

Audit Service Sierra Leone

PERFORMANCE AUDIT REPORT ON ANTI-MALARIA INTERVENTIONS

AUGUST 2012

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ABBREVIATIONS AND ACRONYMS

ACT	Arteminisin-based Combination Therapy
ANC	Antenatal Clinic
AS+AQ	Artesunate + Amodiaquine combination
CBD	Community Based Distributor
CBP	Community Based Provider
CHC	Community Health Centre
СНО	Community Health Officer
СНР	Community Health Post
DHMT	District Health Management Team
DOT	Directly Observed Treatment
HIV	Human Immunodeficiency Virus
IPT	Intermittent Preventive Treatment
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
INTOSAI	International Organisation of Supreme Audit Institutions
LLIN	Long Lasting Insecticidal Net
MCHP	Maternal and Child Health Post
MoHS	Ministry of Health and Sanitation
MoFED	Ministry of Finance and Economic Development
NGOs	Non Governmental Organisation
NMCP	National Malaria Control Programme
PHU	Peripheral Health Unit
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
SP	Sulfadoxine-Pyrimethamine
ТВА	Traditional Birth Attendant
UNICEF	United Nations Children's Fund
WHO	World Health Organisation

FOREWORD

As the Supreme Audit Institution (SAI) of Sierra Leone, the Audit Service Sierra Leone (ASSL) is set on expanding the scope of external audit. In addition to our traditional role in Regularity Audit we have established Performance Auditing¹ as one of the services provided by the ASSL. To achieve this, we have put in significant efforts into upgrading the professional skills in the organisation and modernising the audit methodology.

In submitting our third Performance Audit Report for tabling, I refer to the constitution of Sierra Leone in which Section 119 (2) states "The public accounts of Sierra Leone and of all public offices including the courts, the accounts of the central and local government administrations, of the Universities and public institutions of like nature, any statutory corporation, company or the body or organization established by an Act of Parliament or statutory instrument or otherwise set up partly or wholly out of Public Funds, shall be audited and reported on by or on behalf of the Auditor General, and for that purpose the Auditor-General, or any person authorised or appointed in that behalf by the Auditor-General shall have access to all books, records, returns and other documents relating or relevant to those accounts".

I further refer to the Government Budgeting and Accountability Act of 2005, Section 63 (1) Sub section (1e), which states "In his examination of the Final accounts, the Auditor-General shall ascertain that in his opinion, financial business has been carried out with due regard to economy in relation to results achieved", and;

Sub section 66 (4) further states that "Nothing in this section shall prevent the Auditor-General from submitting a special report for tabling in Parliament on matters that should not await disclosure in the annual report".

In line with my mandate as described above, we have undertaken this Performance Audit on Anti Malaria Interventions by the National Malaria Control Programme (NMCP) of the Ministry of Health and Sanitation (MoHS), highlighting the administration of the three key anti-malaria interventions (i.e. ACT, ITN and IPT), and the key role these interventions should play in reducing the burden of malaria in the country.

Lara Taylor-Pearce FCCA (Mrs.) Auditor General of Sierra Leone

Performance Audit is 'an audit of the Economy, Efficiency and effectiveness with which the audited entity uses its resources in carrying out its responsibilities" (INTOSAI Auditing Standards

EXECUTIVE SUMMARY

This Performance Audit report centres on the National Malaria Control Programme (NMCP) within the Ministry of Health and Sanitation (MoHS) which is responsible for reducing the burden of malaria mortality and morbidity through key anti-malaria interventions. The focus is on the administration of Arteminisin-based Combination Therapy (ACT); the availability and swift distribution of Insecticide Treated Nets (ITN); and, the implementation of Intermittent Preventive Treatment (IPT) for pregnant women.

The motive for the audit was the high death rate associated with malaria, especially for children under five years of age and pregnant women.

The audit focused on finding answers to the following three questions:

- 1. Is ACT administered in an efficient way?
- 2. Is there a functioning system to ensure the availability and swift distribution of ITN?
- 3. Is IPT implemented in line with laid down objectives and strategies?

The general conclusion from the findings is that anti-malaria interventions (ACT, ITN and IPT) have not been altogether efficient and effective, leading to the failure of reaching the targets set for reducing the burden of malaria morbidity and mortality in the country.

The supply of ACT to health facilities has frequently been irregular and inadequate. Treatment often starts late and many people have been treated for malaria without prior laboratory testing. While others discontinue the treatment before it is completed.

Effective treatment of severe malaria is hampered by the lack of microscopes, a poorly functioning referral system and inconsistent guidelines.

The distribution of bed nets is often late and national guidelines are interpreted differently in different parts of the country. There is the lack of awareness of the need for preventive methods amongst the population.

In order to improve performance we recommend that the NMCP/MoHS should address the following issues:

- Monitoring and follow-up of ACT treatment need to be improved to ensure the completion of treatment and confirm that treatment has been effective;
- Supplies of drugs and bed nets should be regular and in line with transparent allocation criteria for health facilities to be able to fully implement the treatment guidelines;
- NMCP should implement WHO's recommendation to test all patients with microscope or RDT before treating with ACT. Community based providers who provide ACT should be trained in the use of RDT;
- MoHS should make microscopes available to hospitals and community health centres based on adequate assessments of the need for microscopes. Reagents and other materials required for the use of microscopes should be provided;
- The guidelines regarding treatment of severe malaria cases need to be clear and health workers at different levels trained and equipped to perform their respective roles. The issue of transport has to be addressed and methods for communication established;
- Free malaria treatment for pregnant women, under five children and lactating mothers was introduced by MoHS as part of Free Health Care. Steps should be taken to ensure that the policy of free malaria treatment for other categories of patients is implemented in full; and
- The health authorities should embark on extensive awareness programmes nation-wide on issues pertinent to malaria, in order to ensure that patients report to health facilities at the onset of illness for prompt diagnosis and treatment, complete prescribed treatments and use ITNs regularly and correctly.

1 INTRODUCTION

1.1 Purpose and Scope

Despite the effort made by the Government and donor partners to reduce the prevalence of malaria, there is still limited evidence of decrease in malaria in Sierra Leone according to the World Malaria Report 2010.

Malaria is a major public health problem in Sierra Leone and the entire population is at risk of developing the disease. Malaria accounts for about 40%¹ of outpatient morbidity. In 2007 it was estimated that about 2,240,000 outpatient visits were due to malaria, of which about 1,000,000 patients were under five years. Pregnant women and children under five are the most vulnerable groups.

Malaria is the leading cause of death amongst children under five years of age with almost 40% of deaths attributed to suspected malaria. For all ages, 25% of all deaths are attributed to malaria².

The true scale of the economic losses attributable to malaria in Sierra Leone is not known. However, it is clear that illness due to malaria contributes to high rates of school absenteeism, poor agricultural productivity and the consequent loss of income for families and communities.

In response to this disease burden which has plagued the African continent with devastating consequences, urgent remedial actions were initiated as crystallized in the Roll Back Malaria Initiative and the Abuja Declaration which, inter alia, emphasised the importance of partnership and collaboration with other sectors as well as the need to scale-up key interventions for impact within a stipulated time.

The objective of this performance audit was to assess the National Malaria Control Programme's (NMCP) administration of each one of the three key anti-malaria interventions, namely: Arteminisin-based Combination Therapy (ACT); availability and swift distribution of Insecticide Treated Nets (ITN); and the implementation of Intermittent Preventive Treatment (IPT) for pregnant women.

1.2 Method and implementation

In order to arrive at an assessment of how well the NMCP of the Ministry of Health and Sanitation (MoHS) succeeds in reducing the burden of malaria, we conducted interviews, reviewed documents and physically inspected randomly selected health facilities during the course of the audit. We covered most of the fourteen health districts and all four regions of the country. See Appendix 1 for details.

In each district, we visited clinics and hospitals as well as Local Councils and community representatives to obtain relevant data and information on the operations of the NMCP in relation to ACT, ITN and IPT.

We observed how treatment was administered to malaria patients, and inspected the availability of medical equipment, drugs and other medical supplies and the general condition of health care facilities including physical structures and facilities like: toilets, water supply, beds, stores/security, etc.

During the period February to August, 2010 the team conducted extensive interviews for the purpose of gathering reliable operational evidence from key staff of the NMCP, health workers at health facilities, patients and relevant stakeholders.

A contact person appointed by the NMCP was regularly informed about the progress of the audit and assisted the auditors in retrieving documents and contacting interviewees in the office of the NMCP, at health facilities and in the Ministry, as and when required. Records and documents were reviewed and analysed in order to obtain more information and to verify the information obtained through interviews.

A draft version of this report was presented to NMCP for comments and their response from the 25th of March 2012 has been considered when finalising the report. NMCP's response highlights actions taken and to be taken to achieve targets. It is included as Appendix 4.

2 ANTI MALARIA INTERVENTIONS

2.1 Vision - "Access to malaria control for all"

The Government of Sierra Leone believes that every person has the right to access highly effective malaria curative and preventative services delivered as close to the home as possible. Malaria causes enormous suffering to a large proportion of the population each year and considerably hampers the economic growth of the country.

2.2 Goal and Objectives

The Malaria control programme aims at improving the health of people, and their quality of life, by reducing the malaria burden in the country. This goal will be achieved through scaling up access to evidence based malaria control interventions to the entire population, with a special focus on children under five years and pregnant women.

The general objective is to reduce the current levels of malaria morbidity by 50% and to reduce mortality by 25% by 2015. In September 2008, RBM launched the Global Malaria Action Plan that defined the steps required to accelerate the achievement of the Partnership's targets for malaria control and elimination.

To reach the targets set by the WHO, countries must reach all persons at risk of malaria with an ITN or Indoor Residual Spraying (IRS) and provide laboratory-based diagnosis for all suspected cases of malaria and effective treatment of all confirmed cases.

The specific objectives as laid down in the NMCP Strategic Plan, 2009-2015 are:

- increase the percentage of suspected malaria cases correctly diagnosed and treated from 30% to 80%;
- reduce severe case fatality by 80%;
- increase percentage of pregnant women receiving IPT2 from 11% to 80%;
- increase the percentage of people using prevention methods as ITN, IRS, Integrated Vector Management (IVM) from 26% to 80%; and
- improve malaria control management and partnership including M&E.

The core strategies for reaching the above objectives are scaling up of multiple prevention methods; improvement of access to prompt and effective treatment at all levels; strengthening partnerships for malaria control performance and strengthening the health systems at all levels.

2.3 Organisational structure of NMCP

NMCP is a unit in the Directorate of Disease Prevention and Control of the MoHS and is a major component of the revised National Health Plan. It was established in 1994 with technical support from the World Health Organisation (WHO).

The role of NMCP is to plan and facilitate the implementation, coordination, supervision and monitoring of malaria control activities in an integrated disease control approach. See Appendix 2 for the organisational structure.

Each health district has a Malaria Focal Point, whose representative is a member of the District Health Management Team (DHMT). The Malaria Focal Point is the first point of contact at district level for all malaria related cases. Each Peripheral Health Unit (PHU) has an Officer in-charge, who is a Community Health Officer (CHO) or another designated health worker, while at the community level there are trained volunteers, in particular Community Based Providers (CBPs) and Traditional Birth Attendants (TBAs).

2.4 The Health Sector in Sierra Leone

2.4.1 Devolution of responsibilities to Local Councils

Both the Hospital Boards Act, 2003 and the Local Government Act, 2004 sought to devolve responsibility and accountability of some government functions to the local councils for improved service delivery.

The decentralisation process started with the devolution of primary health care services, followed by district hospitals in 2008. Since then the 19 Local Councils are responsible for managing the delivery of primary and secondary health care services.

Starting in the third quarter of 2005, tied grants covering vaccinations, epidemic control, infrastructure improvements and operational expenses of DHMT were transferred to the local councils. Many councils turned these grants over to DHMT which planned the activities and managed the funds under council supervision.

The core functions of MoHS remain as policy formulation; standards setting and quality assurance; resource mobilisation; capacity development and technical support; co-ordination of services; and monitoring and evaluation of the overall sector performance.

Among the responsibilities of DHMT are the implementation of national health policies; planning and management of district health services; provision of disease prevention and health promotion; health education; and collection and utilisation of health data.

NMCP is responsible for technical matters relating to malaria control and for the implementation of control activities to be undertaken by DHMT, Local Councils and PHUs in line with the decentralisation process.

Coordination, training of health workers and collation of documents on malaria activities are done by DHMTs in collaboration with Local District Councils.

2.4.2 Public Health facilities

The country's health service delivery system is pluralistic. Government, religious missions, local and international NGOs and the private sector all provide services.

The public health service organisation is based on the primary health care concept which was started in the 1980s. The public health delivery system comprises three levels: (a) Peripheral Health Units (PHU) - Community Health Centres (CHC), Community Health Posts (CHP), and Maternal and Child Health Posts (MCHP) for first line primary health care; (b) District Hospitals for secondary care; and (c) Regional/National Hospitals for tertiary care. See table 1 below for the distribution of all health facilities.

	Government		Mission		Private		NGO	Total			
District	CHC	СНР	МСНР	Clinic	Hosp	Hosp	Clinic	Hosp	Clinic	Clinic	
Во	23	12	50	1	1	1	6	0	11	3	108
Bonthe	9	9	20	0	2	1	1	0	0	0	42
Moyamba	12	6	56	1	2	0	5	0	0	1	83
Pujehun	14	10	25	0	1	0	0	0	0	0	50
Tonkolili	9	8	65	0	1	2	1	0	0	1	87
Bombali	16	20	49	0	2	2	3	1	3	0	96
Koinadugu	12	6	33	1	1	0	0	0	0	1	54
Port Loko	11	21	55	0	2	1	4	0	1	0	95
Kambia	11	8	31	0	1	0	2	0	0	1	54
Kailahun	9	34	12	0	2	1	1	0	0	0	59
Kenema	21	17	63	1	2	1	2	0	3	1	111
Kono	11	15	46	0	1	0	1	0	4	4	82
Western Area	20	10	15	7	12	2	11	2	23	3	105
TOTAL	178	176	520	11	30	11	37	3	45	15	1026

Table 1. Distribution of health facilities in Sierra Leone

Source: National Operational Handbook for Primary Health Care

District health services form the core component of primary health care. They are composed of a network of PHUs, the district hospital and the DHMT. PHUs are the first line health services, and are sub classified into three levels. MCHPs are situated at village level for populations of less than 5000. They are staffed by MCH Aides who are trained to provide numerous services: antenatal care, supervised deliveries, postnatal care, family planning, growth monitoring and promotion for under-five children, immunisation, health education, management of minor ailments, and referral of cases to the next level.

Community Health Posts (CHPs) are at small town level with population between 5,000 and 10,000 and are staffed by State Enrolled Community Health Nurses (SECHNs) and

MCH Aides. They provide the same types of services as are provided at MCHPs but they also include prevention and control of communicable diseases and rehabilitation. They refer more complicated cases to the Community Health Centres (CHCs) which are located at Chiefdom level, usually covering a population ranging from 10,000 to 20,000 and staffed by a CHO, SECHN, MCH Aides, an epidemiological disease control assistant and an environmental health assistant.

CHCs provide all the services at CHP level in addition to environmental sanitation and supervise CHPs and MCHPs within the Chiefdom.

The district hospital is a secondary level facility providing back-stopping for the PHUs. It provides the following services: outpatient services for referred cases from PHUs and for the population living within its immediate environs, inpatient and diagnostic services, management of accidents and emergencies, and technical support to PHUs. DHMT is responsible for the overall planning, implementation, coordination, monitoring and evaluation of the district health services under the leadership of the District Medical Officer (DMO). Other members include the medical officer in charge of the district hospital and scheduled officers for various programmes and units.

The trained health workers are the link between the malaria control programme, DHMTs and Chiefdom/Village Development Committees. **They are supported by** CBPs and TBAs who are responsible for clearly and accurately reporting data on their treatment activities. CBPs and TBAs have monthly meetings with their respective PHUs. At these meetings they submit data that are later summarised and included in the Monthly PHU Summary Form for CBPs/TBAs and forwarded to the Malaria Focal Point. See table 2 below for the health force by category.

Medical Officers	115
Public health specialists	24
Pharmacists	33
Other Specialists	30
Midwives	95
State Enrolled Community Health Nurse (SECHN)	635
State Registered Nurse (SRN)	245
Specialised nurses	42
Community Health Officer (CHO)	132
Environmental Health Officer (EHO)	135
Maternal and Child Health (MCH) Aides	825
Technicians	94
Vector controllers	30
Total Health Staff	2435

Table 2. Health workforce, distribution by category

Source: National Operational Handbook for Primary Health Care

The roles and responsibilities of the above and other key players in the delivery of public health services are described in detail in Appendix 3.

2.4.3 NGOs

NGOs, including church-related organisations, play a major role providing services and training in the health sector. In some cases NGOs are contracted by MoHS to provide services on its behalf. In the spirit of transparency and accountability, all NGOs operating in the health field are required to provide annual reports to MoHS on their activities and financial arrangements.

2.4.4 Private Health facilities

The private sector offers mainly curative care for patients on a fee-for-service basis. Private health facilities operate mainly in urban areas, under the authority of individual owners and/or boards of directors. The well-off tend to use private health facilities more often than the poor.

2.5 Resources

There are two main sources of funding in respect of NMCP: funds provided by the GoSL via budgetary allocation to MoHS and funds made available through the Global Fund³ which is the major source of funding. In addition to this, some funding is provided by other partners and key stakeholders such as the World Bank, other bilateral organisations, WHO, UNICEF and European Union. See table 3 below.

Year	Govt	Global Fund	World Bank	Bilateral	₩НΟ	UNICEF	European Union	Total
2005	158,667	6,784,566	191,833					7,135,066
2006	174,533	3,155,047						3,329,580
2007	164,138	1,187,379	460,620	2,950,000		650,000	1,047,500	6,459,637
2008	180,552	5,126,487	5,141		778,590			6,090,770
2009	198,586	4,884,763						5,083,349
Total	876,476	21,138,242	657,594	2,950,000	778,590	650,000	1,047,500	28,098,402

Table 3. Funding for Anti Malaria Programme, USD

Source: World Malaria Report 2010

Funds from other donor sources are reported to MoHS and the expenditure of all such funds is controlled in accordance with letters of agreement signed between MoHS and the respective donor agencies.

2.6 **Process of Arteminsin-based Combination Therapy (ACT)**

In Sierra Leone, ACT (i.e. combination of artesunate and amodaquine) is the recommended drug of choice for the treatment of every episode of fever suspected to be malaria with the exception of children below 5kg body weight and pregnant women in their first trimester.

The flow chart below describes the processes involved in ensuring that ACT is administered in an efficient way at health facilities.



2.6.1 Visits to health facilities

The patient should report to the nearest health facility as soon as possible after the onset of illness in order to determine whether the patient has malaria or not. According to NMCP, the distance a person should ideally have to travel to access a health facility should not exceed three kilometres.

2.6.2 Diagnosis

The definitive diagnosis of malaria can only be made with microscope, measuring the presence of malaria parasites in the blood. In health facilities where a microscope is not available, Rapid Diagnostic Test (RDT) should be used. RDT is less efficient than microscopic tests since it cannot measure the amount of parasites in the blood. It may fail to detect malaria if the infection is low and cannot distinguish between non-falciparum species (e.g. ovale, malariae and vivax). Hence a negative result given by RDT does not exclude malaria. Since RDT cannot measure the amount of parasites it cannot be used to diagnose cases of severe malaria

Prompt parasitological confirmation by microscopy or by RDT is recommended for all patients with suspected malaria before treatment is started. Treatment solely on the basis of clinical suspicion should be considered only when a parasitological diagnosis is not accessible. This however does not apply to children under five years of age. In children under five years of age, fever or history of fever in the absence of other causes must be treated as malaria even if RDT shows a negative result.

2.6.3 Treatment

The patient should be treated according to the result of the diagnosis. If the result is negative he/she should be given symptomatic treatment and then observed. If there is a positive result he/she should be treated with ACT or, in the case of pregnant women in their first trimester, with oral quinine 600mg three times per day for seven days. The treatment of uncomplicated malaria should be the same at all health care delivery levels.

The administration for ACT is oral and should be given once per day for a total of three days at a dose of artesunate (4mg/kg body weight) and amodaquine (10mg/kg body weight). The first dose should be given in the clinic under supervision and the remaining two doses should always be administered as one dose per day.

If vomiting occurs within 30 minutes, the dosage should be repeated. The patient should be given the second and third doses to take at home if the health worker is sure the instructions will be followed. If not, the patient should be told to return to the clinic for the second and third doses.

If treatment failure is confirmed, the patient should be treated with oral quinine three times per day for seven days. (child dose: 10mg/kg body weight, adult dose:

600mg). If there are contra indications or side effects to ACT, Arthemeter + Lumefantrine (coartem) should be used as an alternative drug for the treatment of uncomplicated malaria. Coartem is not recommended in pregnancy.

The patient should be advised to return immediately if symptoms get worse or if contra indications or side effects develop. All patients should be advised to come back in two days for follow up of the treatment.

If the fever/illness, including vomiting, persists, this could be an indication of severe malaria and the patient should be referred to a hospital where appropriate management is feasible. While waiting for the patient to be referred initial treatment with intramuscular quinine every eight hours (10mg/kg body weight) or rectal artesunate should be given. Oral quinine through nasogastric tube (NGT) should be considered if there is no other option.

Children with fever who are suspected of having severe malaria should be examined also for other causes of fever, e.g. pneumonia, septicaemia, meningitis and Lassa fever and appropriately managed in addition to the presumptive treatment for malaria.

2.7 Insecticide Treated Nets (ITN)

2.7.1 Process

MoHS has adopted the use of ITNs as one of the Multiple Disease Prevention tools in the control of malaria.

The flow chart below describes the processes involved in ensuring the availability and swift distribution of ITNs at all levels of the health care delivery services.



2.7.2 Procurement

ITNs are procured by the Government through its budgetary allocations or by NMCP through the Global Fund. Other donors such as WHO and UNICEF have also procured ITNs for Sierra Leone.

Only ITNs of at least three years durability may be procured and they must meet WHO's quality standards and be registered with the Pharmacy Board of Sierra Leone. There are currently five ITNs recommended by WHO.

2.7.3 Storage of ITNs

There should be suitable storage facilities, including handling, transport and stock management, at central and peripheral levels for all ITNs procured. The procured ITNs are received at the Central Medical Store of MoHS or at the NMCP Central Store. Store rules should be carried out in accordance with Stores and Accounting Procedures as laid down in part 14 of the Financial Management Regulations of 2007 and the items stored until onward distribution to the districts.

2.7.4 Distribution of ITNs

ITNs are issued by the respective storekeepers to the DHMT in the respective districts, accompanied by goods received note and delivery note/way bill, before onward distribution to the health facilities at district and peripheral levels. ITNs are meant for **integrated mass campaigns and for** routine distribution at public health facilities.

2.7.5 Beneficiaries

The beneficiaries are primarily children less than five years of age, lactating mothers and pregnant women. In the case of pregnant women, ITNs should be given as part of a minimum ante-natal package including: IPT; tetanus toxoid; anti-helmintics; health and nutrition education; and prevention of mother to child transmission of HIV.

The distribution of ITNs to children under 5 should be linked to routine distribution at the first ANC visit, at institutional delivery, at DPT3 immunisation and for children aged 12-59 months on successful completion of vitamin A supplementation.

During mass distribution campaigns such as those for measles or polio, one net should be given to each child under five. These services should be provided in collaboration with all partners involved in ITN activities such as donor agencies, international/local NGOs, the private sector and local communities.

2.7.6 Usage

NMCP promotes the regular and correct use of ITN/LLIN through encouraging home visits by community volunteers, conducting "hang up" and "keep up" campaigns, monitoring **and supervision**, **etc**, in order to translate rising ownership rates into high usage rates.

2.8 Intermittent Preventive Treatment (IPT) for pregnant women

2.8.1 Process

Sierra Leone has adopted the use of IPT for pregnant women as one of the intervention packages aimed at making pregnancy safer.

The flow chart below describes the processes involved in ensuring that IPT is implemented in line with laid down objectives and strategies.



All pregnant women should receive at least 2 doses of Sulfadoxine-Pyrimethamine (SP) as IPT during the first and second scheduled ANC visits after quickening (first fetal movement >16 weeks), while those suffering from malaria will be treated according to the national treatment guidelines

- IPT with SP should be provided as part of a comprehensive antenatal package with other products like ITNs, haematinics and antihelmintics to control maternal anaemia that is highly prevalent during pregnancy.
- The SP should be swallowed under supervision of a health worker as a Directly Observed Treatment (DOT).
- Every woman is encouraged to sleep under an ITN throughout the pregnancy and thereafter with the new born.
 - Since HIV infected pregnant women are more susceptible to malaria, they should be given more than 2 doses of IPT.
 - The IPT dose with SP must not be given more frequently than once a month.

2.8.2 Target groups

All pregnant women who report to the antenatal clinic after quickening, with particular emphasis to:

- Those of low gravidity (i.e. first and second trimester)
- HIV infected
- Adolescents
- Sicklers
- All those with unexplained anaemia

2.8.3 Administration of IPT

SP should be given as single adult dose (3 tablets of 500mg each) at the first and second scheduled visits after quickening.

Step 1 If a pregnant woman attends the antenatal clinic before quickening, the drug should not be given. She should be told to come back for her next scheduled ANC visit. She should also be counselled on the benefits of IPT with SP and screened for history of allergy to sulpha drugs. The result should be recorded in her ANC card and in the antenatal register.

If quickening has occurred, the pregnant woman should be asked whether she has received treatment with SP in the past one month. If she has she should return for SP treatment during her next ANC visit. If she has not she should proceed to step 2.

Step 2 The pregnant woman is given the 1st dose of SP in the presence of a trained health worker.

Step 3 Subsequent doses of SP are given to the pregnant woman at her regularly scheduled ANC visits thereafter, but not more frequently than once monthly. All intake of SP should be recorded in an ANC Card and in the Antenatal Register.

3 FINDINGS

3.1 Administration of ACT

3.1.1 Delays in reporting illness at health facilities

We observed during interviews with health workers and through the review of the General and Under Five Clinic Registers that many patients did not report cases of malaria within one day of the onset of the illness (see examples in table 4 below).

Date of onset of illness	Date diagnosed with malaria	Age	Case type	Health facility	District
2/3/2010	1/4/2010	15	New	Falaba CHC	Koinadugu
26/3/2010	12/4/2010	40	New	Manna MCHP	Koinadugu
10/4/2010	13/4/2010	13	New	Manna MCHP	Koinadugu
10/4/2010	24/4/2010	13	New	Manna MCHP	Koinadugu
23/4/2010	30/4/2010		New	Rokupr CHC	Kambia
26/4/2010	29/4/2010	9	New	Manna MCHP	Koinadugu
26/4/2010	29/4/2010	7	New	Manna MCHP	Koinadugu
26/4/2010	30/4/2010	6	New	Rokupr CHC	Kambia
29/4/2010	31/4/2010	10	New	Manna MCHP	Koinadugu

 Table 4. Patients diagnosed and treated with ACT, but not within one day of the onset of illness

Source: Health facilities visited – General Clinic Registers for the month of April 2010

Most patients reported to the health facilities only when their health condition could not be managed at home and when the help provided by family members and traditional healers was not effective.

Several patients complained that before the inception of the free health care in April 2010, the costs involved for anti malaria treatment were too high even though they should have been provided free for under fives and pregnant women and at a minimal fee for other patients, in line with NMCP policy as defined in 2005. According to some patients, the quality of services provided at health facilities, was not commensurate with costs and as a result, people did not visit the health facilities to be diagnosed and treated.

Some villages did not have health facilities, and patients had to walk long distances to get to these facilities. MoHS has estimated that more than 60% of the population reside more than 10 km from the nearest health facility.

3.1.2 Inadequate diagnostic equipment

At the health facilities we observed that RDT was widely used except in cases where it was in short supply. Pujehun district only started receiving RDTs from MoHS in 2010. There was also a shortage of RDTs at Pendembu Community Health Centre in Kailahun owing to the large number of patients.

A total of 626,637 RDT-kits were distributed from the NMCP central store in 2010 compared to 963,350 in 2009. In addition to this, 909 were distributed from the Central Medical Store in 2010.

District	Quantity out				
	2009	2010			
Во	99,807	65,021			
Bonthe	25,519	16,586			
Moyamba	41,778	27,106			
Pujehun	51,291	33,430			
Tonkolili	65,911	42,861			
Bombali	74,772	48,605			
Koinadugu	50,859	33,677			
Port Loko	84,472	54,917			
Kambia	51,804	33,629			
Kailahun	70,600	45,941			
Kenema	99,261	64,001			
Kono	48,568	31,468			
Western Area	198,708	129,395			
TOTAL	963,350	626,637			

Table 5. NMCP distribution of RDT for 2009 & 2010 per district

Source: NMCP Central Store Stock Cards

In most health facilities, particularly CHPs and MCHPs, there were no microscopes. In some cases, even when microscopes were available, there was no reagent for their use. Pujehun district did not receive any reagents for the use of the microscope during the four months following the inception of the free health care in April 2010. The microscope could not be used at Pendembu Community Health Centre or in Lungi Government Hospital because of the unavailability of reagents. The same applied to Rokupa Government Hospital, Sinkunia Community Health Centre and Kabala Government Hospital.

In some health facilities, microscopes were not in good working condition (e.g. the two microscopes at Sinkunia Community Health Centre). There was also no scheduled maintenance of microscopes at health facilities.

Some health facilities (e.g. Hanga Community Health Centre, Kpandebu Dama Community Health Centre) did not have Laboratory Technicians to diagnose cases of malaria using microscopic tests. In others, e.g. Rokupr Community Health Centre, the Laboratory Technicians were not trained to undertake microscopic tests for malaria.

3.1.3 Inefficient treatment of patient with ACT

We observed through reviews of the PHU Monthly Summary of Morbidity-PHUF and Morbidity Analysis Reports in four health districts, that a large number of patients were diagnosed with malaria but not treated with ACT (see table 6 below). A sample of documents reviewed in Kambia, Bo, Bonthe and Moyamba for March and April 2010 also disclosed some cases diagnosed with malaria but not treated with ACT.

Table 6. Patients diagnosed with malaria and treated without ACT, first halfof 2010

District	Number of patients							
DISTICT	Jan	Feb	Mar	Apr	May	Jun		
Western Area Urban	1,761	2,394	2,680	3,072	2,505			
Western Area Rural	508	692	708	1,066	871			
Bombali		1,262						
Kenema	1,192	1,431	1,578	3,148	4,152	2,212		
Total	3,461	5,779	4,966	7,286	7,528	2,212		

Source: PHU Monthly Summary of Morbidity-PHUF and Morbidity Analysis Report 1 at health facilities visited

There were also a few cases where ACT was not administered for its intended purpose but used for the treatment of other diseases as illustrated in table 7 below.

 Table 7. ACT administered on cases other than malaria

Date patients were diagnosed	Health facility	District	No. of patients	Diseases treated with ACT
22/4/2010	Sinkunia CHC	Koinadugu	3	ARI, diarrhoea , water Diarrhoea
25/4/2010	Sinkunia CHC	Koinadugu	2	Water diarrhoea, otitis medio (ear infection)

Source: Health facilities visited – Under Five and General Clinic Registers for the month of April 2010 According to the health workers some patients did not complete the treatment because of the contra indications or side effects of ACT. Interviews with patients confirmed that, because of the side effect resulting in weakness, dizziness, etc. many of them stopped taking the drugs without completing the treatment.

Several of the health facilities visited was short of oral quinine for the treatment of uncomplicated malaria in pregnancy during the first trimester and likewise of intramuscular quinine for the treatment of severe malaria.

According to interviews with health workers and reviews of Delivery Notes, Distribution Lists, Drug Utilisation Forms, Stock Cards, etc, we observed that in many cases, the supply of drugs for the treatment of uncomplicated malaria was not regular and timely.

The table below shows the total number of ACTs that were distributed by the NMCP for 2009 and 2010.

District	2009 Under 5	2009 Adolescents	2009 Adults	2010 Under 5	2010 Adolescents	2010 Adults
Во	13,511	14,696	7,818	39,494	16,707	7,962
Bonthe	3,439	5,013	1,995	10,098	4,272	2,036
Moyamba	5,620	8,193	3,252	16,532	6,993	3,333
Pujehun	6,948	10,129	4,020	20,296	8,586	4,091
Tonkolili	8,278	12,970	5,144	26,080	11,033	5,257
Bombali	10,084	14,706	5,837	29,587	12,516	5,965
Koinadugu	6,867	10,011	3,973	20,125	8,513	4,057
Port Loko	10,613	16,617	6,596	33,426	14,140	6,738
Kambia	6,998	10,196	4,047	20,499	9,301	4,132
Kailahun	9,538	13,904	5,518	27,941	11,191	5,632
Kenema	13,557	19,765	7,843	39,278	16,616	7,918
Kono	6,520	9,495	3,775	19,219	8,130	3,874
Western A	26,880	39,185	15,553	78,628	33,262	15,851
Total	128,853	184,880	75,371	381,203	161,260	76,846

Table 8. NMCP Distribution of ACT 2009 & 2010, number of doses

Source: NMCP stock card 2009 & 2010

In 2010, MoHS distributed the following anti malaria drugs: 899,027 ampoules of quinine injections, 1,551 suppositories for rectal artesunate; and, 54,735 quinine tablets.

There was little or no follow-up to verify that the patients completed their treatment. Many patients did not report back to the health facility as advised by the health workers. When drugs were not readily available, the In-charges at health facilities often purchased the required drugs and sold them to patients. In some cases, patients were referred to other health facilities or given a prescription form to purchase their own drugs. These problems were

Our interviews with Procurement Officers, DHMTs, Malaria Focal Points and reviews of Procurement Files at the Local Councils revealed that there was late procurement, and in some districts, no procurement of anti-malaria drugs due to the late release of devolved funds.

An interview with the procurement officer at the Kenema City Council disclosed that there were problems with the delivery period as it normally exceeded the period of thirty days within which procured items should be delivered. This was also reflected in the procurement documents reviewed.

3.1.4 Late referral of patients diagnosed for severe malaria

evident in most health facilities visited.

All cases diagnosed as severe malaria at PHU should be treated with intramuscular quinine or rectal artesunate and referred to hospital. We observed during our interviews with In-charges at PHUs that not all cases diagnosed as severe malaria were referred for immediate treatment in the hospital. In some cases ACT treatment was completed before referral. In the case of one CHC visited, severe malaria was treated first with ACT and then, after three days, with chloramphenicol injection. If there was no improvement, intravenous quinine was administered.

Our interviews with health workers disclosed that intramuscular quinine was not always used for severe malaria patients waiting for referral to the hospital due to its unavailability at PHUs. There were frequent delays in the referral of serious cases where ACT failure was confirmed. There were problems with communication as the health facilities could not rely on radio-sets provided to call for the use of an ambulance. The In-charges often had to use their personal phones and sometimes used their motor bikes although fuel was not provided.

There were also delays in the release of the ambulance to be used for the referral of cases of severe malaria. It took quite a while for the ambulance to reach the health facility because of poor road conditions (see photo below), and long distances that had to be covered.



The road between Kabala and one of the PHUs in Koinadugu District

In cases of referral, patients were required to pay the costs involved for the use of the ambulance (i.e. night allowance for driver and nurse of Le 25,000 each, fuel depending on mileage to be covered and maintenance of Le100,000). Many patients were unwilling to accept referral because of the cost involved. Sometimes, a vehicle or motor bike was hired by patients who were unable to meet the required costs for the use of the ambulance. We observed a case where a patient could not afford the bill involved in the referral and had to wait for several days at the health facility (see photo below) in order to raise the money required for the use of the ambulance.



Patient with mother at Fuero CHP in Kono awaiting ambulance for referral to the Kono Government Hospital

3.2 Availability and swift distribution of ITNs

3.2.1 ITNs Procured were of good quality

ITNs distributed as part of the anti-malaria programme were all of at least three years durability. They also met WHO's quality standards. According to the World Malaria Report 2010, a total of 1,145,000 bed nets were procured from 2007 to 2009. In 2010 the Global Fund provided 109,270 ITNs

District	No. of ITNs - 2009	No. of ITNs - 2010
Во	18,816	9,528
Bonthe	4,774	3,392
Moyamba	7,794	5,540
Pujehun	9,680	6,837
Tonkolili	12,369	5,443
Bombali	14,019	6,108
Koinadugu	9,547	6,763
Port Loko	15,842	6,776
Kambia	9,725	4,429
Kailahun	13,268	9,335
Kenema	18,993	9585
Kono	9,030	6,433
Western Area	37,419	29,101
Total	181,276	109,270

Table 9. NMCP	Distribution	of ITNs to	Health	Districts	2009 &	2010
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Since it is against the Global Fund's policy to tag health products, the ITNs procured and distributed for free by NMCP or their donor partners, did not have any form of identification mark to distinguish them from ITNs sold by private individuals and organisations doing social marketing of ITNs.

3.2.2 Inadequate storage space for ITNs

We observed that there were inadequate storage facilities for ITNs, including handling, transport and stock management, at both district and peripheral levels. The problems were particularly serious at peripheral level where most PHUs did not have adequate storage facility for ITNs.

We observed for example that ITNs were stored in a container and in toilets at Kenema Government Hospital (see photos below); along the corridors of the Government Hospital in Tonkolili; outside the office of the District Medical Officer (DMO) at Cline Town, Western Urban Area (see photos below) where some ITNs were reported stolen. There was also a case of 64 bales of bed nets (each bale containing 50 nets) stolen from the Government Hospital in Kailahun. In general, bed nets appeared to be subjected to a high risk of theft, poor stock management and control.



Bed nets stored in forty-foot container at Kenema Government Hospital



ITNs stored in a toilet at Kenema Government Hospita



Bed nets stored along the corridor at DMO's office at Cline Town, Western Area Urban

3.2.3 Untimely distribution of ITNs to health facilities

The distribution of ITNs from Freetown to the district hospitals was in most cases carried out without major delays. However, in April 2010 Bo, Kambia, Kono, Makeni, Koinadugu and Port Loko had to wait for several weeks before delivery. Few DHMTs had vehicles for the distribution of ITNs to their respective PHUs. Those with vehicles frequently complained about the unavailability of fuel. Usually the vehicles of NGOs and other donor partners were used for ITN distribution to PHUs.

There were frequent delays in the distribution of ITNs to PHUs and to the beneficiaries who were the end users of the bed nets.

We observed poor stock management of ITNs through a review of ITN distribution lists, ITN Registers and Stock Cards as stock balances in these documents were not regularly updated and closing stock balances were not carried forward as opening stock balances.

There was no clear basis for the allocation and distribution of ITNs to health facilities. As a result, some health facilities received more ITNs than others.

3.2.4 Unequal distribution of ITNs to beneficiaries

Interviews with health workers and pregnant women revealed that ITNs were not always given as part of the minimum ante-natal package. We encountered a situation at the Moyamba Primary Health Unit where two pregnant women were not given bed nets during their scheduled ANC visit because the nets available in the store were meant for an upcoming polio and measles campaign.

3.2.5 Misuse of ITNs by beneficiaries

According to the World Malaria Report 2010, there has been a positive development in the use of ITN in Sierra Leone. It was estimated that 59% of households owned at least one ITN in 2008 and that 56% of all children under 5 years of age slept under an ITN.

Our interviews disclosed that ITNs were not always used for their intended purpose. In some cases, they were used as fishing nets (see photo below), used to kill

bed bugs, as window mesh/curtains, for bathing or even sold. We also observed that home visits by community volunteers were not regular and that ITN promotion activities were not forthcoming.



ITN not hanged by beneficiary in order to prevent mosquitoes but instead placed on top of a bed to kill bed bugs at a home in the Hanga community, in Kenema district



ITN used by a beneficiary to catch fish instead of preventing mosquito-bites at Hanga community, Kenema district

3.3 Implementation of IPT

3.3.1 Lack of awareness on the use of SP

Interviews with pregnant women revealed that there was little community level education on issues pertinent to the efficient delivery of IPT in line with the Home Management of Malaria Strategy. Most of them were not aware of the issues regarding the use of IPT. Some of them did not report back for continuation of the second dose of SP.

3.3.2 Shortage of SP at health facilities

Our interviews with health workers and review of Drug Utilization Forms disclosed that IPT with SP was not always available as part of the comprehensive antenatal package for pregnant women. Some health facilities had not received their supply of SP for some months.

The total number of doses of SP distributed to health facilities in 2009 and 2010 by NMCP is shown in table 10.

District	2009	2010
Во	5,284	3,631
Bonthe	1,351	929
Moyamba	2,212	1,520
Pujehun	2,715	1,866
Tonkolili	3,489	2,398
Bombali	3,958	2,720
Koinadugu	2,692	1,850
Port Loko	4,472	3,074
Kambia	2,742	1,885
Kailahun	3,738	2,569
Kenema	5,255	3,611
Kono	2,571	1,767
Western Area	10,520	7,230
Total	50,999	35,050

Table 10. NMCP 2009 & 2010 Distribution of SP per district

Source: NMCP Central Store Stock Card

4 CONCLUSIONS

4.1 Treatment of uncomplicated malaria

In general the health workers are aware that ACT is the drug of choice for the treatment of uncomplicated malaria and they treat patients accordingly. We have nevertheless noted a number of problems that have had a negative effect on the fight against malaria.

The supply of ACT to PHUs has been irregular and in many instances inadequate. As a result of this many malaria patients have been treated with other drugs or not at all. This has impacted negatively on the patients' health and also led to shortages of other drugs earmarked for pregnant women and patients who do not respond to ACT. This problem was as a result of weaknesses in the planning process that have been unable to take into account the poor distribution network, to define the allocation criteria based on an assessment of needs in different districts or to establish a reliable system for reporting and recordkeeping of available stocks.

Treatment often starts several days or even weeks after the onset of the illness. The main reason for this is that many patients live very far from the nearest PHU. Others are unaware of the need to report to the PHU or prefer traditional treatment. Many people also stay away from PHUs because they fear that treatment would be too expensive or because of negative experiences from previous visits. Needless to say, delays in the commencement of treatment usually have serious consequences for patients.

Many patients are treated for malaria without having been tested. Only a few health facilities are able to carry out microscopic tests and RDT kits have not always been made available. It is also worth nothing that CBPs have been provided with ACT but not with RDT, this has resulted in treatment without prior testing. As a result of this, virtually everyone who is treated at the community level, receives treatment solely on the basis of a clinical diagnosis. A consequence of this is that some people who are not suffering from malaria do receive treatment. Not only is money being wasted but this also increases the risk that ACT will not be available for those who really need it.

Many patients discontinue treatment because of the contra indications or side effects of ACT. Since there is no follow up on treatment by health workers, it is impossible to say how frequent this is. If treatment is interrupted the patient may not be cured and will have to come back for further treatment.

4.2 Treatment of severe malaria

There are several serious problems regarding how the health facilities deal with cases of severe malaria.

The unavailability of microscopes, reagents and trained laboratory technicians at most health facilities makes it impossible to correctly diagnose cases of severe malaria. Where microscopes are available, there have been frequent delays in their repair and maintenance. There is also a lack of trained laboratory technicians. There is no adequate needs assessment for the procurement of microscopes and reagents or for the training and recruitment of laboratory technicians to use the microscopes. Failure to correctly diagnose and treat severe malaria could have fatal consequences for the patient.

Frequent delays were encountered in the referral of severe malaria cases. This was mainly due to vehicle constraints with the few available ambulances serving extensive areas. In addition to this, the cost involved in the use of the ambulance for referral purposes makes it difficult for many patients to accept referral since they may not be able to foot the bill.

The treatment guidelines to be followed for referral cases were interpreted differently by different health workers. The guideline that severe malaria cases should be treated with intramuscular quinine as they await transportation is inconsistent with other guidelines which state that the use of that drug should be strictly reserved for hospitals and CHCs. These inconsistencies were also reflected in the distribution of drugs to PHUs. Since intramuscular quinine is a potentially lifesaving drug that is often in short supply, uncertainties on how and by whom it should be administered should be taken very seriously.

4.3 Prevention of malaria through IPT and ITN

The proportion of pregnant women benefitting from IPT has increased during the last years but progress is hampered by irregular and inadequate supplies of SP. It also appears that many pregnant women are unaware of the need for IPT.

The process of the distribution of ITNs is quite unsatisfactory, due to the lack of transparent criteria for the allocation of ITNs to districts and health facilities; delays due to transport problems; inadequate storage facilities; poor stock keeping and irregular supplies. The guidelines for distribution to individual beneficiaries are interpreted differently by different health workers. Some believe that a pregnant woman should receive an ITN during her first ANC visit, at institutional delivery, at penta 3 vaccination and when vitamin A supplementation is given. Other health workers believe that the women are entitled to only one ITN each. There are also indications of poor coordination between routine distribution from PHUs and distribution during campaigns. As a result of this, some people are in possession of several ITNs whilst others have none.

The observed weaknesses in the distribution process, together with the lack of sensitisation and monitoring at community level have resulted in the misuse of ITNs by some beneficiaries.

4.4 Implementation of the free health care

According to Basic Facts on Malaria Prevention and Control of the NMCP, malaria treatment was free for pregnant women and children under five attending government health facilities already before the introduction of the free health care. All other patients were to pay a minimal fee for those services. This system was gradually undermined by the cost of registration and charges for medication, deterring many people from visiting health facilities. The introduction of the free health care for pregnant women, lactating mothers and children under five on the 27th of April, 2010, consequently resulted in a high influx of patients.

5 RECOMMENDATIONS

5.1 Improve monitoring and follow-up

Monitoring and follow-up of ACT treatment need to be improved to ensure the completion of treatment, and to confirm that treatment has been effective. It is also important to find out as early as possible if ACT is not effective or if it has side effects. Better monitoring would also show to what extent RDT or microscope were used to diagnose the patients before the ACT treatment was administered.

5.2 Secure regular supplies of drugs and ITNs

Supplies of drugs and bed nets should be regular and in line with transparent allocation criteria for health facilities to be able to fully implement the treatment guidelines. The criteria for distribution of bed nets should be explained and implemented uniformly over the entire country. As long as the national target is not met, nobody should receive more than one ITN.

5.3 Always test before treatment

NMCP should implement WHO's recommendation to test all patients with microscope or RDT, before treating with ACT. Community based providers who provide ACT should be trained in the use of RDT.

5.4 Increase the use of microscopes

MoHS should make microscopes available to hospitals and community health centres, based on adequate assessments of the need for microscopes. They should ensure that adequate training is provided for laboratory technicians in the use of microscopes and that prompt repair and maintenance of microscopes take place. Reagents and other materials required for the use of the microscopes should be provided. Once these conditions are in place, there is room for substantial savings, since the microscope is cheaper to use than the RDT. Savings would also occur as ACT treatment of doubtful cases could be avoided.

5.5 Issue clear guidelines on treatment of severe malaria

The guidelines regarding the treatment of severe malaria cases need to be clear and health workers at different levels trained and equipped to perform their respective roles. Hospitals and CHCs should be enabled to carry out microscopic tests to ensure early diagnosis. The issue of adequate transportation has to be addressed and methods for communication (radio, cell phone, etc.) established.

5.6 Take necessary steps to create awareness

Free malaria treatment for pregnant women, under five children and lactating mothers was introduced by MoHS as part of the Free Health Care Service. Steps should be taken to ensure that the policy of free malaria treatment for other categories of people is implemented in full (i.e. also for adults and children over 5). MoHS has to make sure that rules are followed and take firm action when patients are forced to pay for services that should be provided for free.

The health authorities should embark on extensive awareness programmes nation-wide on issues pertaining to malaria. This will assist in ensuring that patients report to health facilities at the onset of illness for prompt diagnosis and treatment, complete prescribed treatments and use ITNs regularly and correctly.

APPENDICES

APPENDIX 1: List of health facilities and local councils visited

HEALTH FACILITIES:

Western Area Urban

Princess Christian Maternity Home Kissy Community Health Centre Kingharman Road Government Hospital Rokupa Government Hospital Malama Community Health Post

Bo District

Tikonko Community Health Centre Manguama Community Health Post Dambala Community Health Centre Kpetema Community Health Post Serabu Catholic Hospital-PHU attached Government Hospital

Bonthe

Motuo Community Health Centre Government Hospital

Moyamba

Njala University Hospital Mano Community Health Centre Taima Community Health Centre Government Hospital

Pujehun District

Gbondapi Community Health Centre Dandabu Community Health Post Bumpeh Perri Community Health Centre Pewama Kabondeh Maternal Child Health Post Government Hospital

Tonkolili District

Mabai Maternal and Child Health Post Government Hospital

Bombali District

Kamalo Community Health Centre Government Hospital Fourahbay Road Kissy Kingharman Road Kissy Lumley

Tikonko Kakua Selenga Bumpe Bumpe Kakua

Kpanda Kemoh Jong

Kori Dasse Kori Kaiyamba

Kpanga Kabonde Kpanga Kabonde G/Perri Kabondeh Kpanga Kabundeh

Kholifa Rowalla Magburaka

Sanda Loko Makeni

Koinadugu District

Manna Maternal Child Health Post Sinkunia Community Health Centre Falaba Community Health Centre Government Hospital

Port Loko District

Peppel Community Health Post Lungi Government Hospital Government Hospital

Kambia District

Rokupr Community Health Centre Kukuna Community Health Centre Government Hospital

Kailahun District

Mobai Community Health Centre Pendembu Community Health Centre Nyandehun Community Health Post Government Hospital

Kenema District

Kpandebu Dama Community Health Centre Blama Community Health Centre Hanga Community Health Centre Government Hospital

Kono District

Tefeya Community Health Centre Banagambaya Maternal and Child Health Post Wordu Maternal and Child Health Post Yamanda Community Health Centre Fuero Maternal and Child Health Post

LOCAL COUNCILS

Dembellia Sinkunia Dembellia Sinkunia Sulima Kabala

Lokomasama Kaffu Bullom Port Loko

Magbema Bramaia Magbema

Mandu Upper Bambara Luawa Luawa

Dama Small Bo Nongowa Nongowa

Tefeya Banagambaya Wordu Yamanda Fuero

APPENDIX 2



NMCP Organogram

District Medical Officers

Each district has a District Medical Officer who heads a DHMT to ensure effective health care delivery and service development

Malaria Focal Points

Each district has a Malaria Focal Point who is the first point of contact at district level on all issues regarding malaria

Community Health Officers (CHOs)

- Direct and supervise the activities of all Health workers in the Community Health Centre, the Community Health Posts and MCHP;
- Maintain punctuality and discipline among the staff;
- Oversee the hygiene of PHUs including the surroundings;
- Set up the system for regular inspection of all PHUs in the chiefdom and ensure defects or damages are identified and promptly repaired;
- Responsible for ordering, supervising, storing and issuing of drugs and equipment and for ensuring the maintenance of inventories and stock registers;
- Monitor and carry out preventive maintenance of medical equipment in all PHUs in the catchment area;
- Make schedules and time tables for home visits, health education projects, etc;
- Chair regular staff meetings to plan and monitor the implementation of services;

• Ensure regular in service training for all PHU staff within the chiefdom; and

• Ensure accurate and proper registration of births

Maternal and Child Health (MCH) Aides

- Conduct safe motherhood services including ANC, deliveries, postnatal care and family planning and advise on exclusive breast feeding;
- Identify and refer cases at risk;
- Conduct and provide immunisation services to mothers and children;
- Train TBAs and supervise their activities in the communities;
- Provide services for Under fives;
- Conduct outreach services in their communities;
- Ensure timely referral of high risk cases;
- Record and report data;
- Conduct health education sessions; and
- Perform any other duties assigned by the Senior Officer

Laboratory Technicians

The laboratory technicians are responsible for diagnosing cases of malaria, especially severe malaria, with the use of a microscope.

Midwives

- Conduct reproductive health activities including family planning in health facilities and communities;
- Supervise SECHN, MCH Aides and other junior staff in hospitals and communities;
- Conduct safe motherhood activities including deliveries at PHU/Community level;
- Provide basic obstetric and neonatal emergency care;
- Conduct community sensitisation on basic obstetrics and neonatal care;
- Ensure timely referral of high risk cases;
- Collect, analyse and report data on activities undertaken; and
- Carry out any other assigned duties

State Enrolled Community Health Nurses (SECHN)

- Responsible to the Senior Officer in Charge;
- Provide basic nursing care in hospital/community settings;
- Supervise nurses in training and other junior/auxiliary staff;
- Conduct routine ward functions and other duties assigned by a Senior Officer;
- Conduct outreach services, e.g. immunisation, health education, growth monitoring and health promotion;
- Assist in the provision of safe motherhood services and referrals;
- Collect data and keep records;
- Report on activities

State Registered Nurses (SRN)

- Provide nursing care in health institutions utilising the nursing process;
- Assist in teaching and supervision of nurses in training and other junior staff;
- Assist with the administration of units/departments;
- Maintain records within agreed standards;
- Report on activities; and
- Any other duties assigned by the In-Charge

Community Based Providers (CBPs)

- Identify and treat children who have uncomplicated malaria/fever;
- Identify children who need to be referred and refer them to the nearest PHU;
- Educate mothers on the need for prompt treatment, compliance with the treatment regimen, benefits of using preventive measures and environmental

sanitation;

- Follow up treated children to ensure that they comply with treatment and advice;
- Keep proper records on HMM activities and report to the nearest PHU;
- Work with the community to collect ACTs from the nearest PHU;
- Record the outcome of the illness;
- Maintain safe custody of medicines.

Traditional Birth Attendants (TBAs)

- Mobilise/sensitise the communities on the value of ANC, the risk of malaria in pregnancy, the concept and benefit of IPT;
- Promote other control measures especially use of ITNs and environmental management,
- Refer pregnant women to the nearest PHU;
- Encourage the community to accept and use IPT in place of other remedies

Community leaders

Communities and their leaders are expected to support CBPs by taking children who have fever for treatment and make sure they comply with treatment instructions