



Devoted to reducing deaths and suffering caused by vector borne and neglected tropical diseases in humanitarian crises

The MENTOR Initiative and Geneva Global Programme Proposal:

“Ending Priority Neglected Tropical Diseases (NTDs) in Angola In Partnership with the End Fund, Geneva Global

ZAIRE and UIGE Provinces ANGOLA

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Organization:	The MENTOR Initiative
Mailing Address:	The Pinnacle, Crawley, RH11 7AF, United Kingdom
Contact Persons:	Richard Allan, Director richard@mentor-initiative.net +33 468 78 27 96
	Carl Mercer- HQ Programmes Manager carl@mentor-initiative.net +33 787 608 942
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Submitted to:	Warren Lancaster
Recipient Address:	Geneva Global Inc, 17 Cavendish Square, London W1G 0PH, UK
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ACRONYMS

ACT	Artemisinin based Combination Therapy
ANC	Anti-Natal Clinic
CHW	Community Health Worker
COARTEM	Artemether + Lumefantrine
CVA	Angolan Red Cross
DD	Differential Diagnosis
DPS	Direção Provincial de Saúde (Provincial Health Directorate)
EDP	Essential Drugs Programme
GFATM	Global Fund for AIDS, TB and Malaria
GF	Global Fund
HC	Health Center
HES	Health Education Session
HF	Health Facility
HP	Health Post
HW	Health Worker
IPT	Intermittent Presumptive/Preventive Treatment
LLIN	Long Lasting Insecticidal Nets
KAP	Knowledge Attitudes and Practices
MDA	Mass Drug Administration
MINSA	Ministério da Saúde (Ministry of Health)
MoE	Ministry of Education
MoH	Ministry of Health
MoU	Memorandum of Understanding
NGO	Non-governmental Organization
NMCP	National Malaria Control Program
NPO	National Programme Officer
NTD	Neglected Tropical Disease
PMI	President's Malaria Initiative
PSI	Population Service International
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
SP	Sulphadoxine-pyremithamine (Fansidar)
USAID	U.S. Agency for International Development
WHO	World Health Organization
WL	World Learning

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1 EXECUTIVE SUMMARY

The MENTOR Initiative, having spent nearly a decade building the capacity of the Angolan Ministry of Health (MoH) and National Malaria Control Programme (NMCP) towards sustainable malaria control, proposes Phase-1 of a long-term neglected tropical disease (NTD) programme in Angola. With funding from the End Fund of Geneva Global, MENTOR proposes to target the northern rural provinces of Angola with school, community and health facility based programmes for NTD control.

Unfortunately Africa carries the vast burden of NTDs, and Angola has recorded at least 14 of the diseases at any given time throughout the country. While reliable surveillance data and mapping of diseases is minimal, passive surveillance at health facility level does demonstrate that the northern, significantly poorer, provinces carry a disproportionately high burden of NTDs. With this in mind, MENTOR aims to work with and support both the Ministry of Education (MoE) and Ministry of Health (MoH) to roll out a prevention and treatment campaign in schools and communities in two targeted provinces, Uige and Zaire, where MENTOR is already established and can keep costs at a minimum.

Specifically, MENTOR will work with the MoH and MoE to target school children under 15 years of age in Uige and Zaire with a mass drug administration (MDA) programme. In addition, MENTOR will ensure health facilities throughout the provinces receive treatments, as well as trainings on how to diagnose and treat neglected tropical diseases. Finally, MENTOR will, where possible, coordinate with other partners carrying out community campaigns, to ensure that education and community MDA programs are included where ever feasible.

As MENTOR has built and maintained a strong presence in each of these two provinces over the last 9 years, through malaria programmes funded by USAID, launching the NTD program in these areas will ensure a faster, stronger impact for significantly less cost. In both Zaire and Uige, MENTOR has already built relationships with key stakeholders and has staff, equipment, and logistics systems on the ground, ensuring that rolling out an NTD programme will be both expedited and facilitated, bypassing a protracted start up phase in a new location. Furthermore, as a significant component of the USAID funded public sector programme is aimed at visiting rural communities and building the capacity of healthcare providers, MENTOR can carry this out jointly with the NTD program, ensuring that visits to communities also include mass drug administration (MDA) campaigns and training for healthcare providers in identifying and treating NTDs.

As part of all programmes, MENTOR works hand in hand with the Ministry of Health to coordinate, plan and implement activities. Currently in the USAID funded public sector programme, trainings and supervisions for healthcare workers are conducted jointly by both a MENTOR technical expert and a malaria representative of the NMCP/DPS. In line with this, MENTOR will closely support the provincial MoH teams to ensure the efficient execution of the NTD program and effective programme monitoring. Additionally, MENTOR will facilitate sustainable capacity building of MoH partners responsible in the two provinces, as they take on increasing responsibility for overall implementation of NTD activities.

National scale mass drug administration campaigns to control NTDs are the goal of the MoH NTD program. MENTOR proposes to support the MoH towards this national goal, commencing with an initial roll out of drugs targeting diseases that are known to be present and pervasive. Specifically, MENTOR will support MoH using existing MoH stocks of albendazole and praziquantel to target specific NTDs, including schistosomiasis and those NTD (helminthes) that are soil transmitted.



After 14 years of global health focus on HIV, malaria and tuberculosis, international health advocates are beginning to recognize the critical importance of a core group of 13 neglected tropical diseases (NTDs) that affect almost 2 billion people worldwide. These NTDs include major parasitic and bacterial infections, such as soil transmitted NTDs: ascariasis (roundworm), hookworm, trichuriasis (whipworm); vector borne transmitted NTDs: lymphatic filariasis (LF or elephantiasis), schistosomiasis (bilharzia), onchocerciasis (river blindness), trachoma, leishmaniasis, and human African trypanosomiasis (sleeping sickness); as well as dracunculiasis (guinea worm), Buruli ulcer, and leprosy.

Rural Africa suffers the overwhelming majority of the world's burden of NTDs, where at least 40 countries have five or more co-endemic NTDs. These diseases are transmitted either by vectors or through contact with contaminated water or soil, and consequently disproportionately affect rural, poor communities. Sadly, Africa accounts for all cases of dracunculiasis, 99% of onchocerciasis, almost 90% of schistosomiasis, approximately 40% of lymphatic filariasis (LF) and trachoma, and one-third of all hookworm infections. As many of these NTDs are co-endemic, it is common for poor people to be simultaneously infected with multiple NTDs.

Unlike well reported emerging infections such as avian influenza, SARS, Ebola, and HIV/AIDS, NTDs have plagued humankind for centuries. However, these diseases have a clear link to conflict and population displacement, and human African trypanosomiasis, leishmaniasis and other NTDs have re-emerged and escalated during conflicts in Angola, the Democratic Republic of the Congo, and Sudan, as a result of increased exposure to disease vectors, poor sanitation and water supplies, and a break down in health services and disease control programmes.

Some NTDs kill (trypanosomiasis, visceral leishmaniasis etc), but most cause chronic disease, and many of these cause disability and disfigurement (LF, onchocerciasis, leprosy, Buruli, cutaneous leishmaniasis etc) often resulting in social stigmatization and people being ostracized. The impact of NTDs on poverty is also clear. For example, chronic hookworm and schistosomiasis produce longstanding anaemia, which retards physical growth and impairs memory and cognitive abilities. In pregnant women, such anaemia results in low neonatal birth weight and increased maternal morbidity and mortality. Onchocerciasis and trachoma cause impaired vision or blindness, while LF, onchocerciasis, guinea worm infection, leishmaniasis, Buruli ulcer, and leprosy cause either limb disuse or profound disfigurement that may prevent affected individuals from working. The stigma of NTDs contributes to suffering, delays treatment seeking, promotes non-adherence to treatment, hurts families and communities, and ultimately lessens support for control efforts.

Despite the overall morbidity caused by NTDs being far greater than that of malaria, mortality is relatively low, and international partnerships, political commitment and funding for NTD control have only recently started to increase. With this, exciting new opportunities to control or even eliminate the most common NTDs could now be realized.

Large-scale administration of low cost/donated drugs, such as albendazole or mebendazole for the intestinal helminth infections, ivermectin or diethylcarbamazine for the filarial infections, praziquantel for schistosomiasis and other fluke infections, and azithromycin for trachoma, offer a potential quick win to reduce NTD prevalence in countries where mass drug administration (MDA) can be successfully rolled out. Linked with community education and other community based prevention strategies to reduce re-infection, while enhancing health system capacity to more accurately diagnose and treat NTDs, these diseases can become sustainably controllable or even eradicated.

3. BACKGROUND- ANGOLA

Following three decades of civil war which saw the loss or impairment of critical health infrastructure, Angola, one of the fastest growing economies in Africa, has begun to invest heavily in social development, particularly healthcare. However, while the will and resources exist, the pace of development remains slow, with many areas, notably rural, suffering from a lack of health infrastructure, trained staff, and adequate supply of drugs and equipment.

Angola's health indicators are among the worst in sub-Saharan Africa, in 2009, 68% of the population lived below the poverty line and 28% were living in extreme poverty, surviving on less than 0.70 USD per day. The United Nations (UN) database in 2010 calculated life expectancy at birth to be 47 years for males and 51 years for females. In 2010 the maternal mortality ratio was 610 per 100,000 live births whilst the under 5 mortality rate was 161 per 1000 live births, one of the highest in the world.

Zaire and Uige

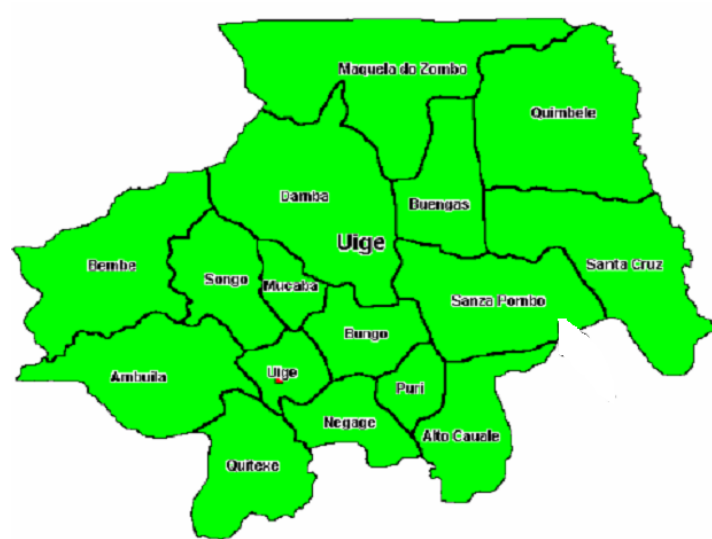
Unlike other more developed provinces, such as Huambo, rural areas such as Uige and Zaire often suffer from disproportionately worse sanitation and healthcare systems, exacerbated by a lack of supplies and capacity. Insufficiently trained health workers with limited supply management skills in remote locations are often the last to receive necessary medication, either due to incapacity in recording and requesting supplies or logistical constraints due to road and environmental conditions. This results in a lack of service availability and accessibility, even by Angolan national standards.

Zaire province, where MENTOR has been working since 2003, is one of the most northern and rural areas of Angola. It is accessible only via a 400km unpaved road from Luanda (10hrs) or unreliable local air services. Within Zaire, travel is always challenging due to very poor road infrastructure. It is a tropical environment with all year round malaria transmission and some of the highest NTD rates in the country. Its population, of nearly half a million people live in 6-municipalities, and suffers high rates of disease. One of the major obstacles that MENTOR has faced regarding malaria-control in Zaire has been the low level of health worker diagnostic capacity in the provinces 85-health facilities and 7 hospitals. It has overcome this problem for malaria through the introduction of malaria rapid diagnosis kits into the health system for routine use. However, lack of sufficient diagnostic capacity for other diseases undoubtedly includes other less-common and neglected diseases, with little to no-information made available to the public. This NTD campaign, will require strong logistical support and good technical capacity building of all health workers and teachers involved if it is to achieve good quality and safe MDAs and result in reinforced health service delivery and accurate NTD recording and mapping.



Map 1: Zaire Province 1

Uige province, located in the north-east interior of the country and with a population of 2.2 million, is a very remote and sprawling rural province with little properly maintained infrastructure resulting in poor sanitation and living conditions. While the province boasts 7-hospitals, 197 health facilities and 48-ANC clinics, the majority of these are remotely distributed throughout the 16-municipalities and are hard to reach, under-stocked and insufficiently staffed. Uige has historically been neglected in infrastructure planning, human resources and supplies distribution, meaning already weak systems are not on par with the rest of Angola's development. As a result, the population in Uige suffer badly, with malaria and NTD rates similarly high to Zaire. Overall Uige has some of the worst health indicators in the country.



Map 2: Uige Province

In response to the poor situation in Uige, and requested by USAID, The MENTOR Initiative Medical Coordinator conducted a week long assessment mission to health facilities in Uige early in 2012. While primarily investigating the capacity of the healthcare system to support malaria control programmes, the findings were non-specific and highlight the contextual difficulties facing Uige:

1. Management skills at health facility level are very low (all levels) with regards to treatment, diagnosis and general knowledge of vector borne diseases;
2. Very rural conditions make the roads/accessibility quite difficult- creating obstacles for service provision, drug distribution, trainings and capacity building;
3. There is neither efficient nor transparent communication between provincial /municipal levels and field level health representatives. This leaves a great deal of room for top-down capacity building;
4. Staff are not motivated due to late payments and other "difficult" conditions in Uige, such as poor housing and working conditions;
5. There are numerous logistical constraints, such as problems in acquiring simple spare parts for ambulances and equipment. Likewise fuel is not always available.

In response to these findings, and funded by USAID, MENTOR began a malaria control and capacity building program in Uige, similar to the long-running program in Zaire province.

4. MENTOR EXPERIENCE IN ZAIRE AND UIGE

The MENTOR Initiative, a purpose built NGO focused on malaria, and other vector borne and neglected tropical diseases, has been operating in Angola since June 2003 (consistently funded by USDS-BPRM, USAID, PMI, PSI, UNICEF, UNHCR, and also previously by Exxon Mobile). MENTOR is the agency responsible, with NMCP, for the successful piloting and subsequent national introduction of Rapid Diagnostic Tests (RDTs) and Artemisinin-based combination therapy (ACTs) for malaria case management (piloted in Huambo and Zaire provinces from 2003).

The MENTOR Initiative is currently undertaking three public-sector capacity building grants in Huambo, Zaire and Uige provinces, in collaboration with the Provincial Health Department (Direcção Provincial da Saúde-DPS), the NMCP and the National Essential Drugs Program (NEDP). This program focuses on enhancing the capacities of partners in malaria control, specifically disease prevention, diagnosis and treatment, activities include:

- Coordination of malaria control activities with all local, national and international partners;
- Support of the logistical supply chain of malaria commodities from the national to the health facility level, including both distribution planning and delivery of medications and supplies to promote access to appropriate diagnostics and treatment;
- Capacity building of MoH health workers in the diagnosis (differential, and confirmatory RDTs) and malaria Case management according to the national protocol;
- Capacity building of MOH health workers in required pharmaceutical management procedures, data reporting and statistics, according to NEDP protocols;
- Capacity building of MoH laboratory technicians in microscopy diagnosis of malaria and use of RDTs;
- Supervision of Health Facilities and Laboratories to guarantee good quality of services are delivered;
- Community sensitization activities regarding malaria control and early health seeking behaviour.
- Laboratory Supervision throughout the entire Huambo Province, in collaboration with the National Laboratory
- Capacity building and facilitation of the MoH to carry out essential related functions;

In addition to reinforcing the malaria control capacity of public sector services, MENTOR has, since 2008, also successfully implemented the introduction of ACTs in the Angolan private sector. This has grown from 90 (2008) to almost 200 private facilities today in Huambo province. Additionally, MENTOR also has a long history of collaboration with UNICEF, UNHCR, LAV (Luta Anti Vectorial) and PSI to provide technical support for national Long Lasting Insecticide-treated Nets (LLIN) distributions, and has taken on the role of implementing agency for the LLIN distributions in both Zaire and Huambo provinces. In addition, MENTOR (with NMCP) has provided technical support, training and study design inputs to Sonamed (a large national oil company) and IRD to pilot and conduct a two year comparative study of old and new innovative vector control tools in Bolombo, Lobito province. This has been highly successful, and the results are now helping to guide national strategy, and are published in a highly respected research journal: *Plos One*, September 2012 | Volume 7 | Issue 9 | e44189.

Country Team, Infrastructure and Disease Control Approach

Our country team currently consists of 6 internationals (two tropical medicine doctors, with over 40 years combined public health experience, one epidemiologist, one prevention expert, one laboratory specialist, and a grants/finance manager). All international team members are tri-lingual, and fluent in Portuguese. The team leads a large national team (funded by PMI and PSI) and a network of partners in three provinces with high NTD



disease burdens, Zaire, Huambo, and Uige. In addition, MENTOR has routinely trained and used large teams of community based workers (activista) to deliver community based prevention and education initiatives. These community based workers are rehired as needed.

MENTOR has programme offices, warehousing and team accommodation in Huambo town, Mbanza Congo - Zaire, and now also in Uige. In each province we have a small fleet of 4x4 vehicles that are either owned by MENTOR and rented to programmes, or are funded directly by USAID, PMI or PSI. Our country HQ is based in Huambo (to ensure the best cost efficacy), and our team make regular short trips to Luanda as needed to plan and co-ordinate country activities with NMCP, donors and others.

5. THE CASE FOR NTD CONTROL IN ANGOLA

The many impacts of long term conflict in Angola caused many NTDs to escalate sharply, and the challenges in NTD control have been immense. During the conflict most health systems in rural areas were cut off and over 90% of the population was forced to flee rural areas and live in and around 9 provincial capitals for their security. Following the end of the conflict, the last decade has seen the gradual demining of rural areas and the return of many communities, but the process of rebuilding the countries destroyed rural villages and towns, establishing adequate water and sanitation services, and disease control efforts (other than malaria) has been much slower, especially in the more remote northern provinces where NTD transmission tends to be highest.

At least 14 neglected diseases have been identified in 9 out of the 18 provinces of Angola, though prevalence data on these diseases, and the mapping of disease transmission, is still in its evolution, with many gaps. However, the following data outlines the trends in Angola.

Lymphatic Filariasis (LF), is caused by a nematode worm (*Wuchereria Bancrofti*), transmitted by mosquitoes. In rural areas the same *Anopheles* mosquito that transmits malaria is commonly the main vector of LF too, where as *Culex* mosquitoes are common vectors in urban and peri-urban environments. LF may also be transmitted by *Aedes* and *Mansonia* mosquitoes (though to a lesser extent). Of the 120 million LF infections worldwide, 40% are in Africa. In 2011, Angola reported LF cases in Huambo, Kwanza-norte, Bengo, Malange, Luanda et Cabinda provinces. However, the epidemiology of filariasis is poorly documented and only 4 provinces (Huambo, Kuando Kubango, Bié et Moxico) have had any mapping of the disease to date. Given the coverage of the vectors however, **it is likely that LF shadows malaria epidemiology, with higher transmission occurring in the Northern provinces.** The health system in the Northern provinces is the least developed and disease surveillance is very poor generally. WHO estimate that the Angolan population requiring LF preventive chemotherapy is 12,090,000.

Soil transmitted helminth infections are common in all 18 provinces. In 1985 a prevalence study was conducted in Bengo province (Dr Luzia Fernandes Dias), which showed a prevalence of helminths of between 76%-90%. Of this amount, 69% - 90% were *Ascaris Lumbocoides* infections and 44-59% were *Ankylostomes Duodendalis* infections. A national survey (divided and sampled by ecological zones) of soil transmitted helminth infections amongst school age children was conducted in 2005. Two out of 6 ecologies were classed as high risk, with a prevalence >50%. This included parts of, or all of, Cabinda, **Zaire, Uige**, Kwanza-norte, Bengo, Kwanza-sul, Malange and Lunda-Norte provinces. All other zones had a prevalence of 20-50%. Within this, the infections most prevalent were *lumbicoides* (25.2%), *duodenalis* (9.8%) and *trichiuris trichuria* (5.1%), see Table 1 below. From the data available WHO generated and published Figure 1 below, showing the highest transmission areas are in the northern provinces and marked in darker colour.

Table 1: Overall Prevalence of Soil Transmitted Helminths

2005 Study Zones	Intestinal Parasites		
	No.	Positive	% Prevalence
Zone1- Nord de Namibe	237	85	35.9
Zone2- Cabinda	187	142	75.9
Zone3- CentralMalanje	298	79	26.5
Zone4- Baixa de Kassanje	130	74	56.9
Zone5-ouest de l'Angola	255	77	30.2
Zone6-Namibe,Sud de Huila,Cunene,Kuando Kubango	234	67	28.6
Global	1341	524	40



Figure 1: Overall Prevalence of Soil Transmitted Helminths, by ecological zone.

The Ministry of Health in collaboration with the National Management of Public Health used available data to generate prevalence maps for five of the major soil transmitted helminth worms (see Figures 3 & 4 below). They then began to supply 8 million doses of albendazole to school age children, in three phases over 4 years. This targeted 947,820 children in 7 hyper-endemic provinces in 2006, 3,932,940 children in 18 provinces in 2007, followed by greater than 3.3 million in each of 2008 and 2009. The estimated coverage was 75% of primary school age children. Children <5 years were also targeted during polio (with Vitamin A) vaccination campaigns in 2006, reaching 2,967,528 children.

Figure 2: Prevalence of *Ascaris* and *Trichuria* worm infections, by ecological zone

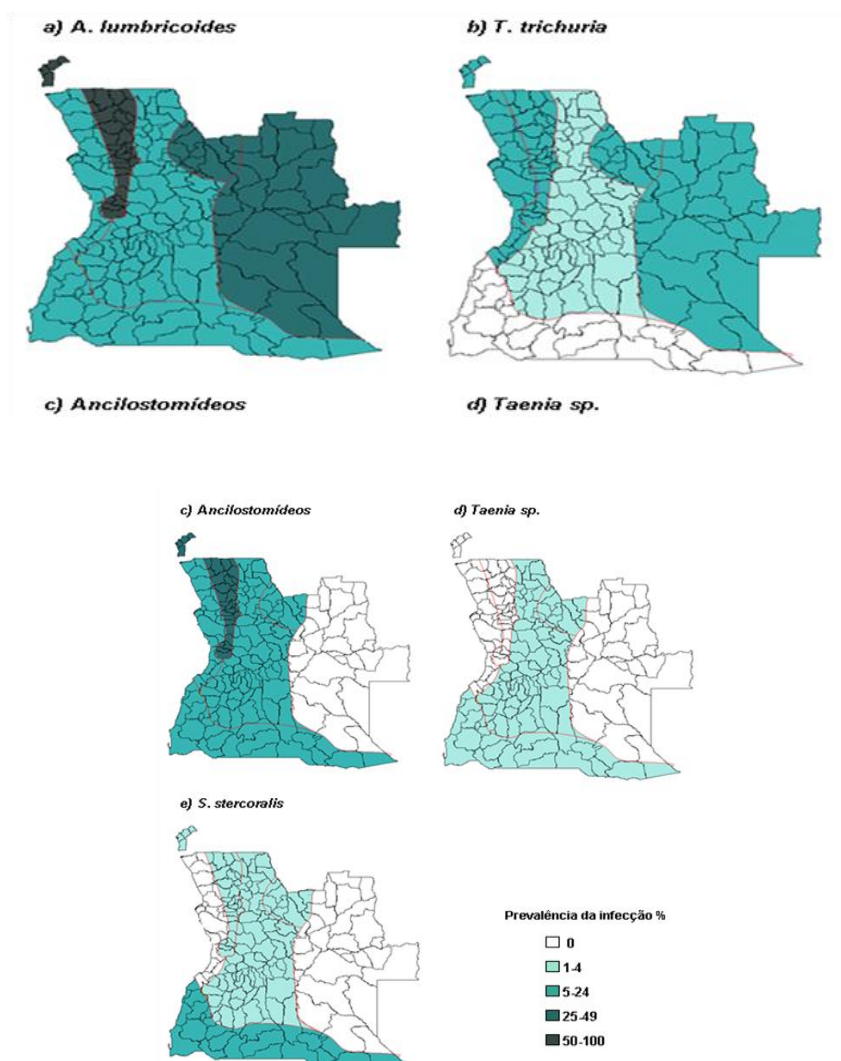
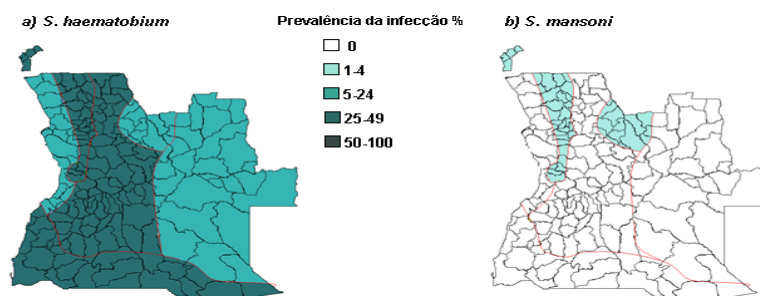


Figure 4: Prevalence of Ankylostome, *Taenia* & *Stercoralis* worms

Schistosomiasis is a parasite (liver fluke) hosted by snails, and normally infects people when they are visiting infected rivers and lakes. There are five species reported in Angola, but two main types: *s.Mansoni*, which causes intestinal illness, and *s.Hematobium*, which causes the urinary form of the disease. Schistosomiasis was first reported in 1897 in Huila province. In 1902 the urinary form was confirmed in Huila, Cunene and Cabinda. In 1939, Sarmiento reported a 60.2% infection rate in children in Kuando kubango province. By 1944 it was being reported in 15 provinces, and by 1987 *s.Haematobium* was predominant across half the country, with *s.Mansoni* in some parts.

Luanda, Bengo, Benguela, Malange, Huila and Cunene provinces were worst affected. Surveys between 2001-2005 showed that prevalence varied from 6-60% in different parts of Luanda, Bengo, Kwanza-Norte, Huila and Benguela. The most recent study, conducted in 2005, showed an overall prevalence of 28% nationally for the urinary form of the disease. This study identified Zaire, Uige, Bengo, Kwanza-Norte, Kwanza-sul, Cabinda, Malange, Bié, Huambo, Benguela, Huila, Namibe, Cunene et Kwando-Kubango as being provinces of highest risk. High risk zones had a disease prevalence >30% (see Figure 5 below). Unusually, in 2008/9 Mbanza Congo, Zaire province experienced a schistosomiasis outbreak, with 15 reported deaths. WHO estimate that the Angolan population requiring preventive chemotherapy is 11,396,624.

Figure 3: Prevalence of Schistosomiasis by type



Despite the major prevalence and disease burden caused by Schistosomiasis, the Angolan MoH does not yet have mass praziquantal treatment programmes, or other control programmes, currently in place, and have worked mainly through health facility services to date. They are however, open to options.

Onchocerciasis (and Loaisis) is an NTD with the nematode *Onchocerca volvulus*. It is the world's second-leading infectious cause of blindness, and is transmitted by the bite of the *Simulium* black fly. The fly inhabits places with fast moving rivers. Of the 37 million persons infected with *Onchocerca volvulus* worldwide; 99% are in Africa. It is controllable through MDA of ivermectin, and programmes in west Africa have achieved effective control with this approach. In 2002 the African programme for onchocerciasis control (APOC) funded the mapping of this disease in Angola in 2002. The survey covered 535 villages in 9 out of the 18 provinces. Survey results classified 367 villages as Red (high risk), and 1650 villages as Yellow (medium risk). From this geographic zonal data they estimated that 1192 villages, spanning 9 provinces, each village with an average of 740 inhabitants, required treatment with Ivermectin. They also identified that at that time 3408 villages (half of the south) were situated in parts of the country too insecure for treatment programmes. Today, security and access are good everywhere in Angola, and mass treatment programmes with ivermectin would be feasible.

Loaisis or LoaLoa, is a similar nematode infection transmitted via african deer or mango flies of the family Chrysops. Nematodes commonly migrate to the eyes which is frequently the best way to diagnose the condition. Crucially, the geography of both Onchocerciasis and Loaisis tends to closely overlap however treatment with Ivermectin of patients with Loa Loa can cause severe retinal bleeding. Surveys conducted by MINSA and RAPLOA/REA from 2004-2008 identified Cabinda, Zaire, Uige, Bengo, Kwanza-Norte and Begela as the most endemic, the highest being Uige and Bengo. A further study in 2011, still under analysis, has helped to confirm and map (see figure 6). WHO estimate that the Angolan population requiring preventive chemotherapy is 850,183. Geographic priorities for the delivery of community based treatment are outlined in Figure 7 below.

Figure 4: Prevalence of LoaLoa by Province

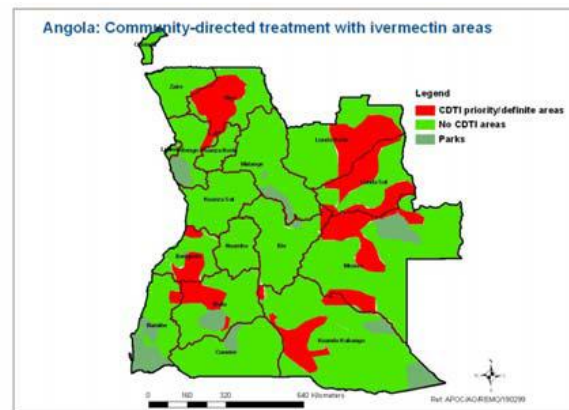
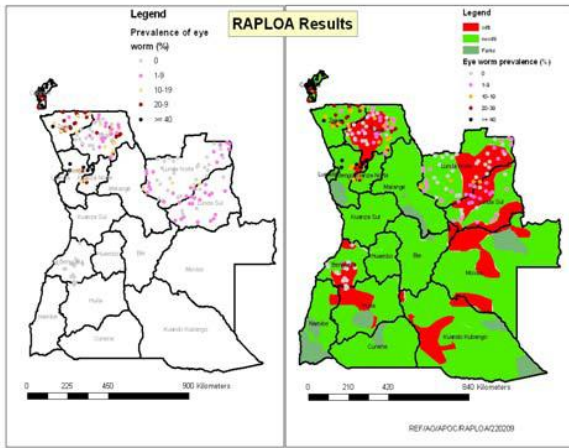


Figure 5: Priority areas in Angola for Ivermectin

Trypanosomiasis (sleeping sickness) affects parts of Angola and transmission escalated during the war period. *Trypanosoma brucei gambiense* is the most common human form of the parasite in Angola. It is transmitted by the bite of Tsetse flies. People are bitten when collecting water, or washing, in rivers, as this is the fly's main habitat. Whilst the disease affects 36 countries, over 80% of cases are limited to northern Angola, DR Congo, South Sudan and neighboring countries. The disease is fatal if untreated, but develops slowly over months and years. WHO estimates that it causes over 40,000 deaths annually throughout Africa. Treatment is difficult, but the tsetse fly is slow breeding and very vulnerable to control through simple, low cost, community based trapping (see inserted image of a home-made blue and black cotton tsetse trap) at water points. Experience in South Sudan and northern Uganda has shown that transmission of the disease can be significantly cut using this simple community based prevention strategy. The worst affected provinces in Angola, are Zaire, Uige, Bengo and Malange. Luanda Norte and Luanda Sul have cases annually in their border areas with neighboring countries (DRC and Zambia respectively). However, from 2001 to 2009, a reduction in the reported number of new patients was observed every year, from 4,577 in 2001 down to 295 cases in 2009. Because the disease transmission occurs in very specific geographic foci, at water points, there is a real possibility of eradication of this fatal NTD in Angola, providing that targeted trapping is established at water points in the remaining transmission sites, and that they are maintained over a number of years.



6. PROGRAMME STRATEGY AND APPROACH

PHASE 1: IMPLEMENTATION PLAN (December 2012 – Dec 2013)

Goal: To assist the MoH in achieving a significant reduction in the burden of soil-transmitted helminth and schistosomiasis infections in high burden areas of northern Angola

The scale of the END Fund NTD programme in Year-1 is determined by the initial funding available, and is designed to achieve a good quality operational model with MoH and other partners, that will be scalable and expandable as funding increases over the short and longer term. The focus for NTD control in Angola has already, to a large extent, been outlined by the work already done by the MoH to identify priority NTDs and high transmission areas across the country.

With current funding levels available, the End Fund support to MoH will focus initially on rolling out a relatively simple package of MDA and health facility support targeting soil helminth and schistosomiasis infections in the Zaire and Uige provinces as these are amongst the highest burden areas of the country that MoH have identified to date. These Phase 1 locations will be targeted initially because all NTD activities can, in these two provinces, be tied closely with MENTOR's existing USAID funded (2012-2017) support to MoH for malaria control, thereby maximizing, and adding to, the benefits of technical investments made over the last 9 years, existing programme infrastructure, budgets, and partnerships.

As funds increase, then other low cost community based NTD control activities may be considered in addition to MDA, wherever these are feasible and deliverable, either in tandem with MDA, or with existing malaria control interventions at health infrastructure and community levels during Phase 1 of the End Fund implementation.

The Ministries have made good efforts to date to deliver MDA with albendazole (and have received a commercial donation of 1 million treatments) to try and control a package of soil helminths (worms) in some areas of the country, and they are keen to expand this MDA strategy nationally. Efforts for control of schistosomiasis are still relatively embryonic and will require significant support. However, the development of MDA (with praziquantel) specifically designed to tackle this disease, tightly coordinated with albendazole MDA, provides real opportunity for significant and lasting impact. Phase 1 will focus on supporting MoH teams in Zaire and Uige to scale up MDA for soil helminths and schistosomiasis through schools, and reinforcing existing health facility capacity to identify, treat, and correctly record NTDs.

Objective 1: Reinforce stakeholder co-ordination, planning and analysis capacity for NTD control

Activity 1: Facilitate and support initial NTD stakeholder meetings at provincial level with MoH, MoE, MENTOR and others (WHO, UNICEF etc) for planning and detailed time tabling of NTD activities, especially the delivery of school based MDA.

As one of the earliest activities, MENTOR will in December 2012 support the MoH provincial teams to host a one day stake holder meeting in each of Zaire and Uige provinces. During these meetings, relevant ministry representatives (education, sanitation etc) and UN representatives will be invited to join with MoH and MENTOR in local level planning of NTD activities. The MoH national strategy for MDA in schools will be the focus of these meetings, to ensure MoH/MoE planning steps and scheduling of school campaigns with MENTOR field support.



An NTD representative from central MoH in Luanda will be invited to attend these MoH led provincial meetings to ensure good co-ordination, endorsement and support at all levels of the MoH. These stakeholder meetings will be the forum to agree and set detailed MDA targets, and programme progress monitoring indicators that will then be used through Phase 1.

Additional external schistosomiasis experts will be consulted by MENTOR and introduced to the MoH NTD leads in order to encourage and facilitate establishment of a long term technical support network that MoH can call upon as needed to advise on the NTD control programmes in Angola.

Consuade, an important national NGO that works very closely with the NMCP, is also likely to be an important partner with MENTOR, to help raise political support and focus at national level in the initial phase, and may also provide direct implementation support in some provinces in later phases of the End Fund as it expands.

Activity 2: Provide technical and logistical support to provincial and central MoH teams to improve NTD mapping, and reinforce accurate planning of albendazole and praziquantel drug supply chain needs (from existing central MoH donated stocks) for MoH provincial drug stores in Zaire and Uige provinces.

MENTOR will work with all levels of the MoH to help facilitate and support provincial and central MoH to analyze available health facility NTD case reporting data, with the aim of improving the accuracy of NTD burden mapping for Phase 1 target areas. This health facility data, when combined with demographic data for each province, will help to ensure an accurate estimation of NTD drug supply needs for both MDA at schools, and case management stock and technical requirements at health facilities. Improved provincial level NTD mapping data will also increasingly assist the MoH to identify any NTD geographical hotspots (epidemiological foci) within these provinces that may require additional targeted support.

MENTOR will work with the MoH to provide logistical support (when and where necessary) to help them ensure timely delivery of MoH NTD drug supplies to provincial warehouses, so that scheduled NTD activities in each province can proceed to agreed schedules.

Throughout Phase I MENTOR will continue to provide technical support to MoH to assist them with their monitoring and analysis of NTD Phase 1 programme successes and impact in Zaire and Uige provinces. In Quarter 4 of Phase I MENTOR will again facilitate and support MoH to implement a one day stakeholder planning meeting in each province to review Phase 1 successes and challenges, and agree Phase II priorities (according to End Fund available support and any government/UN dedicated support/resources available). If additional END Fund resources become available to expand Phase II geographical coverage before the end of Phase I then MENTOR will work with MoH at central level to plan out support priorities for the geographical expansion of their NTD control programme, using lessons learnt from the NTD control models piloted in Phase 1.

Objective 2: Improve the health system capacity to accurately identify, record and manage priority NTDs

Activity 1. Support MoH provincial health coordinators to ensure joint NTD health facility and antenatal clinic technical coaching visits are conducted to improve the quality of NTD diagnosis, drug administration, case management, and reporting capacity of health workers.

MENTOR will work with the provincial MoH teams to ensure technical coaching, reinforce health worker differential diagnostic and case management abilities, and build case recording and reporting capacities for NTD cases presenting at health facilities in Zaire and Uige provinces.



In addition, staff managing antenatal clinics (48 in Uige and 33 in Zaire) will be supported and trained on site to deliver good quality and safe NTD drug administration to children under 15 of age, who do not attend local schools, and who are attending antenatal clinics with their mothers. This approach should help target more of the female children in the municipalities, as female attendance at schools is significantly lower than for male children.

All NTD technical coaching visits will be timetabled and linked directly to existing MoH/MENTOR joint malaria technical coaching activities scheduled with MoH at provincial level. In Zaire province a minimum of 100 health workers staffing 50 health facilities (and ANCs) in Mbanza Kongo, Kuimba, Soyo, and Noqui Municipalities will be technically reinforced. In Uige province, a minimum of a further 120 health workers that are staffing 60 key health facilities (and ANCs) in 16 municipalities will receive similar on-site technical coaching and capacity building for NTDs during these visits.

Activity 2: Support local MoH supply chain logistics (where needed and feasible) to help ensure that supported health facilities have adequate essential NTD drugs and materials.

MENTOR will support MoH in the production and distribution of standardized health worker job aids for NTD diagnosis and case management. These materials will be laminated and a copy will be distributed to health facilities in each province. Likewise, MENTOR will support MoH in their development of NTD IEC messages, posters, and leaflets to be used in health facility waiting areas to raise the awareness of all people seeking health facility services. These will focus on increasing peoples understanding about helminth and schistosomiasis transmission, prevention, disease symptoms and early / correct treatment seeking.

MENTOR will also provide technical assistance, where needed, to MoH to help them assess and plan NTD stock requirements for health facilities. During routine joint technical coaching and supervision visits to health facilities, MENTOR will dedicate vehicle cargo space to assist MoH with carrying and delivering essential NTD stocks and materials to health facilities being visited, especially those which are most challenging to access by the routine provincial MoH supply chain system.

Activity 3: Reinforce MoH mapping of NTD cases.

Through the reinforcement of health worker diagnostic and case recording capacity during technical coaching visits, the quality of NTD case identification and reporting from health facilities to municipal level MoH should steadily improve through Phase I. MENTOR will work closely with MoH to support them in the analysis of health facility passive NTD case data each month, and will assist them in improving the overall epidemiological mapping of the NTD burdens in each province, using all available passive case data for priority NTDs.

Passive NTD case data alone is not sufficient to provide a complete epidemiological picture of the burden of NTDs, as a large proportion of NTD infections remain undetected at community level. Only randomized community surveys can fully assess the burden of disease with greater accuracy. However, these are beyond the current scope of the MoH in Uige and Zaire, and are also beyond the current funding capacity of the Phase 1 End Fund resources. Passive data collection, whilst more limited, has the advantage that it is largely achievable and sustainable by the MoH and should provide important case data for monitoring NTD prevalence trends. Monthly health facility NTD case burden mapping data will be used as an indicator to help monitor overall trends in helminth and schistosomiasis infections amongst children, following school based MDA campaigns. This will help to monitor both potential reductions in NTDs post campaign, and also identify when the NTD burdens start to rise again, indicating the need for further MDA campaigns.

Mapping inputs for NTD prevalence may be augmented in Phase II with randomized community based surveys to expand the MoH evidence base. Phase II planning for such surveys will be included in meetings with MoH in Quarter 4 of Phase I if sufficient resources become available.

External disease experts will be drawn on to help analyze the existing body of NTD information for Angola, confirm gaps and identify where necessary, additional surveys, or health facility surveillance reinforcement, is needed to ensure effective monitoring and evaluation. These same experts will be drawn upon to also support the country stakeholders to publish the results of their NTD programme. This process will aim to achieve national ownership of the data so that it can help to guide the development of national NTD policy and strategy.

Objective 3: Reduce the burden of helminths and schistosomiasis amongst school children <15 years old.

Activity 1: Conduct joint MDA/IEC campaigns in schools that serve the population catchment areas of the health facilities supported in Uige and Zaire provinces during Phase I.

NTDs disproportionately infect children of school age. MDA campaigns delivered in schools is recommended by WHO as a practical strategy to reach children under the age of 15 years old. Unfortunately schools themselves cannot reach all school age children in these provinces, as only one in three school age children do normally attend school in Angola. Schools do however provide an important access point to many children.

As the proportion of girls attending school is much lower than that of boys, additional NTD activities are required to reach females <15 years old. In Phase I, NTD drug administration through supported health facilities and especially through anti natal clinics is expected to help boost the number of girls reached.

During Phase I MENTOR will support the MoH and MoE to ensure that MDA for helminth and schistosomiasis is conducted in a minimum of all schools that serve the population catchment areas of health facilities supported in Uige and Zaire provinces.

In Uige there is a total of 1084 schools, 14,604 teachers, and 349,798 school children (source: Min. Educ. Uige official interview, Oct 2012). In Zaire there is a total of 282 schools Teachers: 1438 and 181,444 students of which 127,286 are male and 54,158 are female (source: Min of Educ. Zaire 2012). The final choice of schools to be included in MDAs in Phase 1 will be made by the key Ministries involved, but it is anticipated that this initial phase of programming will reach approximately 50% of the provinces children attending school and who are aged <15 years old.

MoH health workers from the nearest serving health facilities will be trained and supported to deliver high quality MDA to children, with a focus on ensuring safe drug administration for all children involved. Detailed implementation plans for the school MDAs will be one of the products generated with stakeholders, under MoH leadership, in the first 6-8 weeks of this programme start up. This should enable the first MDA campaigns to be initiated by the end of January 2013. MoH will also decide on the final combination of drugs in the MDA based on national strategy, and the variety and availability of NTD drugs.

Activity 2: Maximize opportunities for NTD IEC delivery and future MDA linkage opportunities with other community based campaigns targeting children <15 years of age.

It is likely that community based MDAs, using house to house campaigns, may be planned as part of the End FUND Phase II in order to increase the proportion of <15 year old children reached in high burden areas. This will be raised during the Phase 1 Quarter 4 review and planning meetings. Throughout the programme, MENTOR will support the MoH to maximize opportunities for MDA linkage to other community based health campaigns that



they may develop, and that are targeted at school age children (polio, vitamin A and measles vaccinations campaigns, LLIN distributions, etc.) in order to increase MDA coverage. In so doing, these other carrier mechanisms are likely to also present opportunities for combining NTD education (community level, and national and regional radio etc) and other prevention activities. These opportunities will be taken up to the maximum possible within the limits of the funding and resources available.

When delivering MDA campaigns at schools, MENTOR will support MoH/MoE to brief and involve teachers in the delivery of a package of standardized NTD awareness, prevention and correct early treatment seeking messages to the children during the campaigns. It will also work with MoH and MoE partners to consider the inclusion of regular NTD health education message slots in the schools routine activities.

Phase II NTD:

As the MoH NTD programme develops, partners will be able to learn from the success and problems experienced in the first 2 provinces, try out new innovative approaches where needed, and repeat successful models in additional provinces as the funds and scope of the programme expands. At each stage, MENTOR will work with the ministries and its existing partner network, to identify suitable and best placed partners with existing operations in new provinces, with the aim of achieving national NTD coverage, and effective joint border control with Namibia, subject to the growth of the END Fund and other donors.

7. PERFORMANCE, MONITORING AND EVALUATION PLAN

Unfortunately existing data on NTDs is weak and unreliable. While the scope of Phase 1 does not include an exhaustive mapping or surveillance exercise, which would be cost-prohibitive at this stage, MENTOR intends to roll out a passive surveillance program using data collected at health facility level.

In particular, MENTOR staff and MoH officers, when conducting field level supervisions to health facilities, will collect data from register books and drug supplies to calculate any changes in NTDs in the area. It is hoped that with the roll out of the preventive therapy program in the school system that there will be a noticeable decrease in patients presenting at the health facility.

In terms of tracking the school-based MDA campaign, MENTOR staff in conjunction with MoH and MoE officials will keep detailed records of drug administration in each school and community, allowing for firm details on target beneficiaries reached.

The central activity to MENTOR monitoring and evaluation systems are routine joint-supervision visits by MENTOR supervisors and municipal/provincial staff. This activity allows for a checklist of information to be gathered, an assessment to be performed, data to be gathered, and improvements made. As an integrated activity within the supervision, teams provide on-site training for health workers in how to accurately report and analyze their patient case loads, facilitating data collection and building local capacity. Specific indicators which will be revealed through supervision visits include: skills retention, supply management data, and health professional knowledge retention- via questionnaires.

In terms of forms and protocol, standardized supervision data collection forms have been designed and employed by MENTOR throughout the previous years towards malaria control. MENTOR will thus use a similar format to create new forms with MoH aimed at retaining information relevant to the NTD program.



The MENTOR Initiative will also continue to develop its close support to the Provincial and District Health Departments and work with their teams on the planning and management of innovative monitoring and evaluation activities for various NTD control activities, such as the commodities supply chain. In particular, as MENTOR currently maintains a supply chain supervisor for the public sector malaria program, MENTOR will ensure that NTD drugs are also included in reinforcing supply chain planning and delivery, cross checking drug requests and supply disbursement lists.

Aside from the routine activities which constitute the benchmarks of monitoring and evaluation, MENTOR will also work with the MoH to organize a quarterly review meeting to assess the NTD program and methods for improving implementation. This will include representatives from the MoH as well as the MoE and other relevant stakeholders.

8. MANAGEMENT AND STAFFING PLAN

Having spent nearly a decade in Angola, MENTOR maintains a team of trained and experienced personnel who are well equipped to handle the challenges ahead. However, in support of the NTD program MENTOR will recruit an international NTD programme co-ordinator (and call upon short term experts as required) and a small team of national staff to ensure a cohesive roll out of activities and strong linkages to existing malaria control activities.

Specifically, the NTD programme will consist of one full-time international co-ordinator dedicated to the NTD program 100% of the time, plus five national-program staff, to include an NTD Program Officer, two MDA Supervisors and two Case Management Supervisors, one for each of Uige and Zaire provinces. As MENTOR already maintains logistics and finance teams in Uige and Zaire, support staff will be minimal as this will be shared with other grants.

Beyond this, MENTOR maintains a strong team of malaria and vector borne disease experts in Angola, and within its HQ, who will be available to facilitate and advise the project.

9. INSTITUTIONAL CAPACITY

The MENTOR Initiative was established in 2002 and is a not-for-profit, charitable, purpose-built initiative designed to strengthen the capacity of Roll Back Malaria (RBM) country partnerships, MoH and national malaria control teams, international NGOs, UN and FBOs. Together with partners MENTOR implements more effective and coordinated action to reduce malaria-related morbidity and mortality.

The MENTOR Initiative works in collaboration with the RBM secretariat in Geneva, UN, INGOs, and IFRC, as well as a network of academic and private partners. The MENTOR team includes international and national specialists for malaria, and vector borne and neglected tropical disease control in more challenging operational settings and contexts including humanitarian crises and post-conflict/recovery settings. The range of expertise provided by the MENTOR team includes epidemiology, emergency field assessment and planning, disease, surveillance, large scale indoor residual spraying, Larviciding, fly control and use of treated materials (LLINs, ITPS and DL) for disease prevention, diagnosis and investigation, case management, community mobilization and applied operational research and evaluation. This team has developed a strong, action-based, and clearly



measurable strategy to build technical and operational capacity of partners in order to scale up effective disease control among vulnerable populations.

The MENTOR Initiative has significant experience in the surveillance, prevention and case management of malaria, dengue fever, lymphatic filariasis and other neglected tropical diseases. Through the delivery of its ongoing 5-day international training courses on malaria control in humanitarian crises, and its new 5 day course on Vector borne disease control in humanitarian crisis, The MENTOR Initiative has trained well over 1100 international field team managers/senior team members from more than 100 INGOs, FBOs, UN agencies and MoH Teams (including MoH teams from Angola, Liberia, Sierra Leone, Central African Republic, Cameroon, Chad, Kenya, Somalia, Sudan, South Sudan, Tanzania, Malawi, Egypt, UAE, South Africa, Thailand, Burma, Phillipines, Afghanistan, Indonesia and Yemen). Capacity building has focused on how to design appropriate malaria and VBD control activities and improve existing health systems in order to provide best practice case management and control in settings with limited infrastructure.

The MENTOR Initiative works with national MoH and National Malaria Control Programmes (NMCPs) in order to assist in the design of National Malaria Control Strategies and National VBD Control Strategies, and to reinforce the implementation of these strategies. These integrated programmes include coordination of control activities in specified geographic regions, support of logistic supply chain of case management commodities from the national to the health facility level, health worker case management and laboratory technician diagnostic training, supportive supervisions with integrated on-the-job coaching of health workers and laboratory technicians, reinforcement of pharmaceutical management and data reporting, community mobilization and education regarding disease control and improved health seeking behavior. Additionally, MENTOR incorporates routine monitoring and evaluation into all programming to ensure good quality standards are followed in all operations.

The MENTOR Initiative is a well-respected implementing partner of PMI, USAID GB, USAID OFDA and USDA BPRM, UN Foundation, UNICEF, WHO, UNHCR, UN OCHA, EU ECHO, Global Geneva, other donors. In 2006 the emergency malaria and dengue fever control work of The MENTOR Initiative in the tsunami was recognized and honored by Her Majesty the Queen of England, at a reception in Buckingham Palace.

The MENTOR Initiative has the financial capacity and accounting systems that are fully compliant with USAID requirements and are capable of managing the resources and financial requirements of this project as a sub contractor.

The MENTOR Initiative has since 2005 been strategically and steadily expanding its mandate and organizational capacity to meet a wide range of neglected tropical and vector borne diseases which until now have often existed in the shadow of malaria. With funding for Phase 1 from the END Fund, MENTOR will work directly with the Angolan Ministry of Health (MoH) to roll out mass drug administration and community based campaigns targeting NTDs. Utilizing existing MoH stocks of NTD drugs, combined with the full existing, and slightly expanded MENTOR teams and logistic supplies in both Uige and Zaire provinces, MENTOR is poised to ensure that Phase 1 of the NTD campaign achieves significant progress for little cost, and that it builds and proves a safe, effective and scalable capacity and approach that can be rolled out where needed in subsequent phases of the End Fund.

