ZIMBABWE NATIONAL MALARIA PREVENTION AND CONTROL POLICY

MOHCW

August 2010

NMCP

MINISTRY OF HEALTH AND CHILD WELFARE

FOREWORD

Malaria is a major public health problem in Zimbabwe, alongside such diseases as tuberculosis and HIV and AIDS. About 50% of the country's population is at risk of contracting malaria annually. Malaria prevention and control activities include the use of a combination of interventions such as vector control (indoor residual house spraying, use of insecticidal mosquito nets, larviciding, etc), case management (diagnosis and treatment of malaria), intermittent presumptive treatment in pregnancy (IPTp), epidemic preparedness and response, operational research, surveillance, monitoring and evaluation and behaviour change communication. This policy document aims to guide the implementation of all the malaria prevention and control strategies used in Zimbabwe. It is my sincere hope that this Policy document will assist all stakeholders involved in malaria prevention and control activities to understand the national focus, the standards, protocols and regulations to be followed in the various interventions employed in the country. I therefore wish to recommend that all malaria control programme implementers, both government and private, partners and stakeholders use this document for guidance in matters of malaria prevention and control in Zimbabwe.

Dr H. Madzorera
MINISTER OF HEALTH AND CHILD WELFARE

Acknowledgements

The Ministry of Health and Child Welfare wishes to thank the NMCP for leading the process of formulating the National Malaria Prevention and Control policy. Special acknowledgement goes to the following people for their valuable inputs:

Dr. G. Mhlanga-	Principal Director Preventive Services-MOHCW
Dr. D. Dhlakama	Principal Director Policy,Planning Monitoring and Evaluation- MOHCW
Dr. J. Mberikunashe	Malaria Programme Manager - MOHCW
Dr. S. Mashaire	Case Management Focal Point - MOHCW
Dr. L. Charimari	World Health Organization
Mr. J. Pasipamire	World Health Organization
Dr. J. Govere	World Health Organization
Mr. S Sande	Vector Control Officer - MOHCW
Mrs. F. Manjoro	Information, Education and Communication Officer - MOHCW
Mr. A. Tangwena	Monitoring and Evaluation Officer - MOHCW

LIST OF ACRONYMS

ACT	Artemisinin Combination Therapy
AIDS	Acquired Immuno Deficiency Syndrome
BCC	Behavoiur Change Communication
DDT	Dichloro- Diphenol - Trichloroethane
DEHO	District Environmental Health Officer
HIV	Human Immune Virus
IDSR	Integrated Disease Surveillance and Response
IEC	Information Education and Communication
IPTp	Intermittent Preventive Treatment in Pregnancy
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
LLIN	Long Lasting Insecticidal Treated Net
MOHCW	Ministry of Health and Child Welfare
NMCP	National Malaria Control Programme
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
SADC	Southern Africa Development Committee
SOPs	Standard Operating Procedures
SP	Sulphadoxine - Pyrimethamine

TABLE OF CONTENTS

INTRODUCTION

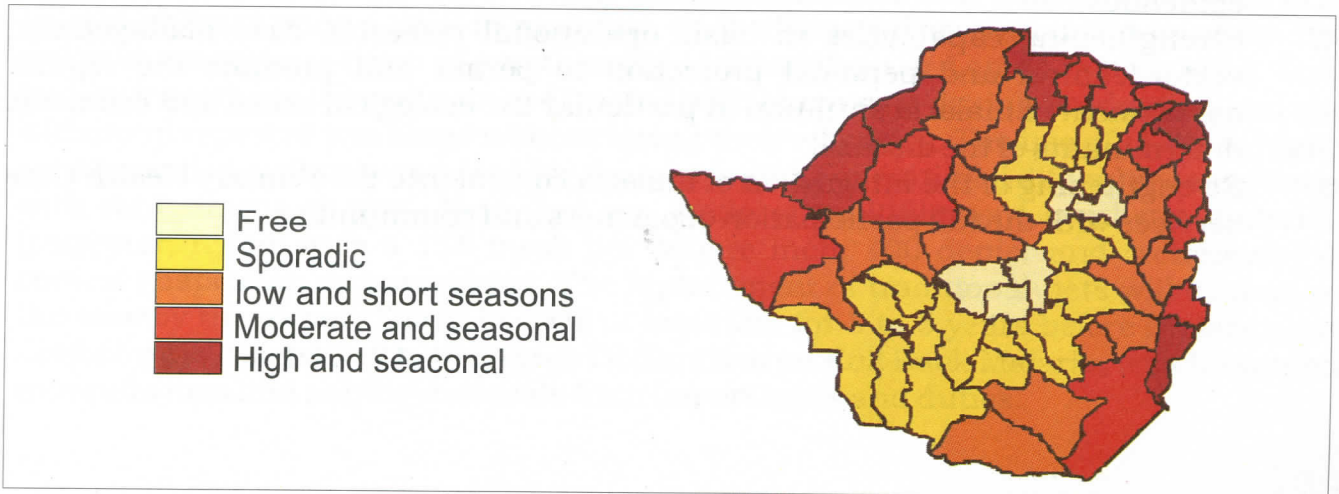
Malaria transmission in Zimbabwe is generally unstable, with a few high stable transmission foci along the northern and eastern borders. About 50% of the country's population resides in rural, malaria endemic areas, and are at risk of developing the disease. All age groups are at risk of malaria because transmission is unstable. About two million people suffer from this preventable disease which is the third leading cause of outpatient attendance in Zimbabwe, coming after HIV and AIDS and tuberculosis, across all age groups. Transmission intensity varies among the 51 malaria affected districts. There are 62 rural districts in the country. Annual malaria transmission starts from November with a peak from mid-February through to April/May. Most of 45 malarias districts are in the low lying areas of the country characterized with high temperatures (up to 39 degrees Celsius). During the peak malaria transmission season, sporadic epidemics are reported in the high burdened districts. The population affected varies from year to year depending on the performance and coverages of the various malaria prevention and control interventions carried out by the National Malaria Control Program.

SITUATION ANALYSIS (MALARIA PROFILE IN ZIMBABWE)

Malaria Transmission
The predominant malaria parasite in Zimbabwe is Plasmodium falciparum which accounts for 98% of all reported malaria cases whilst Plasmodium ovale and P. malariae account for the remainder. Anopheles arabiensis is the main vector for malaria transmission.
Factors Influencing Malaria Transmission –Climate, Immunity.

1. Human factors e.g immunity, age etc
2. Type of Parasite --Plasmodium falciparum- causes the most severe malaria and Deaths
3. Vector- > 40 species of anopheline mosquito transmit malaria, and of these Anopheles gambiae is the most competent, most efficient and most difficult to control.
4. Environmental factors – rainfall, temperature, humidity etc
5. Differences In Socio-economic Development- poverty, quality of houses, access to health care etc.

FIG1: Distribution of Malaria Burden In Zimbabwe



MALARIA PREVENTION AND CONTROL POLICY IN ZIMBABWE

Purpose, Goal and Objectives of the Policy Purpose. The purpose of this policy is to ensure standardized implementation of the malaria prevention and control strategies in Zimbabwe.

Goal

The goal of this policy is to provide a national framework that guides the implementation of the malaria prevention and control strategies which aim at reducing malaria morbidity, mortality, social and economic losses.

Objectives

1. To build capacity at national, provincial and district levels for the planning, implementation, monitoring and evaluation of malaria control activities.

2. To strengthen malaria vector control interventions which are affordable and sustainable with particular emphasis on indoor residual spraying of households and use of insecticide treated mosquito nets.

3. To promote the use of personal protection measures among vulnerable population groups (children under five years, pregnant women and people with compromised immunity).

4. To improve access to quality case diagnosis and management services

5. To promote the implementation of effective IEC/BCC strategies.

POLICY STRATEGIES

The policy is consistent with malaria control approaches as recommended within the Global Malaria Control Strategy, which aims at reducing malaria morbidity, mortality, social and economic losses due to the disease through the following strategies

1. Use of selective, sustainable and effective preventive measures such as vector control (Indoor Residual House Spraying-IRS, Long Lasting Insecticidal Nets-LLINs, Larviciding).
2. Providing early diagnosis and prompt treatment of malaria cases
3. Strengthening malaria surveillance systems for early detection and control of epidemics
4. Strengthening capabilities in basic operational research, case management, vector control and personal protection to permit and promote the regular assessment of malaria situation in particular the ecological social and economic determinants of the disease.
5. Strengthening of the integration of malaria control into the Primary Health Care services with the full participation of partners and communities.

RECOMMENDED MALARIA PREVENTION AND CONTROL INTERVENTIONS

I VECTOR CONTROL

A. Indoor Residual Spraying of Households (IRS)

Indoor Residual Spraying of Households is a major vector control intervention in Zimbabwe. The country adopts selective residual spraying of houses and shall maintain more than 85% coverage in order to achieve significant impact of reducing the malaria transmission. The spraying activities begin from August each year and go on throughout the malaria season which starts from November through to the end of April. The ministry will be responsible for spraying the rural areas outside of municipal boundaries. In urban areas this responsibility falls under the respective local authorities.

Geographic reconnaissance provides knowledge on the type of structures, distribution of health facilities and the availability of breeding sites in an area, which is a target for selective spraying.

Dichloro-Diphenyl-Trichloroethane (DDT) 75% WP is the insecticide of choice in those areas where commercial farming activities is not practiced, whilst Pyrethroids (either Deltamethrin or Lambda-cyhalothrin) are used in the commercial farming areas. Chemicals or insecticides which are used in Zimbabwe should have undergone successful field trials or evaluation by the National Institute of Health Research, and must be registered with the Ministry of Agriculture.

Quality Control

The quality of the spraying operation and resistance of insecticides on sprayed surfaces should be verified regularly through a sample bioassay test following the completion of the spraying operation. Mosquito vector surveillance should provide information on changes of vector density, vector behavior and vector composition.

Monitoring Resistance

The development of resistance of the local vectors against commonly used insecticides should be monitored through a regular susceptibility study, preferably on an annual basis.B. Long Lasting Insecticidal Nets/Insecticide Treated Nets

Bed Nets that are treated with insecticides can provide protection to individusls and families and may reduce malaria transmission in the community when used on a large scale.

There are two major types of nets recommended for use in Zimbabwe and these are, insecticide treated nets (ITNs) and long-lasting insecticide nets (LLINs). ITNs need to be treated at least once a year to maintain their efficacy. The insecticide used for this purpose are various types of pyretheroids (deltamethrin or Lamda-cyhalothrin). Long lasting insecticide treated nets are treated with chemicals during production and can withstand repeated washings without losing their efficacies. The use of LLINs is highly recommended as they greatly reduce the cost and the operational difficulties associated with retreatment of nets. Nets that are made of multifilament synthetic materials (polyester, nylon) with a 156 mesh per square inch, 100 denier and rectangular or conical shapes are recommended. The replacement of traditional nets will depend on the care by the owner. The LLINs will at least last for 3 to 5 years before replacement. Zimbabwe is a signatory to the Abuja Declaration on Roll Back Malaria, which exempts mosquito nets and netting materials from import taxes and duties.

C. Chemical Larval Control

This method is very useful in situations where the vector breeding sites are limited and the application of larvicides, could contribute significantly to reduction in vector population. The ideal period for larviciding is before the rain season, when the vector breeding habitats are relatively few and localized. All chemicals to be used in the country should be is registered by the relevant authorities, and can be safely added to water bodies which are also used for animal and human consumption.

D. Biological Larval Control

This is a new method of larval control which has been evaluated in the country and has proven to be effective and acceptable by communities. The method involves the use natural predators and enemies of mosquito larvae, which include larvivorous fish, and bacteria with larvicidides such as Bacillus thuringiensis. E. Personal Protection
These are measures that reduce malaria infection through reduction of man-vector contact. These include use of protective clothing, mosquito repellents and screening of doors and windows, and use of insecticide treated materials (ITMs) such as curtains.

II CASE MANAGEMENT

This is one malaria control strategy aimed at ensuring that those people who are infected with malaria are correctly diagnosed and consequently managed appropriately, using standard and effective approved methods and tools. Zimbabwe uses methods and tools that are in line with WHO recommendations and guidelines as updated from time to time. The current policy states that all suspected malaria cases or patients should have parasitological confirmation done through either a malaria Rapid Diagnostic Test (RDT) or microscopy, before receiving an anti-malarial. The only exceptional cases to this requirement are in the event of a confirmed malaria outbreak or in the unlikely event of the health facility having run out of testing kits. The Malaria Rapid Diagnostic Kits to be used in the country should have under-gone successful laboratory and field evaluation by the National Medical Reference Laboratory in conjunction with the relevant authorities. The anti-malarials used in the country should also satisfy the registration requirements of the Medicine Control Authority of Zimbabwe (MCAZ). Artemesinin monotherapies are not recommended for use in Zimbabwe. The first line, second line treatment and regimens for severe malaria will be revised from time to time as guided by the Therapeutic Efficacy Testing results on resistance levels or patterns, as well as from findings from the pharmacovigilance monitoring sites.

Definition
This refers to a malaria case that can take treatment orally and can be treated as an outpatient.

TABLE1: FIRST LINE THERAPY – ARTEMETHER-LUMEFANTRINE (COARTEMETHER)

WEIGHT IN KILOGRAMS	AGE IN YEARS	DOSAGE (No. Of Tablets)					
		DAY ONE		DAY TWO		DAY THREE	
		STAT DOSE	AFTER 8 HOURS	A.M.	P.M.	A.M.	P.M.
5 – 14	<3	1	1	1	1	1	1
15 – 24	⩾3 – 8	2	2	2	2	2	2
25 – 34	⩾9 – 14	3	3	3	3	3	3
35+ and ADULTS	>14	4	4	4	4	4	4

NB for children weighing below 5kg use quinine (see BELOW)
1. Coartemether is taken twice a day for 3 days (6 doses) 2. If the stat dose of Coartemether is vomited within 30 minutes repeat the dose.

3. If vomiting is persistent treat as severe/complicated malaria.
4. If no improvement within 48 hours, change to oral quinine (see BELOW).
5. To ensure compliance it is desirable to give the STAT dose as Directly Observed Therapy (DOT).

TABLE 2: SECOND LINE THERAPY - ORAL QUININE

ADULTS			
DRUG	**DOSE**	**Frequency**	**Duration**
QUININE TABLETS	**600mg**	Every 8 hours	7 days
DOXYCYCLINE* **OR** **CLINDAMYCIN**	**100mg** **300mg**	Once daily Every 6 hours	7 days 7 days
CHILDREN			
QUININE	**10mg** per kg	every 8 hours	7days

NB:

1. Doxycycline is contraindicated in children below 8 years and in pregnancy and these patients should complete the 7 day quinine course.
2. Clindamycin should be used in place of doxycycline in pregnant women.

Complicated/Severe Malaria

Definition

Severe malaria is characterized by vital organ dysfunction or malaria that presents with life threatening complication(s). Any case diagnosed as severe malaria should be treated as an inpatient.

TABLE3: TREATMENT

CHILDREN IV DOSE	ADULTS IV DOSE
LOADING Quinine 20mg/kg body weight diluted in 10ml/kg normal saline or 5% Dextrose Water over 4 hours	**LOADING** Quinine 20mg/kg body weight diluted in 500 ml normal saline or 5% Dextrose Water over 4 hours
AFTER 8 HOURS Quinine 10mg/kg body weight diluted in 10ml/kg normal saline or 5% Dextrose Water over 4 hours	**AFTER 8 HOURS** Quinine 10mg/kg body weight diluted in 500 ml normal saline or 5% Dextrose Water over 4 hours
REPEAT DOSES Repeat quinine 10mg/kg body weight every 8 hours- each dose g iven over 4 hours - until patient able to take orally	**REPEAT DOSES** Repeat quinine 10mg/kg body weight every 8 hours - each dose given over 4 hours - until patient able to take orally

NB Monitoring of hypoglycaemia should be done 4 hourly and managed appropriately.

If blood sugar is less than 4mmol/litre, GIVE a bolus dose of 20mls of 50% dextrose (adults); for
Children, Give 1 ml of 25% dextrose/kg body weight (dilute 1part 50% dextrose with 1 part water for injection)

PARENTERAL QUININE: PRE-REFERRAL TREATMENT

ALL severe and complicated malaria cases should be given IM Quinine at RHC before referral to hospital.

1. IM Quinine Loading Dose - 10mg per Kg Body Weight every 4 hours x 3 Doses then 10mg/kg IM every 8hours.
2. IV Quinine Loading Dose - 20mg per Kg Body Weight over 4 hours (Maximum Dose 1200mg) then 10mg/kg 8 hourly IV.
3. Do not use loading dose of quinine if patient has taken quinine in the preceding 24-48 hours

III INTERMITTENT PREVENTIVE/PRESUMPTIVE TREATMENT OF MALARIA IN PREGANCY (IPTp)

The risk of severe or fatal malaria is greatest in areas of unstable transmission and can cause maternal death, abortion, still birth, premature delivery and low birth weight in infants. In Zimbabwe Sulfadoxine/Pyrimethamine (SP) is recommended for IPTp. Only pregnant women who reside in the moderate to high transmission areas should be given IPTp. Three doses of SP should be given to a pregnant woman, the first at 16 weeks or after quickening, the second at 26-28 weeks, and the third between 34-36 weeks of gestation. The doses should be taken as Directly Observed Treatment (DOTS), i.e. the tablets should be taken or swallowed under the direct supervision of the health worker. The doses of SP should be given at least four weeks apart. HIV positive women on Cotrimoxazole prophylaxis should not be given SP as they are already protected by the Cotrimoxazole, and also as a way of avoiding sulfur toxicity.

TABLE 4

Schedule for Intermittent Presumptive Treatment with Sulfadoxine/Pyrimethamine

Gestation Period	16 weeks/after quickening	26-28 weeks	34-36 weeks
Dosage	3 tablets	3 tablets	3 tablets

IV NON-IMMUNE TRAVELLERS

Travelers to malaria endemic areas are urged to use protective measures such as personal protective interventions such as mosquito repellents, LLINs and other Insecticide Treated Materials. Dapsone and Pyrimethamine (Malasone) can be used by travellers from non-endemic to endemic areas.

V BEHAVIOUR CHANGE COMMUNICATION AND ADVOCACY

Behaviour Change Communication (BCC) is an approach that is used to support individuals and communities in adopting and maintaining positive behaviours. An effective BCC strategy will foster adoption of positive malaria prevention and control practices. Through BCC, the NMCP will mobilize all sectors of society to promote malaria prevention and control strategies and increase adoption of positive behaviours through the use of mass media and audio visual materials in accordance with the Ministry of Health and Child Welfare policy framework.

VI EPIDEMIC PREPAREDNESS AND RESPONSE (EPR)

The ability to rapidly detect, prevent and control epidemics is an essential component of malaria control. The calculation of thresholds based on weekly surveillance data for

malaria in the epidemic detection is expected to provide early warning for better preparedness and timely response at district and health facility levels. The ministry expects all malaria epidemics to be detected and controlled within two weeks of onset.

Definition of Malaria Epidemic

The number of malaria cases for a given week in an area exceeding the mean plus 1.5 Standard Deviation number of cases for the same week in a five years data set for that particular area consititutes a malaria epidemic.

Forecasting

This is done by analyzing weather data and forecasting favourable conditions for malaria transmission. The most important indicators used for forecasting are high rainfall, humidity and temperature. Population movements from low malaria risk areas to high transmission areas are also associated with epidemics.

Early Detection

The readily available and operational feasible method for detecting malaria epidemics is the weekly monitoring for morbidity and mortality data from health facilities. As malaria transmission varies from place to place, the best level for monitoring the occurrence of malaria epidemics is the health facility. As such the training of health workers in IDSR is very pertinent.

Preparedness

This aspect demands proper planning with respect to the number and category of health personnel for epidemic response, financial resources for epidemic control activities, sufficient stocks of anti-malarial medicines, medical supplies and insecticides, field equipment and vehicles. The buffer stock of medicines, medical supplies and insecticides should contribute between 25- 30% of the annual requirement.

Response

In order to be able to detect and respond timely to malaria outbreaks and epidemics, each province and district is required to have an Epidemic Preparedness and Response (EPR) team as well as an EPR Plan in place and functional. Once an epidemic is detected the data should be further disaggregated by village in order to identify the specific areas that are affected by the epidemic. The EPR team should be alerted and move in to control the epidemic using the recommended approaches such as focal IRS, ITN distribution and case management. Communication with the district, province and national levels should be enhanced and the relevant support given.

TABLE 5: POLICY IMPLEMENTATION FRAMEWORK OR ARRANGEMENTS

1.CASE MANAGEMENT OF MALARIA					
OUTPUT	PERFORMANCE INDICATORS	**ACTIVITIES**	**NATIONAL ROLE**	**PROVINCIAL ROLE**	**DISTRICT ROLE**
1) Community Home Management of Malaria (HMM) Operationalised	- HMM Guidelines and Training Manuals available at all levels - No. of CBHW trained in HMM . - Availability of a Consolidated list of Best Practices - Availability of resources for HMM program	- Revise, improve, disseminate and Implement HMM guidelines and discharge plans. - Make available HMM guidelines and training manuals for Community Based Health Workers (CBHW). - Consolidate and share best practices in HMM. - Scale up the training of CBHW in HMM.	-Delisting of ACTs to home management -Revise, improve, disseminate and implement HMM guidelines and training manuals. - Make available HMM guidelines and training manuals to all levels of care and stakeholders. - Consolidate and share best practices in HMM. -Train of trainers in HMM skills.	- Participate in revision, improvement, dissemination and implementation of HMM guidelines and training manuals. -Consolidate and share best practices in HMM. - Facilitate the training of community volunteers in HMM. - Support and supervise CBHW	-Participate in revision, improvement, dissemination and implementation of HMM guidelines and training manuals. -Training of CBHW in the management of malaria. -Consolidate and share best practices in HMM. -Support and supervise CBHW

OUTPUT	PERFORMANCE INDICATORS	ACTIVITIES	NATIONAL ROLE	PROVINCIAL ROLE	DISTRICT ROLE
2. Malaria Case Management	- Number of health workers trained in Case Management. - Number of Health facilities with Adequate Malaria drugs Guidelines and Policies on Case management produced Availability of anti-malaria drugs in the country - Number of people with malaria cases receiving ACT	- National Level Training of trainers on malaria case management - Procurement of Drugs and sundries. - Development of Policies, guidelines, treatment protocols and training manuals. - Ensuring availability of malaria drugs and related provisions and that stakeholders know where to find them. - Hold sensitization meetings - Malaria Case Management audit .	- Facilitate the training health of workers on Malaria Case Management. -Operarionalise policy on malaria case Management. - Ensuring availability of malaria drugs -Sensitization of stakeholders. through meetings. -Case management Audit -Drug efficacy monitoring -Monitor and evaluate malaria case management	-Training health workers on malaria case management. - Operarionalise policy on malaria case management and guidelines. -Ensuring availability of malaria drugs and related provisions Sensitization of Stakeholders -.Drug efficacy monitoring -Management of malaria cases	-Training health workers on malaria case management. - Ensuring availability of malaria drugs and related provisions - Sensitization of stakeholders. -.Drug efficacy monitoring -Treatment of malaria cases

2. ADVOCACY,SOCIAL MOBILISATION (SM) AND BEHAVIOUR CHANGE COMMUNICATION (BCC)

OUTPUT	PERFORMANCE INDICATORS	ACTIVITIES	NATIONAL ROLE	PROVINCIAL ROLE	DISTRICT ROLE
1) Awareness campaigns and events carried out and materials distributed about Malaria transmission and prevention	Availability at all levels of IEC material including Bill Boards - Number of Malaria IEC and promotional materials produced and distributed - Availability of Malaria participatory tools - Number of health workers trained in behavioral change strategies - Availability of Malaria BCC implementation Guidelines - Malaria Events Commemorated -Functional Community Health Committees/Teams - Monitoring and evaluation reports - Support and supervision report	- Development of Malaria Communication Strategy (MCS). - Development of MCS implementation guidelinnes - Reviewing, Designing, production and distribution of Malaria IEC and promotional materials -Development of Malaria participatory tools - Mobilize and encourage politicians, traditional and community leaders to disseminate information on Malaria during their meetings and rallies. - Mobilizing resources for the malaria prevention. and control. Training of trainers in Participatory methodologies. - Monitor and evaluate programmes - Conduct support and supervision - Commemoration of Malaria Events	- Reviewing malaria communication strategy. - Development of MCS implementation guidelines. - Mobilize and encourage politicians, traditional and community leaders to Disseminate malaria Information during their meetings and rallies. - Strengthen multi -sectoral approach e.g. Tradition, church, social clubs, and pvt. Sector, Government Ministries, NGOs, and UN organisations. - Dissemination of information on Malaria policies - Mobilizing resources for Malaria prevention and control. - Training of trainers on Participatory methodologies Holding commemoration events - Advocacy, BCC and SM support programme at all levels - Facilitate the identification of BCC needs of the communities. - Monitoring and evaluating BCC programmes. - Contact provincial support and supervision.	- Participate in Reviewing malaria communication Strategy and development of the MCS implementation guidelines. - Mobilize and encourage politicians, traditional and community leaders and other stakeholders to disseminate malaria information during their meetings and rallies. - Strengthen multi-sectoral approach e.g. Tradition, church, social clubs, and pvt. Sector, schools etc. - Dissemination of information on Malaria policies - Mobilizing resources for prevention and control of Malaria. -Training of trainers on Participatory methodologies -Holding commemoration events - Support for Advocacy Social mobilisation and BCC programme at district level - Conduct BCC needs assessment for the communities. - Carrying out support and Supervision visits.	- Participate in Reviewing malaria communication strategy and development of MCS implementation guidelines. - Carrying out BCC activities - Dissemination of information on Malaria policies - Mobilizing local resources for malaria prevention and control. -Training of CBHW on Participatory methodologies -Holding Malaria commemoration events -Training of Ward Health Teams - Support for BCC programme at ward/RHC - Participate during the BCC needs assessment. - Monitor the implementation of Programmes by the WHT.

3. NATIONAL VECTOR CONTROL PROGRAMME

OUTPUT	PERFORMANCE INDICATORS	ACTIVITIES	NATIONAL ROLE	PROVINCIAL ROLE	DISTRICT ROLE
1) ITN Promotion.	-Proportion of households that have at least 3 LLINs -Availability of a mechanism for implementation of the ITN activity -Availability of guidelines to address ITN needs of the community at large	-Review ITN Policy and Guidelines -Mobilize resources for ITN Promotion Procurement and distribution of LLINs -Conduct an evaluation of the ITN programme in collaboration with ITN working group -Monitor activities put in place to address ITN needs of the vulnerable groups - Conduct national level training Coordinate training of health workers	-Review ITN Policy and guidelines -Develop mechanism for implementation of the ITN support in high burden districts -Facilitate training in ITN Management -Write up proposals for funding Develop National Plan of action for ITN promotion -Monitor the ITN promotion - Conduct an evaluation of the ITN project in districts -Train district WH Teams in Participatory Rapid Communication Actions (PRCA) -Develop a procurement and distribution plan for inputs for projects Participate in the development distribution and use of guidelines	-Participate in Malaria management and meetings. -Implement and monitor ITN promotion -Write up proposals for funding -Strengthen community participation in Malaria control programme --Conduct t mini community surveys -Participate in the training courses -Distribute inputs for ITN programme -Monitor the performance of community ITN project - Participate in the development distribution and use of guidelines Conduct training of health workers	Participate in Malaria management and meetings. -Implement and monitor ITN promotion --Strengthen community participation in Malaria control programme -Monitoring and evaluation activities -Distribute inputs for ITN programme - Conduct training of health workers in ITN promotion Conduct bioassays

OUTPUT	PERFORMANCE INDICATORS	ACTIVITIES	NATIONAL ROLE	PROVINCIAL ROLE	DISTRICT ROLE
2) Indoor Residual Spraying	Proportion of the population protected by IRS Number of wards covered by IRS	-Development of Policies and guidelines on IRS Review Spraying Guidelines -Develop Training manuals for IRS programme -Stratification of Country -IRS Mapping of country -Procurement and distribution of Insecticide -Mobilization of IRS Resources -Monitoring and evaluation of IRS programme -Conducting Insecticide Resistance monitoring -Coordinate training of health workers	-Participate in development of training guidelines -Estimation of IRS requirements -Procurement of Camping equipment, provisions and protective clothing for spraying teams -Conducting level 1 Training -Monitoring and evaluation of IRS programme -Conducting bioassays -Conduct vector mapping -Monitor and evaluate IRS activities	-Participate in development of training guidelines -Estimation of IRS requirements -Procurement of Camping equipment, provisions and protective clothing for spraying teams -Conducting level 2 Training -Monitoring and evaluation of IRS programme -Conducting bioassays -Conduct vector mapping -Monitor and evaluate IRS activities	-Recruitment of spray operators -Conducting level 3 training -Mobilization of resources at local level -Conducting bioassays -Conduct vector mapping -Monitor and evaluate IRS activities -Conduct IRS

OUTPUT	PERFORMANCE INDICATORS	ACTIVITIES	NATIONAL ROLE	PROVINCIAL ROLE	DISTRICT ROLE
3).Larviciding	-Availability of a national Guidelines on larviciding -Availability of a comprehensive national policy on Larviciding -Availability of an advocacy campaign plan for larviciding	- Develop a comprehensive national policy and Guidelines on Larviciding - Carry out advocacy campaigns to promote larviciding -Organise a stakeholders meeting -Procurement of Larvicides	- Participate in the development of a comprehensive national policy and strategy on larviciding - Carry out advocacy campaigns to promote optimal infant feeding practices -Organise a stakeholders meeting -Training of Trainers -Distribution of larviciding materials	- Participate in the development of a comprehensive national policy and strategy on larviciding - Carry out advocacy campaigns to promote larviciding and environmental management -Organise a stakeholders meeting -Implementation of larviciding -Training of District Trainers	- Participate in the development of a comprehensive national policy and strategy on larviciding - Carry out advocacy campaigns to promote larviciding and environmental management -Organise a stakeholders meeting - Implementation of larviciding -Training of ward Trainers -Training of volunteers - larviciding

4 Epidemic Preparedness and response

OUTPUT	PERFORMANCE INDICATORS	ACTIVITIES	NATIONAL ROLE	PROVINCIAL ROLE	DISTRICT ROLE
1. Malaria Diseases Outbreaks Better Managed	- Availability of EPR Plan of Action and guidelines for malaria disease outbreaks. - Proportion of districts with costed epidemic preparedness plans for epidemic prone diseases. - No. of staff trained in IDSR and EPR. -- Availability of drugs, insecticides and supplies for effective outbreak control. - Proportion of outbreaks detected within 48 hours. - Proportion of outbreaks properly controlled within two weeks. - Proportion of health facilities with functional telecommunication facilities	1. Develop, produce and disseminate epidemic control guidelines. 2. Develop and distribute guidelines on epidemic preparedness and response. 3. Train health workers at all levels on new guidelines. 4. Develop epidemic preparedness and response plan at all levels by March 2009. 5. Advocate for increase in LLINs provision with special emphasis on hard to reach areas. 6. Strengthen intersectoral collaboration in the control of outbreaks. 7. Advocacy/ IEC material development at local level. . 8. Maintain an emergency fund and buffer stocks of resources required to control malaria epidemics.	♦ Develop, produce and disseminate epidemic control guidelines ♦ Develop and distribute guidelines on epidemic preparedness and response by. ♦ Train health workers at all levels on new guidelines ♦ Develop epidemic preparedness and response plan at all levels by March 2009 ♦ Advocate for increase in vector control coverage for control of malaria ♦ Strengthen intersectoral collaboration in the control of outbreaks.	♦Participate in the development of both the epidemic control and preparedness guidelines. ♦Train health workers in all districts on use of new guidelines ♦ Facilitate the development of epidemic preparedness and response plan for all district by March 2009 ♦ Advocate for increase in malaria control coverage for control ♦ Strengthen intersectoral collaboration in the control of outbreaks. ♦ Advocacy/ IEC material development at local level. (Continuous). ♦ Maintain an emergency fund and buffer stocks of resources required to control malaria epidemic	Participate in the development of both the epidemic control and preparedness guidelines. ♦ Respond to malaria epidemics ♦ Strengthen intersectoral collaboration in the control of outbreaks. ♦ Advocacy/ IEC material development at local level. ♦ Maintain an emergency fund and buffer stocks of resources required to control malaria epidemics .Train Health workers in IDSR