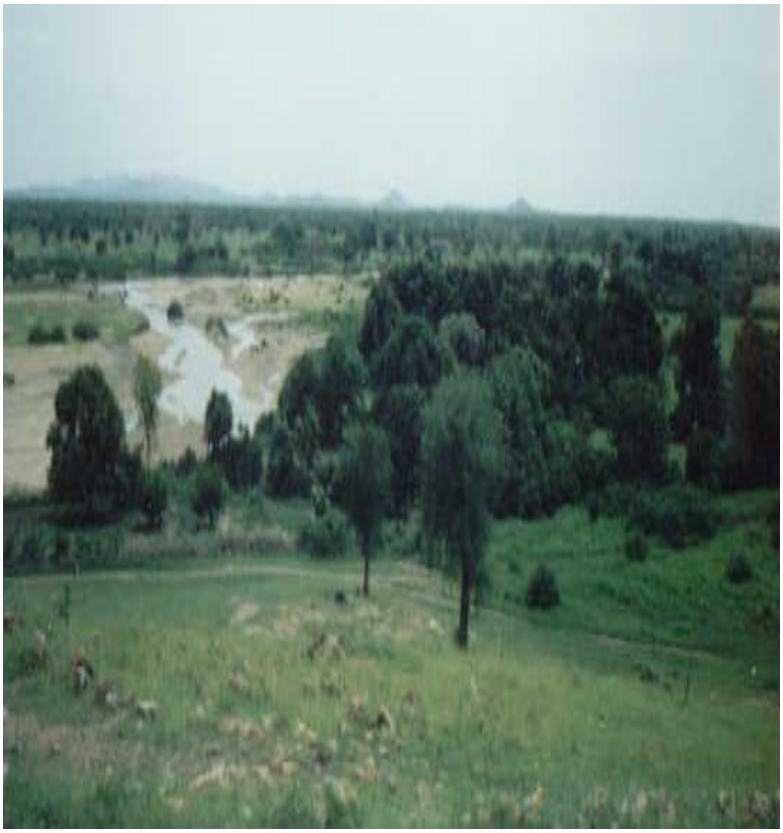
National Policy for Home Based Management of

2010



National Malaria Control Program - Sudan

Republic of Sudan

Fedearal Ministry of Health

National Malaria Control Program - Sudan

National Policy for Home Based Management of Fever

2010

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Acronym/Abbreviations:

ACTs	Artemisinin-based Combination Therapies
AS+SP	Artesunate-sulfadoxine/pyrimethamine
BCC	Behaviour Change Communication
CHVs	Community Health Volunteers
EPI	Extended Program of Immunization
FMOH	Federal Ministry of Health
HBMM	Home-Based Management of Malaria
HIS	Health Information System
HSS	Health Systems Strengthening
IMCI	Integrated Management of Childhood Illnesses
Kms	Kilometers
MDGs	Millennium Development Goals
MOH	Ministry of Health
NMCP	National Malaria Control Program
NGOs	Non-Governmental Organizations
PHC	Primary Health Care
RBM	Roll Back Malaria
RDTs	Rapid Diagnostic Test (kits)
RDVs	Rural Drug Vendors
SMOH	State Ministry of Health
WHO	World Health Organization

Section ①: Introduction

1. Country Profile

Sudan is situated in northern Africa, bordering the Red Sea and it has a coastline of 853km along the Red Sea. With an area of 2,505,810 square kilometres (967,499 sq mi), it is the largest country in the continent. It border s the countries of Central African Republic, Chad, Democratic Republic of the Congo, Egypt, Eritrea, Ethiopia, Kenya, Libya and Uganda. There is huge transboarders movement of common tripes between Sudan and these countries especially in the south, east and west boarders.

In the northern and western semi-desert areas, people rely on the scant rainfall for basic agriculture and many are nomadic, traveling with their herds of sheep and camels. Nearer the River Nile, there are well-irrigated farms growing cash crops.

In Sudan's 2008 census, the total of the population was calculated at 39.2 million. With overall distribution of these population between urban and rular areas of 29% and 63% respectively. About 8% of the population were nomadic in thier residancy classification.

2. Background on health sector in Sudan

2.1. Health system infrastructure:

A decentralization process since the mid-1990s has devolved much responsibility for government health system financing and management to the States and localities. The Federal Ministry of Health (FMOH) is joined by 25 State Ministries of Health (15 of which are in the geographic north of the country). Within each State there are a number of localities (134 in total) in which the “Health Area Mangers” were responsible for management of lower-level health facilities. Local councils were also have the overall responsiblilty, and autherity, for health, water and sanitation services. In addition to the structure in the Ministry of Health, some hospitals are managed by the Ministry of Higher Education and other by the military forces. Outside the governmental system there are privately-run clinics and hospitals and it contributed largely for the provision of health services in the country.

2.2. Access to and coverage of health services

The 2009 government health facilities (63.2% are Basic Health Units [BHU], 28.7% Health Centres [HC] and 8.1% Hospitals) survey recorded a significant proportion of these to be in poor maintenance condition: about half without electricity and only 39% had running water. Over half (53.8%) of all facilities had microscopes with only 42.9% of them providing functional malaria microscopy of which 35% were in BHU. RDTs were available in less than 11% of the health facilities. Only 6 of the 141 health facilities without functioning microscopy had RDTs. Significant disparities are evident in the geographic distribution of health facilities. Many rural areas are underserved by the health system in terms of functional facilities, in particular health centers and hospitals, which are found to be clustered in towns and cities.

Access to local health services at the Primary Health Care (PHC) level in Sudan is very low. Population with access to health service is estimated to range between 40%-66% with greater urban rural disparity with 84% to 58% access for each, respectively, in spite of the fact that around 70% of the population live in rural areas. The country network of PHC health facilities is thought to be relatively large and mounts to 6,111 Health Care Facilities (HCFs). This is translated in terms of coverage with PHC facilities to 1.8 PHC facilities for each 10,000 of the population with obvious differentials between different types of health facilities and interstate inequities (1.4/10,000 in south Darfour to 5.4/10,000 in Northern state). According to a health facilities survey in 2003. The percentage of none functional health facilities ranges from 62% for dressing stations, 51% for Basic Health Units, 30% for dispensaries, 17% for Rural health centers, and 6% for urban health centers.

Section ②:Situational Analysis

1. Current situation: malaria & fever cases

Malaria is now the third major public health problem in Sudan. Based on climate models, it is estimated that 75% of the population are at risk of endemic malaria, while 25% are at risk of epidemic malaria. Most of the country below north latitude 15º is endemic zone with high transmission in southern states, while parts of the north are exposed to epidemics following the heavy rains or floods from River Nile.

Transmission of malaria in north Sudan south to Khartoum is seasonal and depends on the rains except in urban cities and irrigated schemes. Sudan's rainy season lasts for about three months (July to September) in the north, and up to six months (June to November) in the south. Hence, the duration of the transmission varies from 3-6 months with an average of 4 months, longer season is noticed on the southern areas. The transmission season may lasts from July/August to November/December, with earlier beginning of in June in the southern areas. Due to the varying geopgraphical strata, the whole population are at varying degrees of risk living in areas of (i) high perineal malaria transmission in the south (long rainy season), (ii) high transmission related to irrigation in large irrigation schemes, (iii) seasonal malaria related to rain fall in the central parts of Sudan, (iv) man-made urban malaria or (v) desert-fringe malaria related to Nile flood. Floods, draught, famine, widely extended irrigated schemes without enough consideration to health component and population movement (internal displacement and influx of refugees) are contributing factors to the malaria situation in the country. Plasmodium falciparum is the most prevalent species accounting for >90% of cases. P. vivax, P. ovale and P. malariae are responsible of the rest. Anopheles arabiensis is the main vector together with A. gambiae and A. funestus.

It is estimated that there about 3.3 million cases annually with about 9,788 people deaths (EMRO Model for Estimation of Malaria Burden, 2009). At public-sector health facilities, malaria accounts for about 17.5% of outpatient attendances and in public-sector pediatric hospitals the case fatality was 0.9% (NMOH Annual Report, 2009). The disease accounted for 37.2% of all maternal deaths at hospital level (Dafalla et.al, 2003). It has also been documented that in Sudan those affected with malaria were unable to work for 22% of the time during the course of the year (WHO, 1996).

Though prevalence of fever among all ages increased from 22.0% in 2005 to 25.3% in 2009, among those treated for malaria, 40% were treated with ACT in 2009 compared to a mere 10.6% in 2005.

In the states of relatively high prevalence, symptomatic malaria accounts for 17.5% of outpatient clinic visits and approximately 11% of hospital admissions (MDG Report, 2010). In the northern, eastern and western states, malaria prevalence is mainly low to moderate with predominantly seasonal transmission and epidemic outbreaks. In 2009, 2.3 million patients with uncomplicated malaria cases were treated free of charge with Artemisinin-based Combination Therapies (ACTs). Reported malaria cases and deaths during this same year were 2,491,376 and 1,142 respectively, a remarkable reduction from 2001 figures of 3,985,702 reported cases and 2,252 deaths. There were also significant differences in the estimated malaria cases (7.5 million) and deaths (35,000) in 2001 compared to 2009 figures of 3.3 million cases and 9,788 deaths. Overall, the national weighted prevalence of malaria (using RDT) in north Sudan is 1.8% (MIS, 2009).

The 2005 MIS in 10 states covering northern and southern Sudan showed that about 11% of under-fives with fever were treated with ACTs while only 7.3% of these were positive for malaria parasite infection (NMOH 2005). Since then, however, the NMCP has significantly scaled up its malaria control operations and supplying ACTs to over 90% of health facilities. In 2009, NMCP (NMOH) undertook another MIS in north Sudan to capture information, among other components, about the treatment of fever and malaria infection among all age groups and more detailed enquiries on fever/malaria treatment actions, diagnostics used and the appropriateness of timely treatment as well as IRS coverage. The most recent MIS (2009) in north Sudan shows that under-fives with fever in previous two weeks prior to survey dropped to 19.1% from 34.7% in 2005 (MIS, 2005). Percent of malaria fever treated with ACT rose from about 11% in 2005 to about 44% in 2009.

On the other hand, data from the other recent reports indicate high mortality rate among childern under five years of age considering the leading causes of death. Deaths assoicated with fever (in general and not nessesary malaria) represent about 24% of the total deaths among this age group which is considerably high rate. Constrained health systems and non-functional referral strategies are major obstacles for effective primary health care delivery; both essential to curb the under-five mortality in country like Sudan.

2. Problem statement

Sudan has adopted its RBM strategic plan with a primary goal to reduce morbidity and mortality of malaria. Further steps were taken especially the shift for new malaria treatment (Artemisinin-based combination therapy - ACT) with more emphasis on the delivery of ACT to health facilities. However, in many rural areas the coverage with health facilities, and accodringly the access to the approperiate treatment, is still very low.

Recent studies done in South Kordofan indicate that considerable proportion of fever cases were managed outside the formal health services and that people usually seek care for fever/malaria usually very late (on average after 3 days). Mothers with febrile children start management at home with what available at hand (herbs, remaining medicines, medicines from shops, tepid sponging…etc). Later, advices from health workers may be requested if there is no response or if the condition worsened (Malik et al 2006). In this study, there are other factors identified that attributed to these late consultations. This includes low coverage of health facilities and health care services, dissatisfaction with services provision, difficulty to reach the facilities especially during the rainy season, believes and satisfaction with traditional medicine and herbs and user fees. The severity of the illness is key determinant factor for seeking the advice from health professionals considering the onset of the symptoms and the duration of the illness. Self-treatment is common among similar areas as stated by community leaders and health personnel. Similar results were observed in central parts of Sudan (Abdel-hameed, 2000).

Both studies clearly indicate that; (1) patient's/caregiver's ability to recognize "malaria illnesses" and to act appropriately, (2) service provider's skills to manage effectively the patient and (3) availability of diagnostic materials and effective treatment, all constitute the important building blocks for effective management of the illness. This linked to timely decision, accessibility, correct use of the medicines and follow-up after prescription.

3. Why Home Management of Malaria Policy in Sudan

Delivery of ACT medicines to the targeted population is hampered by the following challenges:

- Low coverage with public health facilities specially in rural areas;
- In accessibility to health services particularly during rainy season and nomadic population; and
- Self-medication by seeking care from drug vendors as first source of treatment at the onset of symptoms without proffesional advice or proper diagnosis

In recognition of the particular vulnerability of children under five years and the critical nature of appropriate treatment within 24 hours of onset of symptoms in ensuring successful treatment outcomes, it is proposed to gradually expand the reach of Home Management of Malaria specifically targeting children under the age of five, facilitating prompt access to an appropriate and effective antimalarial drug (ACT) according to the national policy, for this target group as close to home as possible.

Recognizing these constraints, the country embarked on studying the feasibility of implementing HMM in 2006 to guide development of the national strategy. The development and implementation of this program should contribute in tackling some of the major barriers for accessibility for treatment of fever episodes and the associated diseases i.e. malaria, ARI and others.

Even though diagnosis of malaria based solely on the clinical feature (fever equals malaria) – like what happens in bare-bone heath facilities – can reduce morbidity, however, it can lead to over-diagnosis and over-treatment of malaria. This practice (on long term) will increase the pressure on medicines and predisposing to appearance of resistant strains. On the other hand, it will undermine the management of non-malaria fevers. Considering that malaria varies from hypoendemic to mesoendemic transmission in most states in north Sudan, it would be inappropriate to deliver ACTs without diagnosis, as most fevers are not malaria fever.

This policy consider the evidence that using Rapid Diagnostic Tests (RDT) is one of the cost-effective interventions to improve the outcomes of any malaria control program, and accordingly, including this component will be essential to ensure the propoer implementation of the policy components.

4. Review of the evidence for informed policy implementation

Currently the evidence base for HMM in Africa, particularly regarding use of ACTs, is narrow and priorities for further research need to be addressed to ensure the availability of quality information to guide the implementation. However, currently available information from other countries supports the development and implementation of this program at national levels. These evidences emphasize on the delivery strategies in HMM programmes as it may need to be tailored to local conditions. There are considerable body of knowledge and experience in this area that guide the development of this policy. The experiences at different areas of the country play important role in applying more tailored policy to match the needs and the situation.

The following outlines of different projects demonstrate this experience:

1. "Evaluation of feasibility and acceptability of home management of malaria strategy adapted to Sudan's conditions using ACTs and RDTs - 2006" *WHO funded project supported by RBM/TDR-EMRO*

The project was conducted in one of the areas in South-West Kordofan Region in which forty-three villages with about 75,000 population including nomads and this area in general is underdeveloped. The main occupations are farming and cattle breeding.

Malaria in the area is mesoendemic to hyperendemic with high and very long seasonal transmission (May – November).

The study supports the hypothesis about the barriers for getting treatment of malaria in formal health sector and accordingly how this affects treatment-seeking behaviors. The feedback received from mothers, health workers and community leaders indicate the importance of providing more options for patient to get access to their treatment.

The study investigators, and part of their recommendations, advice on the following approach to implement HMM program through Malaria Control Program:

The package for the HMM should included: (1) RDTs for malaria diagnosis, (2) *ACTs (artesunate and SP)* for the treatment uncomplicated malaria, and (3) Artesunate suppositories as a pre-referral treatment for severe malaria. Each village will nominate volunteers (Malaria Control Assistants - MCAs). The volunteer should be trained and equipped with the HMM package and necessary charts or guidelines. The MCAs then to be associated with health personnel at the biggest health centre in the area. Medicines under this schema that is adequate for the whole area during the rainy season should be stored in the pharmacy at the health centre. This process should be under the control of the pharmacy assistant who distributed medicines regularly to MCAs at village level. The patients those developed severe malaria then to be referred by MCAs to the Health Centre after receiving one dose of artesunate suppositories.

2. "HMM project in North Kordofan" *Project co-supported by State Governor and Malaria Control Programs (national & state)*

This was State Governor initiative to establish Home Management of Malaria project in North Kordofan State, and mainly agricultural region with a population of 159,126 (in which under-five represents 15% of the population). The state experiences long heavy rainy seasons (5 months) with frequent floods. Malaria transmission is mesoendemic and 36% of OPD and 35% of total admissions were attributed to malaria. The HMM project targets 60 hard to reach villages in South east of the State. In each village a volunteer was selected by the local communities in each village based on criteria set up by the NMCP/SMCP. The volunteers were trained in assessing and managing the patients' status those suffering from uncomplicated malaria, ARI and diarrhoeal diseases. Based on the situations, the volunteer provide pre-referral treatment for acute signs and severe malaria. The package of the HMM include management of (1) malaria for all age groups using ACTs for uncomplicated malaria and pre-referral artesunate suppositories for severe malaria; (2) ARI for under five children using amoxicillin and Septrim and (3) diarrheal disease for under five using ORS.

PLEASE ADD MORE INFORMATION ON THE PRELIMINARY FINIDING

3. Gaderif state (pls elaborate in these two states 'projects)

   Initiated by State minister of health, targeted 48 villages, used ACTs and suppository

4. Kassala state (pls elaborate in these two states 'projects)

   38 villages ACTs, suppositories, RDTs, implemented by NMCP and malaria consortium

Section ③:National Policy of Home Based Management of Fever

The available evidences provide solid basis to guide the formulation and implementation this policy. These recommendations were further discussed in a national workshop to address the priority areas and to agree on the steps forward. It was highly recommended to scale up home/community management strategy for managing fever to cover all population especially those with no or limited access to health services using trained community health volunteers. In addition to that, it was advice to consider this policy as an integral part of overall malaria case management strategy at different levels. The strategy itself aims to deliver appropriate response to malarial illness in the community using effective, good-quality antimalarial medicines (ACTs) and rapid diagnostic test (RDTs) and prompt referral of severe cases after giving pre-referral artesunate suppositories through trained volunteer community health worker.

The policy is not limited to malaria but it will also include recognition of other fever cases (respiratory infection, ear infection and diarrhea) with the provision of treatment as appropriate. This part of the policy will be implemented based on the guidelines developed by relevant departments in Federal Ministry of Health. This approach of integration is highly recommended for such situation and the integration system will be developed in wide consultations with these departments.

A. Strategic framework

Vision

The ultimate goal of this policy is to contribute in the national response against malaria and other fevers and aim to reduce overall morbidity and mortality form malaria and other fevers in the target population.

Objectives

General Objective

To improve the quality of treatment provided by caregivers at home through IEC and training, and by making pre-packaged drugs available at community level.

Specific Objectives

- To enable individuals/caretakers recognize early febrile illnesses and take appropriate actions;
- To enable the community health volunteers to recognize malaria, ARI and diarrhoeal diseases and take prompt and appropriate actions;
- To ensure availability and access to effective quality antimalarial medicines in the community as close to the home as possible;
- Improve behaviors related to provider and consumer practices, and appropriate;
- To establish good mechanism for the supervision and monitoring of community activities and contribution in malaria control programs.

Expected outcomes

- Establishment of prompt and appropriate community management of fever illnesses; i.e. within 24 hours of symptoms onset
- Improvement of prompt pre-referral treatment of children with severe signs of severe malaria
- Timely referral of children with severe signs of fever and treatment failures
- Reduced occurrence of severe forms of malaria (by ??%)
- Reduced mortality of the under fives due to malaria (by ??%)

Targets of this policy implementation

Considering the similar experience of implementing this policy in simialr settings and contexts, the following should be obsereved in selecting the target communities for imlementing the policy:

- Inaccessible communities/villages during rainy seasons;
- Communities that were remote from health facility (more than half five kilometers distance or more that one hour walking);
- Endemic with malaria;
- In the area there are special groups including nomadic population or other groups, e.g., agriculture clusters based on the situations in each individual state.

The guiding principles for the implementation of the policy include community participation, political support and ownership at all levels, coordinated multi-sectoral involvement, and multi-disciplinary approaches, evidence-based policies and interventions. All of these elements were very essential towards successful management of the activities under this policy.

The 2008 Survey Mapping showed that 76.3% (23,913,502) of the population (31,358,663) live within 5km from, and are thereby covered by health facilities, leaving 23.7% (7,445,161) that will be covered by home-based management of malaria (HMM). It is proposed to meet 100% of the gap up to 2013 and 70% of the gap up to 2016 through provision of 4,851,464 doses of the first line AS+SP and 117,490 does of the second line AL.

B. Policy components, strategies and key interventions

Although the development of the components under this policy and the key interventions was guided by the determinants and structure of the local contexts in Sudan, making use of the experience of other countries in implementing this program is important in order to develop interventions that are more effective. Of special interest, the guidelines of WHO on "Scaling up Home-based Management of Malaria (from research to implementation)" should be considered in the implementation and scale up of this policy.

I. Reaching the targeted population:

This aims to enable individuals/caretakers recognize malaria illness early and take an appropriate action through effective communication strategy for behaviour change. In order to maximize the community participation, the programme will be planned and implemented in joint manner with the communities. The basic concept should consider the active involvement of these communities in the planning, implementation and evaluation phases in each project site. The communities will be approached through its social and religious leadership, which is highly critical in some of the local contexts. This approach showed success in other and similar kind of initiatives and without this component; the planners for this program will face resistance of its establishment and even rejection of its elements. Understanding the structure of targeted communities is essential in this case and the respect of local traditions and rules is of great value and impact on the implementation

The existing communication on IMCI strategy, beside other strategies, will be used to sensitize the target communities and to influence behavioural change for better care seeking and management of fever at the community level. Messages to educate people and

influence their perceptions, practices, attitudes and behaviour for positive action will be disseminated to caregivers in specific and the community in general. All channels of communication (interpersonal and mass) will be used according to the local needs and this should utilize different mobilization activities that include visual promotional materials, mass media (radio and TV).

Messages in this component should emphasize on the following aspects:

- Early recognition of fever illnesses;
- The need for prompt and correct treatment including the importance of compliance;
- How, where and from whom community treatment can be obtained;
- Side effects of medicines & dangerous of inappropriate treatment;
- Signs of hazard and when to seek care immediately;
- Differentiating between different diseases that cause fever;
- The nature of other diseases including diarrhoea and ARI

a. Information, Education and Communication (IEC) materials:

The materials used for such programs should be designed with special care to ensure its contribution in achieving the objectives of the policy. The following steps were important for this purpose, which includes:

- Adapting and revising the training and guidelines used for the HMM project;
- Developing standards/guidelines, training and supervision manuals for IEC materials;
- Adapting the guidelines for the use of RDT;
- Updating training manuals to include other illnesses, RDTs , reporting/ registration forms;
- Developing standard guidelines and supervision checklists;

Note: States should develop its specific IEC strategy based on the local needs and special requirement under each targeted commiunities within the state.

b. Key methods for communication for HMM:

Designing the approach:

The following approaches proven to be very effective in implementing similar kind of projects. This includes the following:

- Interpersonal communication to facilitate community engagement;
- Supportive Mass Media: national/community radio, TV, press, etc

Messages must be pre-tested within the targeted communities to ensure its effectiveness, and basiclly it should has the folwloing criteria:

- Simple and easy to be understood;
- Easy to remember, conveying one or two ideas;
- Positive – to encourage positive behaviours and use of effective products;
- Specific and action-oriented;
- Accurate, feasible and relevant;
- Sensitive to local cultural beliefs

Training:

IEC activities under this component should be integrated, if possible, into formal education (e.g. school curricula, nurse training, medical education, pre-service/in-service training) and other sectoral programmes (e.g. agriculture, micro credit systems). This should consider the other targets behind IEC activities for other purposes and not as seprate component without comperhensive approach. This is medium term vision; however, other sector should participate in the planning and the implementation of these activities.

Advocacy:

In order to ensure the political commitment and mobilize resources required to support implementation of the HMM, advocacy strategy for politicians, decision-makers, donors, and other resource providers will be developed. Mass media as well as one-to-one personal communication and lobbying will be used.

II. Equipping the community health volunteers with the necessary skills and knowledge to manage malarial illness

a. Identifying community health volunteers and their roles:

Community health volunteers from remote rural hard to reach commonuities will be identified based on the following criteria (i) community perceptions, knowledge and practices of appropriate types of providers, (ii) access of the community to the CHVs and the population coverage they are capable of providing, especially for vulnerable groups (e.g. remote rural, high endemicity, most poor); and (iii) motivation and skills of the CHVs.

Selection Criteria: the experiances seen in other similar projects indicate that the person whom could be delected to be th MACs should be resident , with ability to read/write, male or female, his/her age 25-60 years, respected and accepted by the community to do the task,

b. Tasks of community volunteer:

The following terms shold be considered in setting the tasks for the voluntees:

- Diagnosis using RDTs;
- Limit use of ACTs to malaria fever only (which will help in decreasing drug cost, preventing resistance to medicines) and these will increase confidence of the community;
- Treatment of malaria and other childhood illnesses;
- Participate in prevention (involve in ITNs distribution campaigns, health education and other preventive campaigns);
- Referral of certain cases.

c. *Identifying trainers, supervisors and management structures:*

Trainers, and trainers of trainers will be selected within the public sector institutions as the overall responsibility and stewardship role for coordinating and regulating community-based health programmes lie with the public sector health system. The training in its overall targets should be for both the volenteers and for the mothors. Training of community residents (e.i. Training of mothers and mother coordinators, training of other community health workers and village volunteers plus the training of village health committees) all

should be also consider in the advanced phases of the implementation of this program and based on evaluating the effectivness if this activity.

The major components of the training for each category (under categories mentioned above) should at least address the key information and skills that enable the trainees to peroform the tasks approperiate for thier expected role.

The following issues need to be consider in developing the training scheme:

- Designing training program that achieve appropriate skill mixes;
- Define the objectives of the training of the CHVs';
- Define the content of the training package based of previous experience (malaria , other illnesses, ACTs/RDTs use and storage, registration/ reporting, etc…);
- Revise and adopt the exisiting training materials for HMM ;
- Integration of training within the existing other programmes and community-based programmes (IMCI etc);

d. Describe the motivation/incentives for CHVs:

During the planning phase of this program, the following list of items should be considered for setting retention and motivation schemes for the volunteers.

- Transportation means (bicycle, cart, donkey, etc);
- Solar light, cabinet, etc;
- Consultation fees (to be determined based on affordability measures);
- Basic training (2 weeks) , refresher training (2-3 days annually);
- Motivation system to be developed by state (e.g. health insurance, loan, etc…)

III. Ensuring availability and access to effective quality antimalarial medicines near to the home as possible

Its wide evident that the prepacked antimalrials in similar programs increase considerabliy the the compliance of the patients in taking the medicines as descriped. The first-line antimalarial medicine of the country will be used in HMM which is the ACTs. Ensuring the avialability of high quality and effective medicines is a challenging componant of this poicy. Comperhensive approach and multi-sectors partnership is higly encouged to achieve the targets under this components. Although this program will be implemented at national

level, but in scattered areas, still the is criical need for intergration of the supply system for this proram into the national systems to avoid any interruption of the supply chain at any levels especially during the rainy seasons.

The ACT packaging for HMM will be specifically adapted to facilitate adherence and appropriate use at home and at community level.

a. Drug Supply Management & logistics system:

The procurement of medicines under this program should be in line with the national procureement system for the rest of malaria control program components. Still the distribution of medicines and its supply as part of the national public sector drug distribution systems down to the community health volunteers will represent challenges in terms of the logistics system required for its mangment. The capacity of the system for adequate storage and distribution of the medicine should be adecuate since the quantities anticipated for distribution will not of large volume. Other challenges will be related to the management of the stocks given to he CHVs and whether they wil be allowed to store medicines in their homes and the mechanism to monitor drug quality, storage conditions and expiry dates. All of these issues need to be considered when designing the system and should be put in place at community level. Involving difrent partnes could decrease the operational load on NMCP & SMCP (public system).

b. Rationalizing the use of antimalarials:

It is cleare from the objectives of this policy that it is targeting the improvement of ineffective self-medication practices usually seen a the community levels. The program is expected to be come across some challenges related to the misuse of the medicines distributed under this program. It will be further important to improve the rational drug use of these medicines through limiting the overdiagnosis and treatment of patients without malaria, so the role of diagnostic tests needs to be further considered, at least in the longterm.

IV. Ensuring mechanism for supervision and monitoring of the community activities

a. Monitoring

It is important to establish core working group or similar entity to be responsible for the planning and monitoring of the program. Monitoring should therefore be an integral part of the scaling up of HMM with the following purposes:

- measuring progress of activities during implementation, using indicators that usually relate to quality or quantity and a particular time frame;
- highlighting which activities are being carried out well and which less well;
- providing information during implementation about specific problems and aspects that need modification;
- enabling managers to decide on allocation of resources and to identify training and supervision needs;
- Providing information on the programme outcomes in terms of accessibility, promptness of treatment and the overall impact of the programme;
- Monitoring and assessment of the referal rates of sever cases and preformance of the MCAs in managing the cases

Table in the annex presents a generalized framework for inputs, processes, outputs and outcomes to be considered in setting up activities for monitoring HMM programmes.

Section ④: Policy implementation

1. Scaling-up the program:

The scaling-up of the implementation of this program to nationwide level is major step for the next period. However, it is importnet for both decision makers and the partners to give considerable attention for the balance bettween quality and coverage by the services.

Implementation of HMM programme requires detailed preparation including a situation analysis, setting objectives, in-depth planning, strategy development, effective advocacy and building partnerships at all levels. Critical decisions are needed on such aspects as what and how to scale up, which community cadres to be trained as providers, engaging communities, policy issues on medicines and pre-packaging and financial access, cost and pricing, drug procurement and distribution, and programme monitoring. These issues place heavy demands on resources, planning and management, and require intensive support from the public health services, particularly from the peripheral health facilities.

The following strategies were seen, in other similar programs, as crucial for the success of the implementation of this program:

Delivery strategy: Ensure availability of drugs: production levels, effective supply and distribution in country - Drug quality monitoring support - Support more efficient registration processes and strengthening national drug authorities

Financing strategy: Mobilize additional resources through advocacy. - Develop strategies to reduce ACT costs (e.g. pooled procurement) - Develop strategies for making best use of subsidies Develop strategies to increase incentives for manufacturers to reduce cost

Communications strategy: Develop advocacy strategy for support of effective treatment, - Ensure research findings were broadly shared

Coordination strategy: Develop strategic framework for coordinated support - Ensure inter- and intra-agency consistency and communication - Support coordinated technical assistance

Monitoring and evaluation: Global tracking and partner coordination - Shared drug efficacy database - Ensure data collection includes operational indicators as well as drug efficacy

Research: Ensure coherent research agenda informed by countries and production of timely findings Ensure pipeline of new drugs Research on products for home care

2. Enabling the environment

2.1. Identification of key challenges:

The challenges of scaling up implementation of HMM – expanding beyond small geographical areas and/or controlled conditions – are enormous. In a research project, it is relatively easy to provide services for participating communities because of the relatively small size of the operation. However, such services are difficult to duplicate and sustain in large-scale district or nationwide operations. All major steps of programme implementation–from procurement and delivery channels for drugs to training, financing, monitoring and evaluation – must therefore be analysed and the challenges addressed realistically.

The following are some of the practical challenges of large-scale implementation:

- The increasing ineffectiveness of commonly available and relatively cheap drugs for treating malaria;
- Developing community ownership and sustainability of community volunteers through provision of incentives;
- Ensuring that severely ill children are rapidly referred and appropriately treated; referral facilities are often very few, provide inadequate service and poor-quality care, and are mistrusted;
- Reluctance to scale up HMM;
- Fears that actively promoting home treatment of malaria will encourage inappropriate drug use and accelerate the development of drug-resistant parasites.

Among thethe other challenges in a large-scale programme is ensuring that the drug is available and its supply sustainable. Drugs need to be available to the consumer at all times, close to the household and in easy-to-use packages (since many caregivers are illiterate). In addition to that, effective supervision of community providers by health staff and community resource persons is essential for success; incorporating supervision into the routine activities of health workers is one of the challenges.

2.2. Policy and regulations

- HMM as an integral parts of the overall framework of the national health policy on community health or primary health care;
- Experience has shown the following issues relating to policy to be relevant to the successful implementation of HMM;
- Highest level of political commitment from the national government;

- Describe the decentralized health care system in Sudan is an added value for HMM implementation;
- Describe how the national policy on malaria treatment and the scheduling of medicines within the policy must be supportive of the implementation plans. Similar for ARI and diarrhoeal;
- Describe the egulatory processes in place needed for effective implementation of HMM: dialogue with the national drug regulatory authorities.

2.3. Community involvement

Communities should be active partners with very clearly defined roles such as the following:

- Collectively design the approach to implementing the intervention in the community and identify the resources within the community;
- Collectively plan how, when, where and by whom to implement the intervention, supervise and decide what support to provide to the implementers and how to monitor the process;
- Community providers should be under direct control of the communities;
- Community members collectively discuss the results of the monitoring and adjust the implementation strategy accordingly;
- Collection of medicines from the supply centres to the community.

2.4. Community based providers

Drawing from the experiences of the pilot projects which have been using CHVs, the following have been identified as important:

- CHVs should be selected by the community using a transparent and equitable process to allow ownership and community accountability.
- Adequate medicine and necessary supplies are key to the success of the strategy.
- Proper channels of distribution and mechanisms for re-stocking of medicines and other supplies should be well established at all levels. Other supplies that are key to support quality of service provision are:
    - Drug dosage charts and information posters (or laminated charts);
    - Reminder charts on danger signs for referral;
    - Tools to teach and counsel caretakers on home care and feeding;
    - Recording and reporting forms.

2.5. Advocacy and partnership

The activities under this advocacy component should be addressed in the master plan for this policy based on the major factors defined in the situational analysis and the lessons learned from the pilot projects implemented in the previous period.

The partnership under this program should be extended at all levels and should involve all partners those concerned by the planning, implementation and outcomes of HMM program and this include MOH (national and states), other government departments (national and states and localities), the communities, the private commercial sector (including distributors, manufacturers, and medical professionals), the media, international and national NGOs, community-based organizations, indigenous/traditional healers, schools, community/opinion leaders, faith-based organizations, and women's organizations.

The following steps should be considered during the implementation of this strategy:

- Finalization the policy by all technical concerned partners (IMCI, etc…);
- adoption by National minister and state ministers and launching in world malaria day;
- Involevement of non-governmental organizations and civil society organizations should be seen as opportunity for improvement abd success of this programs. The experience of these organizations in working at the filed level could play central role in empowering the local communities.
- Establish partnership for raising resources from:
    i. Federal Ministry of Healt and Federal Ministry of Finance, States Ministries of Health and other channels;
    ii. Investment Bank, GFATM , private sector (oil /sugar companies, insurance companies, agriculture sector , states , governs);
    iii. Parteners: Public sector organizations/Private sector organizations /NGOs/CBOs/Media
- The components described before under "reachin the targeted pooulations is key activity under this adovacy strategy.

2.6. Financial resources (mobilizing resources and funding)

Resource mobilization is key to scaling up, and plans should be made to ensure sustainability. However, it may sometimes be necessary to start with whatever resources are at hand in order to show what can be achieved by the strategy. Draft a funding proposal using all available information and plans of action, estimate the level of funding required, and get the approval of the working group.

The government should endorse the proposal and be willing to contribute – its resources are more sustainable than donors' resources. However, it is important to be aware of potential donors and the type of proposal they will need. Try to determine their interests and needs; if it is reasonably certain that they are interested, find out as much as possible about the type of proposal and the level of detail they need.

It is important to convince donors and other partners that HMM is a good investment. This should not be difficult because treatment for malaria is known to be a cost-effective intervention. Goodman, Coleman & Mills (2000) showed in a case-management model that pre-packaging, training, and health education to improve compliance in the United Republic of Tanzania cost the government US$ 0.09 per outpatient visit and US$ 500,000 annually. Ghana makes a case by pointing out that 40% of outpatient consultations are for malaria.

A proposal should describe in detail the major components of the programme, such as the drugs and packaging, production, procurement, and distribution plans, community education, promotion materials, monitoring and evaluation, and the overall budget. It is important for the working group to complete decisions and plans for supplies, the method of distribution, and the strategy for behaviour change, and to consider the issue of cost-recovery. If multiple interventions are planned, ensure that fundraising activities are not carried out in isolation for each activity but rather are coordinated, whether a donor commits to the entire programme or only to certain aspects of it. Funding may be "patched" together to achieve an overall programme, e.g. donor A takes CHW training, donor B takes the national IEC campaign, and donor C takes the cost of drugs and packaging. This calls for more management skills but has the advantage that no single donor is depended on to sustain the entire

programme.

Many donors have a particular form or list of items to be included in a programme proposal, and it is important to follow their prescribed guidelines. Ask donors for their proposal guidelines and contact others who have written successful proposals to that donor for helpful suggestions. Keep in mind that HMM is still a relatively novel idea and must be "sold" to the donor. Most donors want to be associated with something that is good, can be

implemented, and has clear, measurable outcome goals. Some typical interests of donors are:

- Plans for programme recognition, partnering with others, programme contributions (in-kind or monetary);
- Cost-per-beneficiary analysis, evidence that intervention(s) have worked in similar settings, programme needs;
- Availability of implementation capacity, potential for sustainability;
- Integration with existing programmes, evidence that there is no unnecessary overlap in interventions.

Examples of potential sources of funding

- National and local governments
- Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria
- United Nations agencies: World Bank & African Development Bank
- Foundations
- Government agencies: USAID & Italian Government
- Nongovernmental organizations: Rotary International
- Private sector: local manufacturers & advertising and media organizations

2.7. Integration with other programmes

From the planning stage to the time of reaching the community, integrating efforts with other health programmes may reduce duplication of effort, lead to savings in costs and time, and provide consistency in methods and messages. Existing structures and programmes that provide maternal and child health services and reach young children, such as the Expanded Programme on Immunization (EPI), can be used for distributing pre-packaged antimalarials to caregivers of young children.

Implementation should be planned to coordinate with other malaria information and prevention interventions, such as social marketing of insecticide-treated bednets.

Integration with other programmes could be achieved through combined educational and awareness activities, especially at community level, e.g. providing bednet and discount coupons in treatment packaging.

2.8. Sustainability:

Experience in implementing similar policies showed evidence about the importance of the follwoing factors that influence impact and sustainability of these programmes:

Factors related to Health system:

- Managment & supervision: Quality of relationship with formal health system and maintaining this relation is essential;
- Remuneration: Establishing well tailored remuneration and benefits system is essentail;
- Coordination: Establishing formal sort of coordination body between different programmes at diffrent levels is importent to ensure the achievement of outcomes;

Factors related to the community:

- Leadership: Invlovening the leaders of the community at all stages of the program is critical for the success of the program;
- Location: Finding inovative aprroach to facilitate the ease of transportation of the volenteers;
- Local health beliefs: the role of IEC activities in altering the negative beliefs into more positive and correct one should support the implementation of other activities;
- Community mobilization and empowerment : This was seen among other similar projects as one of the success factors that increase the ownership and participation of the community in the projects at diffrent stages

There is obvious need for further studies and operational researches to further guide the implementation of this program at national level. The sustainability of the program need feedback from these research activities inorder to ensure that the major obsticles were addressed and considered upon the progress of the program implementation.

2.9. Key activities:

The following are the essentail activities need to be considered for the first phase of the implementation:

- Select volunteers (selection facilitated by community leaders) to work as HMM service delivery focal persons in their communities (villages)
- Provide supplies and equipments to facilitate the volunteers' work
- Develop and print records, guidelines and IEC materials for HMM
- Train volunteers on HMM policy
- Conduct campaigns for education and advocacy on HMM policy
- Supervise and monitor the HMM policy implementation and volunteers' performance

2.10. Develop a monitoring and supervision plan

Monitoring plan:

Monitoring of programme implementation is essential. It permits follow-up of the programme and provides systematic, consistent, and reliable information on progress. Systematic collection and use of data should therefore be an integral part of programme implementation and operation from the outset, using the RBM indicators that have been developed. Information obtained by means of indicators allows problems to be identified and solved quickly.

Evaluation plan:

An evaluation plan should be developed at the outset – it is vital to check whether the objectives have been achieved. Evaluation requires data to be collected before and after a given period of HMM implementation and operation; these data are compared and analysed to see whether the activities (strategies) proposed and implemented have worked. This can be done by all the partners or by an external evaluation process, mid-term, annually, or after an appropriate period. Evaluation of the process may be more important and more difficult than evaluation of the impact, but is vital for guiding further implementation.

Indicators:

- Proportion of community health promoters / providers with no reported stock out of appropriate and most effective according to National Policy, in the last 3 months;
- Number of children under five receiving the appropriate and most effective according to National Policy, at community level within 24hrs of onset of fever;
- Number of persons 5 years and above having access to appropriate and most effective according to National Policy, at community level.

References:

1. Federal Ministry of Health – Sudan. **National Malaria Strategic Plan 2011-2015**; 2010
2. Federal Ministry of Health – Sudan. **Five-year Health Sector Strategy: Investing in Health and Achieving the MDGs 2007-2011**. 2007;
3. Federal Ministry of Health – Sudan. **National Monitoring and Evaluation Plan 2012-2016**. updated 2010;
4. Federal Ministry of Health – Sudan. **Outpatient malaria quality of care survey in the northern states of Sudan**. 2009;
5. E Malik. **Treatment-seeking behaviour for malaria in rural areas with unstable malaria transmission in Sudan**. 2006;
6. Federal Ministry of Health – Sudan. **Natioal Protocol for Treatment of Malaria**. 2004;
7. WHO: **Malaria Rapid Diagnosis, Making it Work. Meeting Report**. 2003;
8. Sirima SB . et al: **Early treatment of childhood fevers with pre-packaged antimalarial drugs in the home reduces severe malaria morbidity in Burkina Faso**. Trop Med Int Health 2003,
9. Ministry of Health Uganda: **Implementation guidelines for the Home Based Management of fever strategy**. 2002;
10. WHO: **Scaling up home-based management of malaria from research to implementation. Edited by**: Eckert E. Geneva, WHO; 2004.
11. RBM: **Roll Back Malaria Strategic Framework for Scaling up Effective Malaria Case Management**. 2004;
12. Roll Back Malaria: **Interventions to Improve the Role of Medicine Sellers in Malaria Case Management for Children in Africa**. 2004;
13. Wilson Were: **Bringing malaria management closer to the home**. Roll Back Malaria, WHO. 2004;
14. Abdel-Hameed AA. **Malaria case management at the community level in Gazira, Sudan**. Afr. J. Med. Sci. (2000) 30, Suppl. 43-46.
15. I . Ajayi. et al: **Feasibility and acceptability of artemisinin-based combination therapy for the home management of malaria in four African sites**, Malaria Journal. 2008,
16. I . Ajayi. et al: **Effectiveness of artemisinin-based combination therapy used in the context of home management of malaria: A report from three study sites in sub-Saharan Africa**, Malaria Journal. 2008,
17. H . Hopkins. et al: **Impact of home-based management of malaria on health outcomes in Africa: a systematic review of the evidence**, Malaria Journal. 2007,
18. K . Källander. et al: **Community referral in home management of malaria in western Uganda: A case series study**, BMC International Health and Human Rights. 2006

19. Franco Pagnoni: **Malaria treatment: no place like home**, Trends in Parasitology. 2009;
20. RBM AMFm Task Force: **Review of the evidence on access to malaria treatment among the poor: in the context of the proposed Affordable Medicines Facility for malaria**, RBM. 2008;
21. A . Tiono. et al: **Implementation of Home based management of malaria in children reduces the work load for peripheral health facilities in a rural district of Burkina Faso**, Malaria Journal. 2008,

IMPLEMENTATION ARRANGEMENTS

Roles of the various stakeholders please complete

Level	Roles
Household, (mother, father, family member)	• Recognise fever • Recognise when, how and where to seek for referral in case of severe and complicated malaria • Ensure compliance with the treatment regimen
Communities (XXXXX)	• Selection of community drug distributors and mobilisers • Selection of drug distribution points • Form village committees for malaria case management • Sensitise mothers/ caretakers/family members to recognise fever and act timely
Village Health volunteer	• Mobilise households and communities for malaria treatment and when to refer • Mobilize communities to encourage referral.
Other partners (list them and role of each	•
Other sectors (list them and role of each	•
GFATM , UNICEF, WHO , others	•

Result of group work 1, 2 (Both should be in one table with completer information

Gorup 1

Activity (list all activity components)	Time line	By whom
Strategy, advocacy, political commitment, partnerships • MoH-Cabinet of services and health-> Federal ministry of Finance-> Federal Cahnbers->States->other channels • Parteners: Public/Private/NGOs/CBOS/Media • Target: lauch the strategy Malaria World Day April09		
Developing Standards,/Guidelines, training and supervision manuals and IEC materials • Adopt and revise the training and guidelines used for the HMM project • Adopt the guidelines for the use of RDT		
Situational Analysis • Identification of villages • Visiting villages • Give selection criteria for MCA • Collect baseline information on MCM, referrals etc		
Establish drug distribution system • Introduce the MCA and health units		
Sensitization and discussion with state and localities etc • NMCP to inform and engage the state authorities including health authorities (SMoH and Director General) and other partners • inform locality governor and his admin staff		
Selection of and training community volunteers		
Establish formal links to public health system for monitoring, supervision , referral ……. • Discussion at higher level on how to link and integrate HMM to the HS • Discussion at all levels of HSS • defile the role of the HS in HMM • develop mechanism on integrating HMM information system to the HIS		
Motivation /communication /transport /logistic support to volunteers		
Establish community support structures		

Community sensitization		
Supervision/follow-up of trained CORPs		
Development of M&E indicators with partners • Adopt the MDG indicators and RBM indicators		
Operations research		
Monitoring and Evaluation		

Summary Work plan for the Home based policy for management of fever - group 2

Activity (list all activity components)	Time line	By whom
Strategy, advocacy, political commitment, partnerships 1. Draft the national strategy (WS 3-4 Feb) 2. Finalization the strategy by all technical concerned partners (IMCI . etc…. 3. adoption by National minister and state ministers and launching in world malaria day 4. Establish partnership for raising resources (Investment Bank, GFATM , / private sector (oil /sugar companies, insurance companies, agriculture sector , states , governs	April 09	NMCP IMCI, PARTNERS
Developing Standards,/Guidelines, training and supervision manuals and IEC materials 1-updating training manuals to include other illnesses, RDTs , reporting/ registration forms 2. Development of standard guidelines and supervision checklists 3. States to develop its specific IEC strategy	June 09	1. NMCP, IMCI 2 NMCP 3. SMCP
Establish RDTs/drug distribution system Bottom up system 1. Assign focal points in state /locality dispensary for HMM 2. Volunteers to get monthly RDTs/drug supply from locality focal point 3. Transportation means		NMCP, SMCP , localities Partners

Carry out a sample baseline survey in sample of villages before the implementation	October 09	NMCP
Selection of and training , motivation of /communication /transport /logistic support to community volunteers 1. Selection Criteria: Resident , read/write, age 25-60 yrs , male or female , respected by the community 2. Transportation means (bicycle, cart, donkey …. 3. HMM (solar light, cabinet, cold box , 4. Consultation fees (one pound per consultation) 5. Basic training (2 weeks) , refresher training (2-3 days annually) 6. Motivation system to be developed by state (e.g., health insurance , loan, 7. Tasks Diagnosis , treatment, referral , participate in ITNs distribution campaigns ,health education, other preventive campaigns		
Establish formal links to public health system for monitoring, supervision , referral ……. 1. Orientation of medical team in the referral facilities 2. Develop IHM patient referral card 3. Orientation during monthly visit to health facility by volunteer Monitoring indicators (drug consumption by type , patients seen, patients referred , RDTs used, RDTs negative Monthly supervision by senior medical assistant / locality MCP	Sep 09	NMCP/SMCP/locality


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