capacity of all implementors and partners at all levels to use the national IEC/advocacy materials for malaria control and adapt them to the local languages and other circumstances;
- Provide the community and target groups within that community with accurate information about malaria transmission.

- Promote education of caretakers and drug sellers to improve accurate home treatment practices, including when it is necessary to go immediately to a health facility for care.
- Promote the use of ITNs and insecticide for ITN re-impregnation through education and improved accessibility
- Provide relevant, culturally appropriate, IEC materials with consistent messages. Review these materials yearly and revise and reissue as needed

4.3.7 Operations research, monitoring and evaluation

Generally, the goal of operations research is to provide policy makers, programme managers and other stakeholders with up-to-date information which they can use to improve their programme operations, decide between alternative courses of action, identify and take advantage of opportunities so as to find solutions to problems that limit programme effectiveness and efficiency. Owing to the large number of districts in Malawi, district-specific research and evaluation are particularly relevant in order to adapt interventions to local circumstances and learn important lessons from experiences.

The policy on operations research, monitoring and evaluation is to:

- Support and promote operations research to generate evidence for decision making and ensure that findings can be translated into effective malaria interventions;
- Ensure that operations research has clear linkages that are applicable under the prevailing programme conditions;
- Encourage involvement of multiple partners in research to optimise the utilisation of the research findings;
- Build the capacity of district health management teams and their partners to undertake district-specific research;
- Ensure adequate monitoring and evaluation of malaria control programmes and projects;
- Promote regular dissemination of research findings to all stakeholders

Research priorities for case management, presumptive intermittent treatment and chemotherapy are:

- Assessment of home treatment of malaria;
- Assessment of the role of drug revolving funds and shopkeepers in case management of malaria;

- Regular update of knowledge, attitudes and practices relating to case management;
- Participating in the identification of new first-line anti-malaria drugs to replace SP to which resistance is already around 20% in some parts of Malawi and in the development of new rapid diagnostic tests and vaccines;
- Regular assessment of the efficacy of first-line and other antimalarial drugs;
- Evaluation of the role of microscopic and rapid diagnostic tests in the management of malaria cases;
- Studying factors influencing antenatal clinic visits, including the role of TBAs;
- Study what is the best PIT regimen to prevent placental parasitaemia and low-birth-weight for pregnant women with HIV infection.

The research priorities for ITNs, IRS and other measures are:

- Evaluation of the current insecticides used for ITNs and IRS;
- Studies on malaria vector bionomics;
- Regular studies on susceptibility of vectors to insecticides in use;
- Baseline studies to determine level of KAP on the use of ITNs;
- Assessment of coverage and utilisation of ITNs.

Research priorities for other measures are:

- Mapping areas with increased seasonal malaria and determine thresholds for increased seasonal transmission;
- Evaluation of effectiveness of various IEC channels;
- Assessment of the contribution of mosquito breeding projects towards malaria prevalence.

The MOHP and partners will perform key actions to implement the policy. They will:

- Support and endorse global efforts to identify new antimalarial goods and services;
- Support and sustain malaria research capacity in Malawi through training activities (locally, regionally and internationally), international and regional scientific partnerships and increased funding;
- Ensure that operations research is an integral and relevant part of malaria and other national control programmes;

²⁶ The World Bank (1997). Health aspects of environmental assessment. Environment Assessment Source Book Update. Environment Department, July 1997, Number 18.

²⁷ GOM (1997). Guidelines for environmental impact assessment, Ministry of Forestry, Fisheries and Environmental Affairs.

- Support dialogue between all stakeholders through at least annual review meetings of research in progress, maximise the impact of resources, avoid duplication of effort and promote synergy between different activities;
- Document, disseminate and implement research findings;
- Promote and support linkages between districts and institutions that regularly conduct research;
- Establish and maintain an up-to-date database of ongoing research in malaria.

4.3.8 Environmental health impact assessment

Effective malaria control requires that many different sectors include malaria in their planning and activities and that these activities are coordinated across sectors.¹⁴ These sectors include health, education, agriculture (including food and nutrition), infrastructure and social development. Of importance are development interventions and projects such as mining, road construction, brick moulding, irrigation schemes, boreholes and leaking pipes and construction of dams. Prescribed projects that require environmental impact assessments are listed in appendix B of the guidelines for EIA in Malawi, Section 24(1) of the Environmental Management Act. Increased mosquito breeding is associated with these and similar development interventions and projects.

The policy is that the MOHP will advocate for malaria risk assessment as part of environmental health impact assessment in the development interventions and projects to identify the populations at risk disaggregated by age, gender or social status, expected impacts and mitigation measures.

By the year 2004, environmental health impact assessment guidelines (sectoral environmental impact assessment guidelines for health) should be produced and disseminated to all the agencies and institutions with projects in Appendix B of the Guidelines for Environmental Impact Assessment for Malawi.¹⁵

To implement the policy on environmental health impact assessment the GOM, through appropriate sectors, will:

- Ensure that the costs of such development interventions and projects include the cost of EIA surveys, malaria prevention and treatment and cost of any other health conditions associated with the project;
- Promote and support surveys on the environmental health impact of existing projects in Appendix B of the Guidelines for Environmental Impact Assessment for Malawi;

- Ensure that any project listed in Appendix B of the EMA start only after environmental health impact assessment has been conducted alongside EIA;
- Ensure that there is adequate representation of health experts in the EIA committees at all levels;
- Conduct periodic environmental health impact assessment of development interventions and projects;
- Review the environmental health impact assessment guidelines as shall be deemed necessary;
- Ensure that all concerned sectors receive EIA reports;
- Ensure that anyone whose work leaves water filled holes or depressions that may become Anopheline breeding sites takes measures to fill the sites in an environmentally friendly manner;
- Support district environment teams.

4.4 Malaria control in the essential health care package and sector-wide approaches

4.4.1 Introduction

Malaria control has been associated with inadequate resource allocation. The MOHP will emphasise efficient public spending in health in the context of health sector reforms, support incorporation of malaria control activities into sectors outside health and advocate for channelling savings from debt relief under the HIPC initiative towards malaria control. Further the GOM will enhance opportunities and activities in malaria control by:

- Strengthening ongoing health sector reforms, streamlining public expenditures and developing a more efficient health system;
- Emphasising community participation;
- Widening partnerships with all development partners, especially NGOs;
- Emphasising decentralisation to improve decision making, financial management and implementation of health services.

4.4.2 EHP, PRS and SWAps

An essential health care package (EHP) is a package of health services targeted towards key health problems identified as causing the bulk of avoidable deaths and diseases and being more prevalent among poorer Malawians. In Malawi malaria control efforts will be part and parcel of the EHP¹⁶, which is the mechanism for linking priority health problems and conditions to poverty reduction strategy, sector-wide approaches (SWAps) and health sector reform (HSR) in general.

¹⁶ The following conditions constitute the EHP: malaria, tuberculosis, reproductive health, nutritional deficiencies, expanded programme on immunization, acute respiratory infection, acute diarrhoeal diseases, schistosomiasis, ear conditions, eye conditions, minor injuries

The EHP is provided at a given level of the health care system supported by the necessary administrative, logistics and management systems. The decision regarding which services to offer at what levels should be driven by factors such as the availability of relevant skills, prevalence of the conditions to be addressed and intended coverage. The package relies on a functioning referral system to ensure that people receive the care they need at the lowest and most cost-effective level of the system. Thus, EHP serves five purposes: poverty reduction; ensuring equity of access to basic health services for all Malawians, a tool for priority setting, efficiency, cost-effectiveness and a basis for SWAp.

As in other sub-Saharan countries, thinking is underway in Malawi regarding the modalities for external support and how to ensure that it is used in the most effective manner. The concept of sector-wide approaches is gaining support as a means of getting partners — government, donors and other non-governmental stakeholders — to work together in order to develop and operate the systems and structures for effective and equitable health service delivery. An EHP can provide the basis for a shared vision of the health sector in terms of what should be supported with public funds, including external support. In Malawi, this process began with joint development of the National Health Plan 1999–2004 (MOHP 1999) and the Joint Implementation Plan. The SWAp can be seen as a mechanism for sectoral programming around MOHP core business of EHP service delivery and as a means of enhancing donor co-ordination and joint working. The focus will be on determining integrated human resources, management, service delivery, financing and policy development. This would be accompanied by regular joint planning and review of performance in terms of input, access and output at all levels of the health system in Malawi.

4.4.3 Health system development

Although improving people's health is a key aim of health system development, there are other aims as well, such as maintaining equity. The fundamental objectives of the health system in Malawi is to improve the health of the people, respond to their expectations and provide financial protection against costs of illhealth. Malawi, like many developing countries, is implementing changes to improve the performance of the health system. These changes include reform of the public health sector (including decentralisation, introduction of user fees and more private sector involvement), capacity building (including better availability of drugs and supplies, improved service and organisation of health facilities) and community participation. Strengthening of the health system is vital because malaria control depends on effective curative services, preventive services and health information systems. Malaria control should be integrated into the general health system.

4.4.4 Malaria control efforts as part of the EHP and SWAps

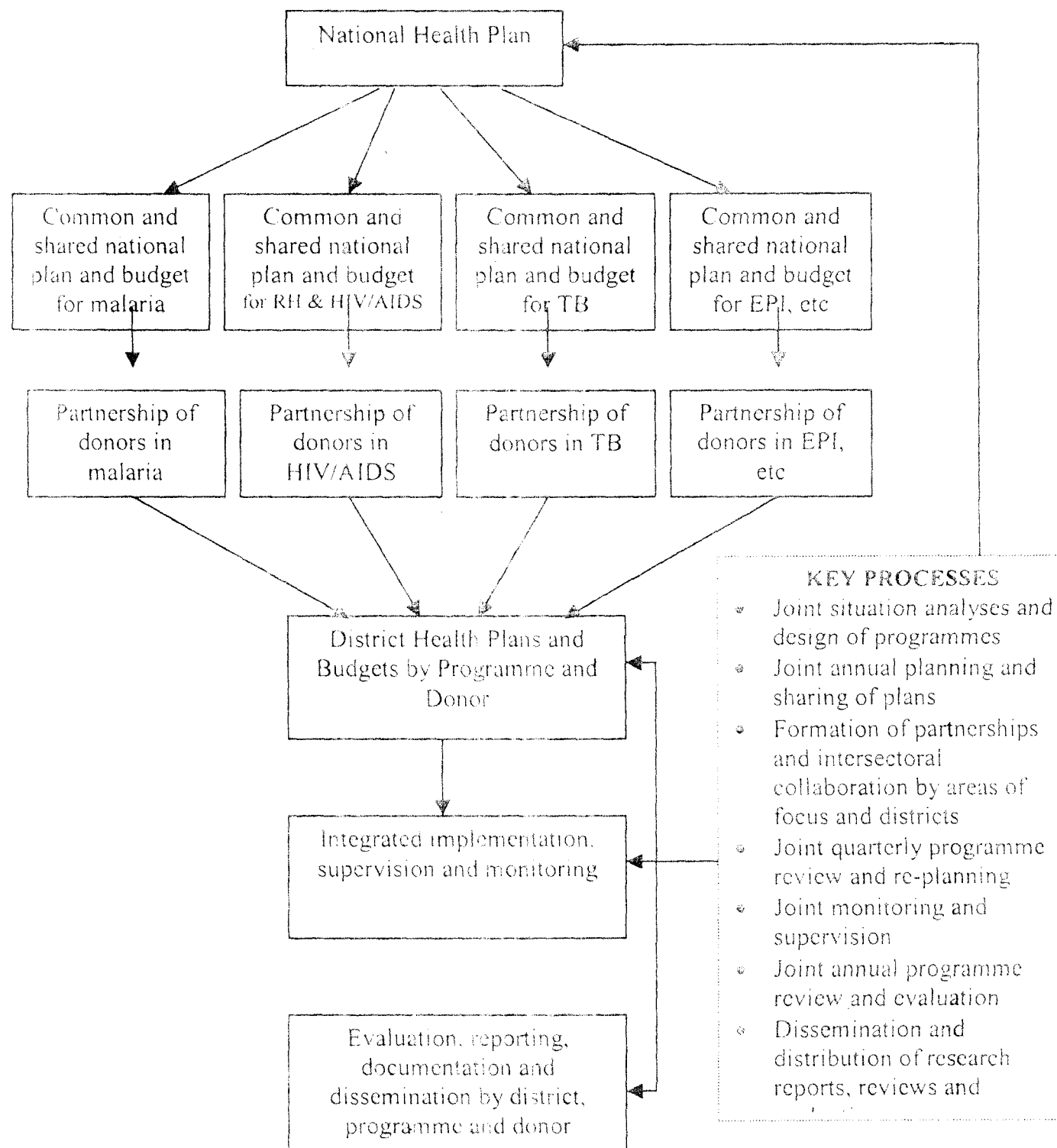
Figure 1 indicates the key outputs and processes necessary to incorporate malaria control activities into a decentralised health system in the context of EHP and SWAps in Malawi. Highlighted below are the key actions at each stage of the programme or project cycle.

Design, planning and budgeting

All health partners involved in the design of malaria control programmes and projects should undertake various activities. They should ensure that communities or potential beneficiaries of a malaria control programme identify problems and feasible solutions. This ensures community participation and ownership of programme design.

District health management teams (DHMTs) and district health technical committees should assist communities to identify problems and solutions and collate them. This key ensures that programmes are standardised at the district level, assists with job descriptions and ensures equitable resource allocation within the districts. In addition, the NMCP should collate identified problems and harmonise solutions across all districts, taking into consideration the ecoepidemiological and geographical stratification of the country. This step helps to standardise and harmonise the design of malaria interventions, including those by NGOs and the private sector.

Figure 1: Key outputs and processes in the incorporation of malaria control efforts into the EHP and SWAp in Malawi



After the programme or the project has been formulated and designed, the following key steps should be undertaken:

1. With the technical assistance and guidance from DHMTs, communities should identify activities, prioritise them and propose time frames, targets and indicators.
2. All health partners should undertake joint planning (see Figure 1).
3. Donor supported projects should be planned in close collaboration and consultation with DHMTs.
4. Costing of activities should be by level of service provision.
5. Health partners in the various districts or area of focus should share plans and budgets, disclosing what goes directly to beneficiaries.
6. Initially donor funds should support specific elements in the DHPs. Ultimately donor funds should be pooled by programme, areas of focus and districts

Programme implementation, monitoring and supervision

Various key actions are necessary for integrated implementation of malaria control activities in the context of EHP and SWAs. To enhance efficiency, equity, integration into EHP and sustainability, NMCP will provide technical support, policy direction, guidance, resource mobilisation, coordination and specialised training for programme implementation.

Hospitals will undertake case management and provide PIT through directly observed therapy with SP. They will use IEC on malaria and train of clinical staff. In addition, the hospitals should work closely with DHMTs and hold regular meetings to promote integration of services in the EHP. This arrangement will enhance efficiency and equity of health services within the district.

Similarly, health centres and rural hospitals will undertake case management provide PIT through directly observed therapy with SP and undertake IEC activities. They will refer severe malaria cases to district or central hospitals link communities to the formal health system and provide technical support to communities within their catchment areas. This arrangement will facilitate the integration of services, maintain a constant supply of antimalarial drugs and provide a means to respond in a timely manner to operational problems experienced by HSAs, TBAs and CHWs.

In addition, enhanced performance of community committees and community own resource persons (HSAs, TBAs, CHWs) will result in early and correct treatment of malaria, improved access to antimalarials, IEC, self-determination, self-reliance and enhanced acceptance of interventions, making them more likely to be effective and sustainable. Other stakeholders, such as private practitioners NGOs and traditional healers, should work in collaboration with the DHMT through the District Health Technical Committee to supplement government efforts in malaria control.

There will be supportive integrated supervision and monitoring of health services which incorporate malaria control activities. The NMCP will monitor districts to assess degree of achieving planned activities, instituted corrective measures or re-plan/re-design programmes. The DHMT will monitor all the levels of service delivery within the district. It will assess the degree of achieving planned activities and institute corrective measures. It is recommended that the DHMT should apply standardised checklists and criteria of performance for quality assurance. DHMT monitoring will make it possible to share experiences and lessons learned as well as ensuring uniformity and improvement of case management. Within the DHMT, a district disease control officer (malaria) will coordinate of malaria activities, deal with HMIS training, ensure correct management of malaria and ensure efficiency in monitoring of services.

Central and district hospitals will assess the degree to which planned activities for malaria control have been carried out and will institute corrective measures within the hospitals. Health centres and rural hospitals will monitor activities within the facility and within their catchment areas in close collaboration with the village health committees. Other stakeholders will individually assess the degree to which planned activities have been carried out, institute corrective measures and share their progress reports with the DHMT.

Research, Evaluation and Reporting

Any health partner at district level can prepare research proposals, clearly highlight the problem, budget and time frame. Until the district assembly research regulatory bodies are established, each proposal should be forwarded to the Health Research Committee at the MOHP HQ for assessment of the need for research; evaluation of the ethical soundness of the protocol; avoidance of duplications or repetitions and assessment of feasibility. Once these are established, the district assembly research regulatory bodies will approve research proposals in collaboration with the research committee at the MOHP HQ.

The HRC should notify the districts about approved proposals in order to raise awareness and enable districts to facilitate the research. The health partner submitting the proposal will then proceed with the collection of data for analysis and report writing. As many health partners as possible should participate in the implementation of the research, as this will enhance later translation of the research findings into policy and practice. Researchers and the donors supporting the research should facilitate systematic dissemination of research findings in close collaboration with the DHMT and the NMCP. This will optimise the utilisation of the findings.

There should be regular monitoring of research operations by various partners across districts and areas of focus. This will inform the NMCP and the DHMTs about the ongoing malaria research. Research findings should be reported to all stakeholders.

Human resources

Past experience indicates that development efforts failed because of lack of attention to human and institutional capabilities. Capital investments will not be productive unless matching human and institutional capabilities are available. Presently, human resource constraints limit the capacity to implement available malaria control measures. The Government of Malawi is concerned about expanding or upgrading human and institutional capabilities in all sectors for malaria control in the context of RBM. Hence, the GOM will undertake capacity building in human resource development by training health workers, offering in-service training of health staff to update their knowledge, and retrain staff to provide necessary skills. It will also ensure that staff are motivated by an appropriate incentive package, (working conditions, salary and career prospects), are adequately supervised and supported in their activities and are able to access the resources that they need.

Community own resource persons (VHC members, TBAs, CHWs, retired professionals) would ensure community involvement in rendering health services and bring the treatment closer to the people. Because they know the people better they can provide better service and should participate in identification and prioritisation of health needs and development solutions. Staff (medical assistant; health assistant; nurses, HSAs) at the health centres will link DHMT, and communities as well as provide community outreach services at health post level. Where possible, the health post should be staffed to provide full-time services in collaboration with the VHC.

The DHMT will provide technical support to the district assembly through the district executive committee, ensure continuity of services resulting from staff changes, coordinate health services, ensure provision of comprehensive range of health services to the community, provides technical links between HCs and central hospitals and provide administrative links between district and the ministry HQ. In addition, it will provide multi-skilled workers capable of coordinating several programmes. This will reduce the number of technical staff and supervisory visits as well as enhance integration of services.

CHAM, NGOs and private practitioners should provide expertise to supplement the skills of DHMT members and jointly provide resources for health activities. The central hospitals will provide technical back up to health centres and rural hospitals, with periodic specialist visits to district hospitals. Ministry HQ will provide technical back up to the districts, e.g., epidemiologists etc, as well as strengthen the technical capacity of DHMTs to reduce demand for technical back up. The MOHP will strengthen the capacity of the NMCP at the central level to give malaria a high profile, spearhead the RBM initiative and minimise interruption of programme operations following staff turnover.

Health and management information system

Information systems are vital to any malaria control programme as they are needed to plan control measures, identify high-risk groups, monitor and evaluate progress and detect or predict epidemics. Malaria data and information will be integrated into the general health system and decentralised so that control activities can be adapted to the local situation. The following activities will take place:

- The Ministry of Health at central level will provide technical support in policy matters, quality control in data management and leadership in the development of an integrated HMIS in line with the EHP;
- All levels of the health systems will be responsible for data compilation, analysis, planning, research and surveillance of diseases;
- HMIS will be used for planning, implementation, monitoring and evaluation of malaria control at national, district hospitals, HC, rural hospitals and community levels.

Programme organisation and management

The MOHP HQ will be responsible for policy formulation and enforcement, resource mobilisation, quality control/assurances in collaboration with the districts and resource mobilisation. The NMCP will coordinate the implementation, research, monitoring and evaluation of malaria control activities. An EHP technical committee under the MOHP/Donor implementation forum will replace the RBM task force and NMCC.

²¹ This has already been developed and presented as the Roll Back Malaria Five-year Strategic Plan.

²² Goodman E, Coleman P, Mills A (2000). *Economic analysis of malaria control in Sub-Saharan Africa*. Global Forum for Health Research. World Health Organization, Geneva, Switzerland.

²³ The tools and strategies for success in disease control (Draft)
WHO, UNICEF, UNAIDS, WB

With the assistance of the District Disease Control Coordinator (Malaria), the DHMT will be responsible for coordinating EHP services including malaria. In addition, the District Health Technical Committee will facilitate the integration of activities; sharing of ideas and experiences; incorporation of CHAM and private practitioners into the District Health Plan and local resource mobilisation. Community based organisations will facilitate community mobilisation, act as entry points to communities and do local resource mobilisation.

The Health Centre focal point person (not necessarily the person in-charge) will supervise implementation of malaria control activities in collaboration with HSAs who form the main link between health workers and the community. They enhance community mobilisation and provide give health education.

Institutional framework, partnerships and resource mobilisation

MOHP is aware that the challenge of malaria control is immense and no single institution can hope to meet that challenge alone. Being cognisant of the shortfall in funding in malaria activities, the MOHP, in collaboration with other development partners (WHO, World Bank, UNICEF, European Union, NGOs, bilateral agencies, the private sector, etc), mobilises external resources to address malaria control issues. Annex 1 shows the responsibilities of key stakeholders in malaria control in Malawi.

In line with the concept of RBM, there will be Round Table meetings at MOHP HQ in which donors indicate which aspects of the National Health Plan and District Health Plans they are going to support. Regular joint implementation plan meetings to enhance resource mobilisation and coordination of efforts in support of the EHP and SWAs. DHMTs and hospital advisory committees will lobby for support from all sources. In addition, District Development Committees, District Executive Committees, Area Development Committees and Village Development Committees will actively participate in political support, mobilise of local resources and provide overall guidance to malaria control activities at their respective levels.

Operational targets

By the year 2003, the following will have been achieved:

- All national stakeholders in malaria control will adopt one agreed national malaria plan and budget¹⁷, clearly indicating the activities and districts they support.

- A framework for integrating malaria into district health plans in the context of EHP and SWAps will be developed in collaboration with all stakeholders, taking into consideration some of the key processes shown in Figure 1.

By the year 2005, the following will have been achieved:

- All districts will incorporate malaria control activities into their district health plans (DHPs) and District Health Budgets (DHBs). These plans and budgets will relate to hospital-based health services, health centre dispensary and community-based health services and the conditions identified in the EHP.
- All donors will re-define their malaria support efforts in line with DHPs and district malaria plans of action. This will involve joint review and planning by district and areas of focus, e.g., case management, presumptive intermittent treatment, ITNs, etc.
- A framework for integrated implementation, supervision and monitoring will be developed, covering all the elements in the EHP.

5.0 CONCLUSION

For a long time malaria has been accepted as part of life in Malawi. The impact of malaria in terms of morbidity, mortality, costs of care and drugs, and work loss has been overwhelming.¹⁸ Malaria has significantly retarded socioeconomic development in Malawi. It is now time for Malawians to reject the notion that malaria is an inevitable part of life which cannot be overcome.

We now have the tools,¹⁹ the will and the approaches to fight malaria in Malawi. What is required is strong commitment from all Malawian people, government agencies and institutions to reject the notion that malaria is inevitable and instead embrace the aspirations set out in this National Malaria Policy. Malaria is everybody's business and together all can respond to the challenge to protect all the people and the country.

This policy will be reviewed and revised every three years to accommodate changes in the malaria situation, take note of progress in implementation and consider emerging research findings and lessons learned.

ANNEX

ANNEX: Roles and responsibilities of key stakeholders in malaria control

Role of Government

- Define long-term national malaria strategies capable of taking current issues into account, predicting and preventing emerging problems;
- Promote a high level of advocacy in order to create awareness of the socioeconomic impact and magnitude of malaria and involve all socioeconomic sectors;
- Make the necessary commitments regarding funding of control activities by mobilising local financial and human resources to allocate more funds to malaria control;
- Undertake donor coordination for more dialogue on health sector priorities including malaria. For malaria, this includes establishing and regularly updating of “an inventory of who is doing what and where for malaria control in Malawi.” The Government of Malawi should then direct donor efforts by key areas of malaria intervention and geographical areas to ensure the equity and scaling up of malaria control efforts.

Role of communities

- Participate in identification and prioritisation of health needs in malaria prevention treatment and vector control mainly through the District Assemblies, Health Facility Management Committees and Village Health Committees;
- Mobilise communities to form drug revolving funds and ITN committees;
- Sensitise community to create awareness of malaria prevention, management and control.

Role of multilateral and bilateral agencies

- Make their commitment to malaria at global, regional and national levels known to the Government of Malawi and set rational time-planning horizons;
- Facilitate resource mobilisation and explore innovative ways of support;
- Ensure multi-sectoral collaboration, especially in development projects in agriculture, infrastructure, water and sanitation;
- Strengthen human development activities on the basis of joint programming and inter-sectoral action;
- In a synergistic manner, share information, maintain momentum, sustain efforts and inputs as well as monitor progress.

Role of non-governmental organisations and the private sector

- Work closely with communities adopt an integrated approach to health development, encourage social mobilisation and implement of community-based malaria control programmes;
- Encourage, support and participate in the development, availability and distribution of antimalarial goods (drugs, materials and insecticides).