Sierra Leone

FY2015

Control of Neglected Tropical Diseases

Annual Work Plan
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Acronyms and Abbreviations

ALB	Albendazole
APOC	African Program for Onchocerciasis Control
CBM	Christoffel BlindenMission
CBO	Community Based Organization
CDD	Community Drug Distributor
CDTI	Community Directed Treatment with Ivermectin
CHA	Community Health Assistants
CHO	Community Health Officer
CHW	Community Health Workers
CNTD	Center for Neglected Tropical Diseases
DHMT	District Health Management Team
DMO	District Medical Officer
DPC	Directorate of Disease Prevention and Control
DQA	Data Quality Assessment
DSA	Disease Specific Assessment
EU	Evaluation Unit
EVD	Ebola Virus Disease
FAQs	Frequently Asked Questions
FHI360	Family Health International
FP	Focal Person
FY	Fiscal Year
GoSL	Government of Sierra Leone
HD	Health District
HKI	Helen Keller International
HTR	Hard To Reach
IEC	Information, Education and Communication
IVM	Ivermectin
JSI	John Snow Incorporated
KAP	Knowledge, Attitude and Practice
LF	Lymphatic Filariasis
MCHA	Maternal and Child Health Aide
MDA	Mass Drug Administration
M&E	Monitoring and Evaluation
MF	Microfilaremia
MoHS	Ministry of Health and Sanitation
MRU	Mano River Union
NEC-ADR	National Expert Committee for Adverse Drug Reactions
NGO	Non-Governmental Organization
NID	National Immunization Day
NSAHP	National School and Adolescent Health Program

NTD	Neglected Tropical Disease
NTDFP	Neglected Tropical Disease Focal Point
NTDP	Neglected Tropical Disease Program
Oncho	Onchocerciasis
PC NTDs	Neglected Tropical Diseases targeted through Preventive Chemotherapy
PHU	Peripheral Health Unit
Pre-TAS	Pre- Transmission Assessment Survey
PZQ	Praziquantel
RWA	Rural Western Area
SAC	School Aged Children
SAE	Serious Adverse Event
SCH	Schistosomiasis
SCM	Supply Chain Management
SLPB	Sierra Leone Pharmacy Board
SOP	Standard Operational Procedures
STH	Soil Transmitted Helminthes
TA	Technical Assistance
TAS	Transmission Assessment Survey
TF	Trachomatous Inflammation, Follicular
TIPAC	Tool for Integrated Planning and Costing
USAID	United States Agency for International Development
UWA	Urban Western Area
WA	Western Area
WASH	Water Sanitation and Hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

The reasons for the remarkable progress towards control and/or elimination of neglected tropical diseases targeted through preventive chemotherapy (PC NTDs) since the start of the integrated neglected tropical diseases program (NTDP) in 2008 has been categorized into seven key components: 1) relative small geographic size and ease-of-reach, 2) academic foundations and partners within the Neglected Tropical Diseases (NTD) Task Force, 3) post-conflict decentralization, 4) strong district health management structures, 5) community commitment due to high disease-burdens, 6) innovative, in-process independent monitoring using mobile applications and 7) a tailored, versatile communication strategy that addresses changing public awareness and concerns taking cognizance of the cultural context[1].

Support to the NTDP planning process for fiscal year (FY) 2015 includes modifications/recommendations that are required for the remainder of FY2014 in the context of the ongoing Ebola epidemic, the remaining goals of the current NTD Master Plan (2011-2015) and priorities of the next NTD Master Plan (2016-2020). The priorities of the next NTD Master Plan will be decided by members of the NTD Task Force according to World Health Organization (WHO) guidelines and with the approval of the Ministry of Health and Sanitation (MoHS).

Goals for FY2015 are to maintain 100% geographic and over 80% programmatic coverage for mass drug administration (MDA) in 14 health districts (HDs) for lymphatic filariasis (LF) and soil transmitted helminths (STH), in 12 HDs for onchocerciasis (oncho) and in 7 HDs for schistosomiasis (SCH). Disease specific assessments for LF will include a pre-transmission assessment survey (pre-TAS) for the first time in the Western Area (WA) and for the second time in 2 evaluation units (EUs) for the 4 HDs that 'failed' the pre-TAS in 2013. An integrated impact assessment for SCH and STH in 12 HDs is recommended in the context of continued internal migration and rapid urbanization to better inform MDA-strategy after FY2015 for the 2 NTDs.

Mapping for all targeted NTDs has been completed so none are planned in FY2015. Training and refresher trainings will be conducted for either new or previously-trained personnel: neglected tropical diseases focal persons (NTDFPs), district supervisors, peripheral health unit (PHU) staff, community health workers (CHWs), community drug distributors (CDDs), laboratory technicians and Independent monitors.

Supportive supervision will be conducted at all levels in a cascade manner during implementation of the following activities: macro-planning, training of district heath management teams (DHMTs), advocacy at district level, training of health workers, social mobilization, training of CDDs/CHWs, MDA and Independent monitoring. In addition, the National School and Adolescent Health Program (NSAHP) staff will participate in the supervision of the SCH MDA during which the second round of MDA- STH. Community self-monitoring will be strengthened in FY2015 in chiefdoms (subdistricts) within HDs with persistent LF-microfilaremia level ≥1%.

Monitoring and evaluation (M&E) performed by the NTDP will be enhanced through training on data quality assurance (DQAs), the WHO Joint Reporting and Drug Request Forms and the creation of a national

[1] Hodges MH. The Guardian. http://www.theguardian.com/global-development-professionals-network/2014/jun/24/sierra-leone-ntds-control-success.

database with technical assistance from Family Health International (FHI360) and the Ghana NTDP. Independent in[2]-process and end[3]-process monitoring of coverage and the debriefings that accompany the independent monitoring will continue to help the NTDP swiftly address challenges and help validate programmatic coverage especially in hard to reach (HTR) communities. Independent monitoring of the impact of advocacy, social mobilization and training will continue and be used to improve the quality of these activities.

Supply chain management (SCM) using customized standard operational procedures (SOPs) are being incorporated into the NTD training courses at district level in late FY2014 with the support of John Snow Incorporated (JSI).

Transition to post-MDA LF surveillance is anticipated in 8 HDs in late FY2015 after the planned transmission assessment survey (TAS) in FY2014. This transition will require further training of district/private sector laboratory technicians on the identification of LF-microfilaria from blood samples collected as part of their routine work between 10pm and 2am and during screening for recruitment into the army and the police. Cross border control to prevent recrudescence due to importation of LF from other HDs and/or from neighboring Guinea and Liberia will focus on synchronizing NTD activities within the Mano River Union (MRU) and modifying MDA strategies to ensure coverage amongst traditional migrants, employment-seeking migrants and MDA-migrants. During the post-MDA surveillance phase for LF in the 8 HDs albendazole (ALB) and ivermectin (IVM) will be available at the NTDP store to be used for treatment when positive cases are detected. The NTDP/MoHS and partners through the Government of Sierra Leone will make a "special" request to Mectizan Donation Program to provide drugs during the initial period of the surveillance phase whilst an alternative source is sought. The Tool for Integrated Planning and Costing (TIPAC) will be updated by senior MoHS financial and technical officials and the HKI team with technical assistance from the END in Africa project (Deloitte).

Looking ahead, there will be a need to help people living with LF-disability (hydrocele and lymphedema that are estimated at 23,500 and 8,300 respectively), to strengthen LF surveillance, to provide continued STH MDA in HDs that stop MDA for LF and to provide continued MDA for oncho in hypo-endemic communities as well as meso-endemic and hyper-endemic communities. The current Ebola epidemic in the MRU countries may necessitate deferment/modification of some planned FY2014 activities into FY2015 and when this is confirmed by the NTDP a request to carry-over funds will be made by Helen Keller International (HKI).

[2] In-process monitoring is conducted during MDAs and is used to provide information on MDA performance indicators such as problems with supplies, refusals, distribution or other issues that are reported daily to the DHMT and forwarded when appropriate to the NTDP for action.

[3] End-process monitoring is conducted immediately after the MDA campaign to independently estimate post-MDA program coverage especially in urban settings such as the WA where accurate population data is unavailable. Although not as rigorous as a coverage validation survey, independent monitoring is less costly and more useful to program implementers since corrective measure can be activated in real time.

COUNTRY OVERVIEW

Administratively, Sierra Leone is divided into the Western Area (WA) and three provinces: Northern, Southern and Eastern. The three provinces are further divided into 12 health districts (HDs); while the WA is divided into rural (RWA) and urban (UWA), where the capital Freetown is located. Excluding the WA, Sierra Leone has about 14,413 villages with populations ranging from 100-500 inhabitants (2004 population census). There are 149 chiefdoms in the 12 HDs of the 3 provinces that are governed by traditional paramount chiefs while WA is subdivided into 30 wards headed by Councilors.

The Ministry of Health and Sanitation (MoHS) is divided into medical and management services. Under the medical service there are 14 directorates including the directorate of Disease Prevention and Control (DPC) which supervises the national neglected tropical disease program (NTDP). Each of the 12 HDs and the WA have a District Health Management Team (DHMT) led by a District Medical Officer (DMO) that coordinates all health activities. The DHMTs have focal persons (FP) for each disease program, including one for neglected tropical diseases (NTDs). There are 1,195 Peripheral Health Units (PHUs) throughout the country that are staffed by different cadres of health workers: Community Health Officers (CHOs), Community Health Assistants (CHAs), Maternal and Child Health Aides (MCHAs) and nurses who oversee approximately 22,000 volunteer Community Drug Distributors (CDDs). These CDDs are the back bone of all the NDTP activities in the rural setting. While in the rural setting CDDs serve as volunteers within the NTDP, in the WA there are no volunteer CDDs and NTD drugs are distributed by paid community health workers (CHWs) for a fixed number of days (normally five days).

In addition to the NTD Program of the United States Agency for International Development (USAID), which provides the main support to the activities of the NTDP in Sierra Leone through Helen Keller International (HKI), the following partners have contributed support to the integrated NTDP:

The African Program for Onchocerciasis Control (APOC) has provided technical and financial support to the mapping and Community Directed Treatment with Ivermectin (CDTI) for control of onchocerciasis (oncho) since 2005. While APOC support has exclusively been for oncho control (training of health workers and CDDs and supervision of MDA in hyper-and meso-endemic communities), the funds are pooled with those for overall integrated NTD activities. APOC provide approximately $100,000 per annum.

Sightsavers has also supported CDTI for onchocerciasis control post-war since 2002. Activities supported include training of CDDs, monitoring and supervision of MDA. Financial support provided is approximately $20-30,000 per annum.

The Liverpool Center for Neglected Tropical Diseases (CNTD) in the past 4 years has supported the refurbishment of the NTD laboratory in Makeni and operational research for the endemic NTDs on an *ad hoc* basis.

Johnson & Johnson via a Ghanaian consultant (Dr. S.D. Mante) has trained/retrained 70 doctors, mostly from the Northern Province, on surgical procedures for hydrocele.

In Sierra Leone, funding for NTD activities in FY2015 is expected from other NTD donors mentioned above. However, since APOC and Sightsavers operate on different financial timeframes from USAID (January-December against October-September), their commitments for FY2015 will not be known until January 2015.

Over the years, the NTDP has received both cash and in-kind donations through HKI for a second round of de-worming of school-aged children (SAC) on a sub-national basis. Funds in FY2010 came from the World Food Program and in FY2011 and FY2012 from the World Bank's Fast Track Initiative through the Ministry of Education, Science and Technology. Mebendazole/albendazole (ALB) has been donated from various sources: the Saint Andrews Clinic for Children-Sierra Leone, De-worm The World, Feed The Children, and World Vision-Sierra Leone.

TOMS Shoes and HKI established an innovative partnership in FY2013 that has resulted in the donation of and distributing of shoes to all CDDs for themselves and their dependent children as motivation. The first shipment of 123,085 pairs and the second shipment of 201,330 pairs were distributed in FY2014.

USAID history of support

USAID support to the NTDP in Sierra Leone began in 2008 with baseline survey for lymphatic filariasis (LF) in 8 HDs[4], mapping/baseline survey for schistosomiasis (SCH) and soil transmitted helminthes (STH) in 14 HDs, mapping/baseline survey for trachoma in 5 HDs and additional sub-district level (chiefdom) SCH surveys in 7 HDs in 2009. After all mapping/baseline surveys for the 5 neglected tropical diseases targeted through preventive chemotherapy (PC NTDs) was completed, USAID support has since been extended to include mass drug administration (MDAs), monitoring and evaluation (M&E), diseases specific assessments (DSA) and capacity building for the control/elimination of the 4 PC NTDs that are endemic in Sierra Leone; baseline studies had shown that trachoma is not endemic in Sierra Leone based on guidelines from the World Health Organization (WHO).

Since the integrated control of NTDs began in 2008 with funds from the USAID, the NTDP has achieved remarkable success with LF, oncho, SCH and STH. Achievements to-date include 100% geographic coverage for all target NTDs. Program coverage for SCH has been expanded from school-going children only in 6 districts in 2009 to include all SAC and at-risk adults in endemic chiefdoms in 7 HDs in 2010. Effective programmatic coverage of ≥80%, according to NTDP reports at the district level, has been maintained consecutively for LF, oncho, SCH and STH since 2010. The results of pre-transmission assessment survey (Pre-TAS) completed for LF in 2013 and impact assessment survey completed for SCH

[4] Mapping using immunochromatographic cards (ICT) cards in all 14 HDs and baseline survey for LF in 6 HDs was funded in 2005 and 2007 respectively by the WHO regional Office for Africa (AFRO). Mapping for Oncho was completed in 2005 with technical and financial support from the WHO West African Onchocerciasis Control Program (OCP) and later (2003-2005) by APOC.

in 2012 showed a reduction in disease prevalence, indicating progress towards elimination[5]/control[6], respectively. All NTD activities have been integrated into primary health care. Training manuals, frequently asked questions (FAQs), posters, guidelines, and pre-service training curriculum have been developed by the NTDP. Innovative independent in-process and end-process monitoring of MDAs using mobile phone applications were developed in 2010 and have been revised annually using various applications: Episurveyor, Magpie, CommCare.

1. National NTD Program Overview

All of the control and elimination strategies for each targeted NTDs are clearly described in the NTD Master Plan 2010-2015.

Lymphatic filariasis

Mapping in 2005 showed that all 14 HDs are LF endemic and baseline LF microfilaremia (mf) surveys were performed in 2007 and 2008[7]. Geographic MDA coverage of 100% for LF was achieved in 2010 with inclusion of the urban settings in WA and the 12 provincial districts where drug distribution is conducted using a campaign strategy by CHWs in the WA[8]., and CDDs supported by MCHAs-in-training in the 12 provincial districts. An impact assessment[9] in 2011 and a Pre-TAS in 2013 for LF both showed a reduction in mf prevalence. In the Pre-TAS, 4 of the 6 evaluation units (EUs) had mf prevalence <1% and qualify for TAS in FY2015[10]. The 2EUs that failed the pre-TAS cover 4 HDs: Bombali, Koinadugu, Kailahun and Kenema. The mf prevalence of the study site in Kenema was <1% but when combined with Kailahun the average became >1%[4] as Kenema and Kailahun were in the same EU. Therefore, MDAs will continue in the 4 districts covered by the 2 EUs that 'failed' the pre-TAS for an additional 2 years followed by another Pre-TAS. All these HDs share borders with Guinea and/or Liberia where full scale-up of MDAs to 100% geographic coverage has not yet been achieved by their national NTDPs. Cross-border control with Guinea and Liberia will require additional attention from FY2015 onwards. In FY2015, pre-TAS will be conducted in the WA (both RWA and UWA) and in the 2 EUs of the 4 districts that failed the pre-TAS in 2013.

Onchocerciasis

Through studies conducted with financial and technical support from APOC between 2003 and 2005it was shown that the 12 HDs of the 3 provinces had meso-endemic (prevalence between ≥40% and 59.9%) and hyper-endemic (prevalence ≥60%) areas with an estimated at-risk population of 3 million that had to be treated with ivermectin (IVM). The WA and Bonthe Island (the mainland of Bonthe district is endemic) did

[5] WHO 1998 definition of Elimination of disease/infections: Reduction to zero of the incidence (new cases) of a specified disease or infection caused by a specific agent in a defined geographical area as a result of deliberate efforts; continued intervention measures are required to prevent re-establishment of transmission are required.

6 WHO 1998 definition of Control of disease/infections: The reduction of disease incidence, prevalence, morbidity or mortality to a locally acceptable level as a result of deliberate efforts; continued intervention measures are required to maintain the reduction.

7 Koroma JB. et al. (2012) Lymphatic filariasis mapping by immunochromatographic test card and baseline microfilaria survey in Sierra Leone Parasite and Vectors 5, 10

[8] Hodges MH.*et al*. (2010) High coverage of mass drug administration for lymphatic filariasis in rural and non-rural settings in the Western Area, Sierra Leone *Parasites and vectors* **3,** 120

[9] Koroma JB *et al.* (2013) Impact of Three Rounds of Mass Drug Administration on Lymphatic Filariasis in Areas Previously Treated for Onchocerciasis in Sierra Leone PLOS Neglected Tropical Diseases **7**,6

[10] National Neglected Tropical Disease. (2007) Report on Pre-transmission assessment survey in 12 health districts in Sierra Leone (Unpublished)

not have meso-endemic and hyperendemic areas for oncho. From 2002-2007, CDTI was implemented in 8,451 meso-endemic or hyper-endemic villges. After five rounds of MDA an impact assessment was conducted by the NTDP in 2010 with technical and financial support from APOC that showed significant reduction in oncho prevalence within the 12 endemic HDs. Another impact assessment survey will be conducted in October 2014 (partly-funded by CNTD) to determine the onchocerciasis status after another 4 years of MDA.

Schistosomiasis

Prior to the USAID funding in 2008, there was no SCH control program, although evidence from earlier studies indicated that both intestinal and urinary forms of SCH were prevalent in the north-east. Mapping in 2008-09 found moderate to high prevalence of *Schistosoma mansoni* in 7 HDs (Kono, Koinadugu, Kenema, Kailahun, Bo, Bombali and Tonkolili[11] that have 1.8 million people at risk and low prevalence in the five coastal districts (Port Loko, Kambia, Moyamba, Pujehun and RWA). Bonthe and UWA had zero prevalence. Infected persons are known to have migrated from districts with moderate or high prevalence. In 2009 annual MDA started targeting only SAC in 6 endemic HDs and scaled up in 2010 to include all SAC and at-risk adults (any adult living in the rural areas of the 7 endemic HDs). In 2012 an impact assessment showed that prevalence of *S. mansoni* had decreased by 68%[12]. In FY2015, an integrated impact assessment for SCH and STH will be conducted in 12 HDs; and the results will be used to redefine treatment strategies for SCH and STH in Sierra Leone. This assessment will also help to decide HDs in which MDA-STH will continue after MDA-LF is topped. MDA in 5 coastal HDs had been planned for FY2014 but the recent Ebola outbreak necessitated its deferment *pro tem.* However, these low prevalence districts will be included in the impact assessment to re-assess prevalence in recognition of increasing, ongoing internal migrations and high reinfection rate for both diseases.

Soil Transmitted Helminths

Mapping in 2008 showed moderate to high prevalence of STH in 12 HDs[5]. One round of MDA-STH for everyone above 5 years of age is implemented through MDA-LF under USAID funding. The second round of MDA-STH for SAC only is partly implemented by health workers/CDDs during the MDA for SCH and partly by school teachers in HDs not treated for SCH. The second MDA for STH has so far been made possible by the donation of mebendazole to HKI between FY2009 and FY2012. In FY2011 and FY2012 the second MDA for STH was also conducted in 5 and 12 HDs, respectively, by school-teachers. This second round of MDA-STH has not been conducted in each district every year because it is dependent year after year on available funding and the timely arrival of drugs. In FY2014 there was deferment of MDA-SCH due to the late arrival of praziquantel (PZQ) and so there will be no second round of MDA-STH. Impact assessments for SCH and STH will be integrated and conducted after every 3-5 years with the aim of redefining treatment strategies for each SCH and STH endemic HD based on the most current prevalence data.

HKI also supports the biannual de-worming of children 12-59 months old with funds from the Department for Foreign Affairs, Trade and Development. This de-worming is integrated within Mother and Child

[11] Koroma, J. B. *et al*. (2010) Geographical Distribution of Intestinal Schistosomiasis and Soil-Transmitted Helminthiasis and Preventive Chemotherapy Strategies in Sierra Leone www.plosntds.org **4**,11

[12] Sesay S *et al*. (2014) Schistosoma mansoni infection after three years of mass drug administration in Sierra Leone Parasites & Vectors 7:14

Health Weeks that include vitamin A supplementation, distribution of long-lasting insecticide-treated nets and polio, measles and/or yellow fever vaccinations.

Trachoma

Mapping was conducted with USAID funds in 2008 in the 5 northern HDs that border with districts in Guinea based on prior surveillance and prevalence rates found in neighboring Guinea[13]. The prevalence of trachomatous inflammation-follicular (TF) in children aged 1–9 years in all districts was <5% and MDA with azithromycin was never conducted in line with WHO guidelines. The prevalence of trachomatous trichiasis (TT) in persons ≥15 years was <1% among those studied and so intervention for TT were also not conducted. Although training to identify TF and TT cases in the communities has been integrated in the annual training of trainers (ToT) for MDA-LF-onchocerciasis, no surveillance has yet been put in place for trachoma. The National Eye Care Program and Christoffel Blinden mission (CBM) can provide trichiasis surgery when cases are referred for treatment. However, payment is based on a cost-recovery mechanism and the fees may not be affordable for most of those affected. The NTDP is planning to include trachoma surveillance and outreach surgical camps for TT in the next Master Plan for 2016-2020.

Table 1: Snapshot of the status of the NTD program in COUNTRY

		MAPPING GAP DETERMINATION			MDA GAP DETERMINATION			DSA NEEDS	ACHIEVEMENT
A	B	C	D	E	F		G	H	I
Disease	Total No. of Districts in COUNTRY	No. of districts classified as endemic	No. of districts classified as non-endemic	No. of districts in need of initial mapping	No. of districts under a 'current MDA schedule' (prior to work plan discussions)		No. of districts under a 'current MDA schedule' (prior to work plan discussions)	No. of districts requiring DSA	No. of districts where criteria for stopping district-level MDA has been achieved
					USAID-funded	Others			
LF	14	14	0	0	14*	0	0	Pre-TAS: 6 HDs	0-
Oncho		12	2	0	12	0	0	Epi eval: 12HDs ; Ento: 0.	-0
SCH		12	2	0	7	0	5	12	-0
STH		14	0	0	14	0	0	12	
Trachoma		0	14	0	0	0	0	-0	0-

[13] Koroma JB *et al*. (2011) *Epidemiology of Trachoma in the Five Northern Districts of Sierra Leone*. Ophthalmic Epidemiology 18(4):150-157(8).

**Depending on the TAS results to be conducted in September/October 2014, these figures may change.*

Goals/Deliverables for the year 2014-2015

The goal for FY2015 is to maintain 100% geographic coverage and effective program coverage (defined as coverage ≥80%) for MDAs-LF-oncho-STH and MDA-SCH; to conduct Pre-TAS in 3 EUs; and conduct a national re-assessment for SCH and STH in 12 HDs (excluding Bonthe & UWA). The MDA-LF-oncho-STH will target 5,697,303 persons for LF and STH in 14 HDs and target 2,769,787 persons for oncho in 12 HDs. The MDA-SCH will target 557,596 SAC and 1,111,144 at-risk adults in 7 HDs. At-risks adults are those who by virtue of their profession or daily life wash, bath or work in fresh water in moderately and highly endemic HDs.

PLANNED ACTIVITIES

The MDA activities target at-risk populations for each of the 4 PC NTDs, aiming for equitable coverage for both males and females. However, social mobilization on market days have targeted women who make-up the majority of the traders in the markets. Furthermore, over 80% of PHU staff, all the MCHA-Training Coordinators (included in the ToT for MDA-LF-Oncho-STH in 12 HDs), and all the MCHA-trainees who perform MDA in the urban setting are females. During community meetings, females are encouraged to serve as CDDs to help replace their male counterparts seeking employment especially within the new mining/industrial sector. There has been a significant increase in the proportion of female CDDs from 16.7% to 24.8% in only five years (2008 – 2013). Improving this proportion in hard-to-reach (HTR) communities is challenged by low female literacy rates, high domestic responsibilities for women and the requirement of spousal permission for women to accept such responsibilities.

Recruiting an equal proportion of female independent monitors is also challenged due to concerns regarding their personal safety in HTR communities and some cultural practices that limit activities of women in rural areas. Most of these HTR communities can only be accessed on a motorcycle, many of which are driven by male ex-combatants[14]who are still seen as threats to women. Since 2013, the proportion of female independent monitors has been approximately 25%.

Strategic Planning

The NTDP, with technical assistance from HKI and WHO, developed a five year NTD Master Plan, 2011-2015 which covered 4 strategic priorities: 1) strengthening of government ownership, advocacy, coordination and partnerships; 2) building capacity to plan for results, resource mobilization, training and financial sustainability; 3) scaling-up access to interventions, mobilizing domestic and partner resources to address the non-MDA treatment and 4) enhancing M&E for NTDs, disease surveillance, data management and operational research. HKI, in collaboration with WHO, will provide technical support to the NTDP to develop a new Master Plan (2016-2020) according to new WHO guidelines. This process will begin in FY2015 and will prioritize post-MDA surveillance for NTDs, cross border control strategies for NTDs and a policy for morbidity management. FHI360, HKI, and the MoHS will also work together to create the FY2016 USAID End in Africa work plan.

[14] Sierra Leone had a civil war between 1991 and 2002; most of the ex-combatants took up professions like bike riding for commercial purpose.

An annual NTD meeting reviews the targets achieved and discusses recommendations from independent monitors, lessons learned and examples of 'best-practice' from the previous year's activities. Stakeholders at various levels are encouraged to give opinions on how NTD activities can be better planned and implemented based upon experience. Following the review meeting, the annual NTD work plan is developed by the NTDP in collaboration with HKI and other NTD partners in a series of macro planning meetings conveyed to agree on the target population for each MDA. Modified strategies and timeframes need to be assimilated into the NTDP workplan to mitigate factors such as delays in funding, late arrival of drugs, and unforeseen competing MoHS activities or emergencies, such as the cholera epidemic in FY2012 and the ongoing Ebola outbreak.

With technical and financial support from the END in Africa project/Deloitte, the NTDP staff, senior officials of the MoHS including the Director of Finance and the Program Manager for Health System Strengthening, and HKI NTD staff will receive training on the Tool for Integrated Planning and Costing (TIPAC)[15]. The TIPAC will be updated with the program output data for 2010-2014. The training will also include the use of TIPAC as an advocacy tool.

NTD Secretariat

Maintenance and fuel costs of existing NTDP program vehicles have been included in the NTDP operations budget. Available funds have made regular maintenance of the NTDP vehicles possible and have enhanced the NTDP staff's capability to supervise the activities at all levels. At the district level, the cost of hiring of motorcycles and cost of fuel has also been included in the district budget to help the district NTD focal point (NTDFP) effectively supervise NTD activities and also organize cross border meetings. At PHU level, the cost of transportation for PHU staff to cover her/his catchment villages has been included in the budget, including transportation cost for social mobilization, CDDs training and MDA. Funds are also regularly made available to both NTDP and National School and Adolescent Health Program (NSAHP) secretariats to support administrative running costs including office supplies and stationeries, computer and accessories, internet running cost and fuel for office generator.

Advocacy

Government to government advocacy in FY2015 will be enhanced through the Mano River Union (MRU) Secretariat prioritizing cross-border control and synchronized scaled-up MDAs in neighboring Guinea and Liberia. The MRU comprises Sierra Leone, Liberia, Guinea and Cote D'Ivoire and was established with the goal of fostering economic cooperation and other regional developmental goals, including NTD control. The MRU annual meetings on NTDs are held in rotation to ease collaboration and coordination within MoHs and partners. The risk of cross-border recrudescence of NTDs and synchronizing MDAs in the border communities will be addressed in the next MRU meeting in October 2015 to develop a regional NTD strategy and define roles and responsibilities for risk-mitigation.

[15]Wouters, OJ et al (2014) *Resource Planning for Neglected Tropical Disease (NTD) Control Programs: Feasibility Study of the Tool for Integrated Planning and Costing (TIPAC)*. PLoS Neglect Tropical Diseases 8(2)

Over the years Government of Sierra Leone (GoSL) support to the NTDP has been limited to administrative support. The post conflict country has always been challenged with numerous health issues (including and not limited to high infant and maternal mortality, high prevalence of malaria, disease epidemics such as cholera outbreak in 2012 and the current ebola outbreak) than the available resources needed to addressed them. However, in FY2015 the NTDP will strategically target political support through the Minister of Health and Sanitation for increases GoSL financial input for the implementation of NTD activities. Specifically, the Parliamentary Budget Oversight Committee for Health will be targeted for an increased GoSL input into the national NTD budget beyond administrative and salary costs to include funding for activities such as MDAs and disease specific assessments (DSAs) and also to ensure the timely disbursement of allocated NTD-funds. At the national level, the MDA-SCH will be launched in FY2015 by a formal presentation of PZQ to the Minister of Health and Sanitation for the attention of the GoSL and reported nationally in the media. This will raise awareness on the huge contributions being made towards NTD control globally and within Sierra Leone.

At the district level, the MDA-LF in the WA will be launched (and televised) by senior MoHS officials, local authorities and GoSL dignitaries, including the Minister of Education and Parliamentarians as keynote speakers. The pre-MDA press briefing for journalists will be led by the Minister of Information and reported on social media, radio and in newspapers (two of which are available on-line). This will raise awareness of the degree of external support the NTDP receives and demonstrate that the GoSL also needs to show equal interest.

Private medical professionals in the WA have since 2011 collaborated with the NTDP during MDAs in the WA by participating in the distribution of IVM and ALB for LF elimination and also completing the necessary tally sheets as instructed by the NTDP. In FY2015 the NTDP and HKI will work to reach more medical practitioners through their professional body, called the Sierra Leone Medical and Dental Association, to foster further collaboration.

Since workers within the mining sector are more likely to miss MDAs conducted within communities for the PC NTDs, the NTDP has to establish collaboration with mining companies to ensure that their workers are treated by the medical staff they employ during the period that MDAs are conducted within communities. This collaboration was established with Sierra Rutile in FY2013 and with African Minerals in FY2014. In FY2015, more efforts will be made by the respective DHMTs to add London Minerals and Addax Bioenergy in this list so that their medical providers can join in the distribution of PC NTD medicines.

Among the 4 HDs represented by the 2 EUs that failed the pre-TAS there are 3 HDs with LF mf prevalence ≥1% (Bombali, Koinadugu and Kailahun). Special advocacy meetings will be conducted in these HDs in FY15 to which paramount chiefs, sections chiefs, civil society groups, police and councilors will be invited by the NTDP and partners. Furthermore, pre-MDA-LF press briefings will be held and reported by community radio, social media and local newspapers in these districts with the aim of improving the knowledge, attitude and practices (KAP) of opinion leaders, community members and also health workers. This might lead to higher MDA compliance within these 3 districts during MDA LF.

Social Mobilization

Social mobilization is conducted at various levels. At the national/international levels, advocacy meetings are organized for the NTDP to share information on planned activities with decision-makers within the MoHS and also with parliamentarians, medical professionals, Non-Governmental Organizations (NGOs) and Community-Based Organizations (CBOs). At the district level, councilors and/or the city mayors are encouraged to integrate NTD activities into their budgets and annual work plans. At chiefdom and village levels, the PHU staff hold pre-MDA village meetings attended by traditional leaders, section chiefs, headmen, religious leaders and local teachers. Also at village level, the services of town criers are utilized to convene sensitization meetings at the request of the village chief and also inform the people about the availability of the MDA drugs and the need for every eligible person to comply with the treatment. Lessons learnt from the recent past suggest that some communities listen to religious leaders more than traditional leaders.

Religious leaders will be specifically targeted in FY2015 and encouraged to participate in awareness-raising prior to and during MDAs to help maintain/improve compliance to treatment. Social mobilization on market days within border districts will specifically target the traditional cattle-herders who migrate between Guinea and Sierra Leone.

Television, public mega-screens and social media (Facebook) are used for MDA-LF in the WA: a short animation film was produced in FY2011, and a short comic sketch produced by 'Wan-Pot'[16] in FY2012 was modified in FY2013 and will be revised and used again in FY2014-2015. A traditional story-teller may also be recruited to address the more complex challenges facing MDA that will take place immediately after the Ebola outbreak in FY2014-2015. Youth groups will also be contracted to make street announcements.

The NTDP and partners will advocate with AIRTEL, the largest mobile telephone company operating in Sierra Leone, to extend their corporate social responsibilities and distribute free SMS messages to their subscribers, especially during the period of MDA-SCH in schools and MDA-LF in the WA.

Radio broadcasting has been and will be used again as a complementary and cost-efficient strategy. Community radio stations and the commercial 'Star Radio' transmit nation-wide and will continue to disseminate well-tailored, pre-tested messages through interactive, live, panelist broadcasts. Position statements will be prepared in advance to ensure that key NTD messages are repeatedly delivered in various forms during each broadcast by the various panelists. These programs also include revised FAQs which can be used as an anchor by the interviewer to address public concerns on NTDs and also respond to questions and concerns that listeners might send by SMS or voice calls. The revised FAQs and position statements will also be disseminated during community meetings pre- and during MDAs.

[16] Probably the most popular theater group in Sierra Leone

Capacity Building/Training

Annual training/refresher training will be provided for health personnel. Pre and post-tests are administered to ensure that participants acquire the knowledge and skills being taught. The quality of training is further assessed during independent monitoring using questionnaires designed to assess KAP[17]. Details of planned trainings/refresher trainings for FY2015 is shown in table 2 below. Lessons learnt are that the annual trainings/refresher trainings are required to mitigate the effect of frequent transfer of staff to new positions, attrition, new recruitment and election of new CDDs.

As the NTDP prepare to start post-MDA LF surveillance, training of more district laboratory technicians will be conducted at the Makeni NTD laboratory on the microscopic diagnosis of LF mf from blood collected between 10pm and 2am.

Due to some unavoidable circumstances the NTDP in Sierra Leone was unable to participate in workshops specifically organized by WHO on M&E in 2013, except for the TAS training in Harare. Both the NTDP and HKI M&E staff therefore need training on NTD M&E tools including the WHO joint reporting and joint drug request forms, data quality assurance (DQA) and the national database. Once trained, these staff will train the M&E staff in the DHMTs, to strengthen the overall NTD data management system.

[17] Independent monitoring of mass drug administration for schistosomiasis confirms high coverage but highlights gaps in knowledge among health workers and community leaders. American Society of Tropical Medicine and Hygiene, Am J Trop Med Hyg 2013 Suppl 1

Table 2: Training targets (including training for SCH/STH survey and pre-TAS)

Training Groups	Training Topics	Number to be Trained			# Training Days	Location of training(s)	Name other funding partner (if applicable, e.g., MOH, SCI)
		New	Refresher	Total			
MoHS, DHMTs	MDA LF-Oncho-STH	9	30	39	1	Bo	NA
Supervisors	MDA SCH-STH	0	79	79	1	*Kenema and Makeni*	NA
PHU staff	MDA SCH-STH MDA LF-STH MDA LF-Oncho-STH	122 15 327	260 95 790	382 110 1,117	1	*7 Districts* *WA* *12 Districts*	NA
CHWs	MDA LF-STH	1,050	1,200	2,250	1	*WA*	NA
CDDs	MDA LF-Oncho-STH	6,650	15,350	22,000	1	*All PHUs*	NA
Independent Monitors	MDA LF-Oncho-STH- MDA SCH	15	20	35	1	*HKI*	NA
Laboratory Technicians	LF Surveillance LF Pre TAS SCH (Kato-Katz)	14 2 5	0 6 4	14 8 9	5 2 2	*NTD Laboratory Makeni*	NA

Mapping

Mapping for all targeted PC NTDs has been completed, including hypo-endemic oncho villages and there are no gaps. No mapping is required in FY2015.

Mass Drug Administration

The project's MDA-LF coverage plans have been scaled up since 2007 when the LF program was piloted in 6 HDs using the CDTI+albendazole strategy. Coverage was extended in 2008 to 13 HDs including urban areas (towns, district headquarters) of the 12 provincial HDs and the RWA. MDA was then scaled up in 2010 to all 14 HDs (including UWA), achieving 100% geographic coverage and reported programmatic coverage of ≥80% annually, nationwide.

Planned collaboration with partners (APOC and Sightsavers) also supporting MDA-LF activities occurs at the national level, and funds managed by the NTDP ensure coverage, and avoid duplication of effort and/or funding in accordance with WHO guidelines. Both MDA-LF-STH in the WA and MDA-SCH are solely supported by USAID.

The drug distribution platform(s)

The MDA for LF in the WA is performed by paid CHWs via both static health facilities/outreach posts/community meeting points and by a street-by-street 'campaign' over five days. This is scheduled to take place in late FY2014 and again late FY2015. The FY2014 round may need to be deferred to early FY2015 dependent upon the Ebola epidemic. A carryover of USAID-funding from FY2014 to FY2015 will be requested if required in late August 2014.

In the 12 HDs, MDA-LF-oncho-STH is implemented preferably during the **'window of opportunity'** over a period of 6-8 weeks by volunteer CDDs in rural settings using the house-to-house distribution method. This is supplemented through distribution conducted by MCHAs-in-training in urban settings of the 12 provincial HDs as in the WA. In FY2015, this MDA should only occur **after** the TAS in 8 HDs has been completed, hopefully in October 2014. Implementation of the TAS may, however, need to be deferred from late FY2014 to early FY2015 dependent upon the spread of the current Ebola epidemic[18]. A carryover of USAID-funding from FY2014 to FY2015 will be requested as required in late August/early September as soon as the Ebola-impact becomes clearer and MoHS approval is given. Timing of the TAS in 8 HDs and of the MDA-LF in 12 HDs, with consideration for Ebola and the 'window of opportunity,' will be critical in FY2015. MDA-LF within the work-place in the mining sector began in FY2014 and needs to be extended in FY2015 to ensure coverage especially of males outside their census-villages.

MDA-SCH will be implemented mostly by health workers assisted by CDDs in June 2015 lasting 7 days as both a community and a school-based campaign. The second MDA for STH in FY2014 had to be postponed because of the ongoing ebola outbreak. In FY2015 a second round of STH will occur during MDA-SCH in the targeted areas, as the supply of mebendazole is already available in the NTD-Makeni stores. Unless additional funding is found, the second round of MDA-STH will not occur in the non SCH-targeted areas in FY2015.

Actions to be taken to mobilize Hard to Reach (HTR) communities

The HTR communities in Sierra Leone are located in remote locations requiring boat-hiring for riverine fishing villages, or motorcycle-hiring in areas inaccessible by road but also in over-crowded, sometime insecure urban slums. These communities require special social mobilization targeting the leaders of civil society groups, such as motorcycle riders associations, ex-combatants and drivers' unions, with tailored messages for dissemination. In addition, reaching employment-seeking-migrants within the mining/industrial sector requires collaboration and coordination with medical providers within the mining companies so they include MDAs for PC NTDs as part of the care they provide to their workers.

Known MDA gaps without programmatic support: Cross border control

Seven of the 12 HDs share borders with neighboring MRU countries: Kambia, Kono, Koinadugu (with Guinea), Kailahun (with Liberia and Guinea), and Pujehun (with Liberia). Although the NTDP in Liberia has

[18] Ebola Viral Disease Outbreak-West Africa, 2014 http://www.cdc.gov/mmwr/preview/mmwrhtml/mm63e0624a2.htm?s_cid=mm63e0624a2_e

conducted 2 MDA rounds for LF, both Liberia and Guinea are yet to reach 100% geographical coverage for LF. Synchronization of MDAs for NTDs so that communities in the border areas are not missed has also been impossible in the 3 MRU countries. To help improve NTD control along these borders, pre-MDA cross border meetings are planned for FY2015 to discuss the cross border MDA activities including discussion on the estimated number of border population who are likely to cross over into Sierra Leone during MDAs. These populations are estimated based on the available data from DHMTs used during polio campaign which are synchronized with the neighboring countries. The increased number of doses required to provide MDA will need to be added to the village census, compiled at PHU and district level and included in the quantity of the drugs distributed by the NTDP to the district NTDFPs. In addition to house-to-house distribution, MDA-LF on market-days similar to the urban platform is also proposed to reach people crossing into Sierra Leone for trade. The market days usually last for 1-3 days and during market days that fall within the MDA period traders and visitors in the border markets will be sensitized on eligibility/exclusion criteria, dosage and clear information that the drugs should be taken only once, and then treated.

An emerging gap, if MDA-LF is scaled back following the TAS, will be CDTI for hypo-endemic oncho communities. The NTDP will make decisions on continuation of onchocerciasis treatment in all endemic HDs using data that will be obtained during the planned onchocerciasis impact assessment survey.

Table 3: USAID-supported districts and estimated target populations for MDA in FY2015

Column definitions correspond to those found in the workbooks

NTD	Age groups targeted (per disease workbook instructions)	Number of rounds of distribution annually	Distribution platform(s)	Number of districts to be treated (as of FY2015)	Total # of eligible people targeted (as of FY2015)
LF	*≥5 years (>90 cm tall)*	*1*	*Community (rural) and campaign (urban)*	*14*	*5,697,303*
Oncho	*≥5 years*	1	*Community*	12	2,769,787
SCH	*5-14 years* *At risk adults*[a]	*1*	*School based* *Community*	*7* *7*	*557,596* *1,111,144*
STH	*≥5 years*	Once/twice[b]	Community *School based*	14	*5,697,303* *557,596*
Trachoma	NA	NA	NA	NA	NA

[a] miners, fishermen, famers, pregnant women;

[b] In FY2015 the second de-worming with mebendazole will be conducted during MDA-SCH

MDA Challenges

According to NTDP reports all MDAs in every district since 2010 have surpassed the minimal required epidemiological and programmatic coverage for all targeted PC NTDs (as shown in Table 4). The NTDP

reports have also been verified by reports of the independent monitoring conducted during MDAs that has so far shown very minor differences between reported coverage and coverage provided by the independent monitors. The independent monitoring is usually also planned to purposefully bias HTR communities. More in-process and end-process independent monitoring of MDAs is advisable and has been budgeted FY2015.

Lessons learnt from previous MDA rounds incorporated to improve coverage in all districts

The most important lesson to be learnt from previous MDAs is the proper use of the '**window of opportunity'** and **independent monitoring.** "Window of opportunity" refers to timeframes for implementation of MDAs agreed by all stakeholders in Sierra Leone that are based on observations made during past MDAs and knowledge of the traditional practices of the populations being targeted. The window of opportunity should be respected whenever possible. If, for whatever reason, that is not possible, then the NTDP and partners should prepare a contingency plan, even if that requires some flexibility by the donor. Most commonly, this would involve moving the MDA from one fiscal year into the beginning of the next: FY2014→FY2015.

There are 3 MDAs in country and these **windows of opportunity** will be dealt with separately depending on the MDA conducted:

MDA-LF-Oncho-STH in 12 HDs: The October-November timeline is when CDDs can volunteer: after the rainy season and before the harvest, Christmas and traditional festivities. Synchronization for MDA-LF for this timeline has been agreed by the MRU-NTD forum. Delayed approval of NTD-budgets or late arrival of drugs compound MDA challenges and can compromise coverage. In FY2011 and FY2012, independent monitoring found 78% and 74% overall coverage, respectively. However, in FY2013, the timeframe for the MDA-LF-Oncho-STH in 12 HDs timeframe was 'staggered' due to the national elections and was further challenged by the cholera epidemic. Health workers were focusing more on the cholera epidemic and the public was nervous about the quality of the water they had to drink when taking NTD medicines (independent monitoring: 69% overall coverage). In FY2014, MDA-LF-Oncho-STH in 12 HDs started late due to late approval of the NTD budget (independent monitoring: 72% overall coverage).

MDA-LF-STH in the WA was attempted in 2009 using the CDTI+ strategy but coverage was found to be extremely low. This was principally due to massive internal displacement during the war and post-conflict migrations into non-rural settlements that do not have clear community boundaries, leadership or assigned health centers[2]. As a result, the MDA strategy was changed in the WA copying from the national immunization day approach used for mass polio immunization campaigns taking place at the time. The WA has 30 administrative zones. Within each zone, CHWs are selected, trained by the PHU staff as drug distributors, assigned and paid to perform MDA in designated streets on a day-to day basis.

MDA-LF-STH in the WA should ideally be performed pre-rains: June. However, the late arrival of ivermectin in 2011 necessitated its deferment to post-rains: September. In FY2012 MDA-LF-STH in the WA was brought forward to early September due to the national elections and the perceived threat of

insecurity. It was, however, seriously challenged by extremely heavy rains during 3 of the 5 day campaign. As a result, additional days and strategic public locations were added to allow the DHMT-WA to 'catch up' using special teams. As a result MDA-LF-STH in the WA for FY2014 and FY2015 were and will be implemented at the end of September/early October when rains have eased. (Coverage from independent monitoring was FY2011: 79%, FY2012: 75%, FY2013: 82%).

MDA-SCH in 7 HDs: It was anticipated in 2009 that school going children in heavily parasitized communities would experience minor adverse events if praziquantel was given in school-time as many would not have eaten that morning[19]. As a result funds are distributed to head-teachers to feed their school children. When distributing to 'at-risk' adults both the public and the health workers are informed that food must be taken before praziquantel is administered.

The **window of opportunity** for MDA SCH is June prior to the closure of schools for the rainy season. In FY2013, this was postponed to September due to the late arrival of PZQ in the country and this posed many challenges to the DHMTs who have to cope with multiple programs in the calendar-year. Coverage from independent monitoring was FY2011: 82%, FY2012: 81%, FY2013: 73%. In FY2014, MDA for SCH will again be postponed to September due to late arrival of PZQ in June 2014, which then coincided with the start of Ramadan when people begin fasting thus making MDA impossible.

In-process and end –process independent monitoring in Sierra Leone was modelled on the WHO recurrent polio campaigns in 2010 and is vital in a post-conflict setting where population denominators are inaccurate. It is performed in both randomly selected clusters (enumeration areas) taken from the national population census (2004) and additionally in purposefully selected clusters known to be either HTR from recent campaigns (NTDs, vitamin A supplementation or vaccinations) or those expected to have particular challenges in the current MDA. The in-process results are relayed via HKI to the NTDP and onwards to the DHMTs as those challenges can be quickly resolved. End-process results are helpful to validate coverage especially in HTR locations where the NTD burden is highest and MDA distribution is weakest.

Specific messages that will now be included in the IEC strategy

Independent monitoring not only provides a quantification of coverage but also qualitative data on the public's perception of NTDs and MDA. Suspicion especially amongst young adults that the drugs are contraceptives and would make them infertile or decrease their fertility was reported. Males were sometimes worried about the effect of NTD treatments on their potency, and some teenage girls sometimes think that NTD medicines can help abort unwanted pregnancies.

Monthly live, interactive national radio panel discussions are intensified in different radio stations several days before and during MDA and response is provided to questions that are phoned-in or sent by SMS

[19]Hodges, M. H.*et al*. (2012) *Mass drug administration significantly reduces infection of Schistosoma mansoni and hookworm in school children in the national control program in Sierra Leone.* ***BioMed Central Infectious Diseases*****, (2012)** 12(16): 1471-2334

messages to address the public's concerns and squash rumors that sometimes arise during MDA. The development of standard 'frequently asked questions' (FAQs) on NTD transmission, control, and prevention and their use for all social mobilization events has contributed immensely to the public understanding and acceptance of NTD activities. These FAQs are disseminated by the media to correct misconceptions and advise community leaders how to facilitate community participation. The FAQs are regularly revised to address new public concerns, which can adversely affect MDA-coverage, such as cholera in FY2012 and ebola in FY2015.

Additionally, the use of screens in public locations to show the 'Wan Pot' video drama on NTDs also helped sensitize the public for MDA in the WA. This will be revised and used in FY2015.

Expected challenges with meeting future coverage targets, and how they will be addressed

The outbreak of Ebola Virus Diseases (EVD) in the Eastern Province MAY have a significant impact on MDA-SCH already postponed to September, TAS scheduled for September 2014 and MDA Oncho-LF-STH scheduled for October-November 2014. This may have a 'knock-on' effect on NTD activities in 2015. The EVD epidemic has led to a huge challenge to the health systems in the MRU and a 'state-of emergency' in Kailahun with restricted movement and suspension of non-vital activities. The 'state-of emergency' is is currently nationwide as the EVD has reached the capital as was the case in neighboring Guinea and Liberia[20].

While districts may have achieved the minimum epidemiological and programmatic coverage, coverage may vary within a district. Among the 4 HDs covered by the 2 EUs that failed the pre-TAS 3 HDs have LF mf prevalence ≥1%. Each of these 3 HDs has unique MDA challenges.

Kailahun district experiences cross border in-migration for trade, farming, schooling and MDA. As the NTDPs in Guinea and Liberia have not reached 100% geographic coverage for NTDs, there is an influx of people from Liberia and Guinea when there is MDA in Sierra Leone. This will be especially challenging in FY2015 due to the EVD outbreak and the state-of emergency. New solutions for the MDA-SCH, TAS and MDA-LF will need to be developed in response to this outbreak in consultation with the DPC as the situation evolves, and this will be an ongoing discussion through the end of FY2014 as the Ebola situation is monitored very closely.

Bombali shares border with Guinea and had the highest LF mf prevalence in Sierra Leone at baseline: 6.9%. Sella Limba chiefdom has the highest levels of elephantiasis and deep-rooted traditional beliefs[21] regarding witchcraft which can affect the MDA compliance. It is believed that *"Elephantiasis is sickness God has brought" to punish the wicked.* In FY2014 a special advocacy meeting was conducted by the NTDP and HKI in the Kamakwe chiefdom headquarter town that was attended by various stakeholders who pledged increased commitment to NTD activities. In FY2015 a second such meeting will be held, and other strategies will be implemented, including the establishment of community self-monitoring groups.

[20] Ebola virus disease, West Africa – update http://www.who.int/csr/don/2014_07_01_ebola/en/

[21] Traditional Beliefs Affecting Elephantiasis in Sella Limba Chiefdom, Bombali District, Sierra Leone. American Society of Tropical Medicine and Hygiene, Am J Trop Med Hyg 2013; Sup 1

Koinadugu district also shares a border with Guinea and has the worst terrain and road network in the country. It can take some PHU staff days to travel to the district headquarters, Kabala, for training/refresher training. Some areas are only accessible by motorcycles which are both expensive and risky. It is also difficult for the PHU staff to reach all their catchment villages to join the CDDs to mobilize communities. During the raining seasons many communities become inaccessible. The extensive border with Guinea is used by traditional cattle herders who bring their cattle into Sierra Leone. Using an innovative MDA on market days in FY2015 can help reach these cattle herders who may reside in Guinea but frequently travel to Sierra Leone or vice versa.

Table 4: Explanation of low USAID-supported program and epidemiological coverage

Epidemiological coverage targets are defined below.

Programmatic coverage targets ≥80% eligible population

NTD	Total number of districts treated in FY14	Epidemiological coverage targets	Number of districts that did not meet coverage targets in FY14*	Reason(s) for poor district performance	Proposed remediation actions
LF	12	≥65% epi coverage	Epi: 0		
			Program: 0		
Oncho	12	≥65% epi coverage	Epi: 0		
			Program: 0		
SCH[a]	0	≥75% epi coverage of SAC	Epi: 0		
			Program: 0		
STH	12	≥75% epi coverage of SAC	Epi: 0		
			Program: 0		
Trachoma	0	≥80% epi coverage	Epi: NA		
			Program: NA		

**Report on available results only.*

[a]MDA SCH for FY2014 has been deferred to post-rains due to the late arrival of PZQ and the early commencement of Ramadan

Drug and Commodity Supply Management and Procurement

Following annual training/refresher training CDDs conduct a village census using the village register. The data is collated by the PHU in-charge, compiled by district NTDFPs and then forwarded to the national NTDP. The results of the eligible village census data are used to request the quantity of drugs needed for MDA. In FY2015, this will included an additional request to provide for cross-border migrants in 7 HDs. During MDA, the CDDs will administer the drug based on the census data but will also add new members to the register who were not present during the census and administer the drugs to them also. If drug shortages are identified, for example in Kailahun and Kambia due to MDA-migration and in the rapidly urbanizing settings, for example, the WA or the mining communities within Bombali, Tonkolili and Port

Loko, then additional supplies are requested by the PHU in-charge. Post-MDA, the remaining drugs are quantified and returned to the NTD warehouse in Makeni through the various PHU staff and the NTDFPs.

Health staff and CDDs are trained to conduct directly observed treatment and follow WHO guidelines on exclusion criteria, common side effects, and recognition and response to serious adverse events (SAEs). During social mobilization, communities are informed about minor adverse events. Persons with SAEs are referred by the CDDs to the PHU for management. The PHU staff report to the DHMT and immediately onwards to the NTDP using reporting systems established by WHO and the Sierra Leone Pharmacy Board (SLPB). The NTDP will immediately inform HKI and WHO, and HKI will inform FHI360 by email. Since 2011, the monitoring and management of SAEs was expanded to include the National Expert Committee for Adverse Drug Reactions (NEC-ADR). This body is comprised of physicians and public health specialists, pharmacists from SLPB, pathologists, and representatives from WHO and NGOs led by the MoHS and is charged with the responsibility of monitoring for SAEs during all MDAs for NTDs and immunization campaigns. The role of NEC-ADR will continue in FY2015.

Table 5 below shows details on USAID support for procurement NTD related medicines and other commodities. The Kato Katz and urine filtration kits are needed for the integrated assessment of SCH and STH; and the microscopes and the Holth punches are needed for epidemiological survey for oncho.

Table 5: END in Africa Drug and Commodity Procurement (USAID-specific)

Drug/commodity	USAID support mechanism (e.g., ENVISION, SCORE, END)	Quantity (tablets/tubes) to be procured	Date of application (MM/YR)	Expected delivery date of drugs (MM/YR)
Kato Katz kits	END in Africa	12 by 400 tests	08/14	03/15
Urine Filtration kits	END in Africa	12 by 400 tests	08/14	03/15
Light Microscope	END in Africa	6	08/14	10/15
Holt Punch	END in Africa	100	08/14	10/15

Supervision

Support to NTDP for supervision

Supervision of the NTDP is conducted on several levels: NTD Task Force oversees the master Planning process and monitors the NTDP to ensure quality control. At district level, the cost of hiring motorcycles and providing fuel is included in the district budgets to aid the NTDFP to effectively supervise. At PHU level, the cost of transportation for PHU staff to cover her/his catchment villages has been included in the budget, including transportation cost for village social mobilization, CDDs training and MDAs**.** Technical support from the END in Africa project will be provided during planning and implementation of the pre-TAS and the oncho-impact assessment in FY2015.

WHO guidelines, MoH regulations and monitoring mechanisms

During the annual NTD Taskforce meeting, the issue of current WHO and MoHS regulations are discussed as applicable to the national context. As a technical organization, HKI's key functions for the END in Africa grant are to provide the technical support to NTDP and financial oversight. The HKI NTD Program Coordinator works closely with the national NTDP Manager and other senior MoHS staff to ensure adherence to guidelines and regulations: for example, observation of post-TAS scaling down of MDAs, or modification of exclusion criteria for the different MDA-LF, which in the local context was extended from 1 to 2 weeks post-partum due to the high maternal mortality rate in Sierra Leone. HKI will work with FHI360 to ensure the NTDP is represented in international technical NTD meetings scheduled in FY2015 especially the M&E trainings.

Actions that identify and address potential issues/bottlenecks during MDAs

Supportive supervision uses supervisory checklists/post-tests for national, district and community levels to ensure program quality. Training of trainers (DHMTs), advocacy meetings and training of PHU-in-charge at the district level is supportively supervised by the NTDP and HKI. PHU activities are supervised by the DHMTs and activities at community level (social mobilization, training of CDDs and implementation of MDA) are supervised by PHU staff and monitored by the DHMTs, with spot checks by NTDP and HKI. Inadequate performance is always reported to employee's line supervisor, DHMT and/or the national NTDP for remedial action. The DHMTs and community leaders supervise training of CDDs/CHWs and conduct spot checks at community level. During MDA the PHU staff ensure that CDDs/CHWs adhere to the following treatment guidelines: (a) the correct use of dose poles; (b) strict observation of the exclusion criteria for treatment; (c) correct recording of doses administered in the village register or tally sheet by gender; (d) proper supply chain management to detect and report any stock outs; and (e) proper identification/referral of SAE cases and reporting of SAEs to the appropriate health authorities. Supportive supervision of health staff and CDDs or CHWs gives the opportunity to evaluate if the health workers are doing the activities correctly and correct underperformance or mal-practice on site. Supervision also helps motivate CDDs/CHWs as they can see and appreciate the interest shown in what they do. Deputy District Directors of Education and School inspectors supervise the second MDA-STH when and where it is performed independently of MDA-SCH with back up from the NSAHP, DHMT and HKI. MDA is supervised using supervisory check lists by staff at all levels: national, district and community.

Independent monitors are selected from the SLPB, Statistics Sierra Leone, University of Sierra Leone and Njala University, to conduct both in-process and end-process monitoring of MDA modelled on the WHO sampling framework[22]. The In-process monitoring serves as a way to immediately troubleshoot problems, such as low coverage, shortage of drugs and other supplies, and community resistance to participation in the MDA. Both random and purposive sampling is employed for in-process monitoring. It is important to focus on areas that historically have lower coverage and that are hard to reach, so in these cases purposive sampling can be used to ensure that enough sites in this category are included. However, it is also important to assess those sites that have historically performed well and to ensure that monitoring covers a wide geographic spread; therefore random sampling can be used as well. It enables the DHMTs to focus

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on weak aspects/areas of implementation for improved coverage as these are reported directly to them in person or by phone for remedial action in real time. Coverage data is collected via mobile applications using Android phones. The webhost account administrator at HKI receives, sorts, cleans, queries where necessary, and reports in-process coverage results daily to the NTDP for distribution by email to all DHMTs. The end process monitoring is conducted immediately after the MDA campaign to independently estimate post-MDA program coverage. Cluster random sampling using probability proportionate sampling is used for end-process monitoring since this is the phase of IM that will estimate program coverage. The results of the end-process monitoring are used for comparison with the reported MDA coverage and also to recommend ways to achieve improved coverage in the next round of MDA. The independent monitoring has been very effective in helping to achieve effective programmatic coverage.

All aspects of preparation for MDA need to be monitored and these are performed annually by HKI-staff independently of the NTDP, and the results shared with the NTDP and DHMTs at the annual NTD review meeting. Community leaders and influencers will serve as community monitoring agents in chiefdoms with persistent LF mf prevalence ≥1% in FY2015.

Debriefing of Independent monitors. After each round of in-process and end-process monitoring of provincial activities they are debriefed at the HKI office together with representatives of the NTDP. Qualitative reports from their field trip are discussed at length and recorded by the HKI-NTD team together with their recommendations for future MDAs. For MDAs in the WA, daily debriefing on the in-process monitoring occurs at the DHMT office at 6pm. In-process monitoring has contributed immensely to avoiding pockets of low coverage, especially in HTR areas and identifying underperforming CDDs, PHU staff and/or DHMTs. It is timely, and cost-effective since is enables program implementers to activate corrective measures without delay.

How data collection is followed through pre-established procedures and protocols

Data are collected by the CDDs/CHWs in their register in accordance with WHO guidelines and tally sheets for MDA in the urban setting. These are collated by the PHU-in-charge and checked by the NTDFP. The National NTD Supervisors tours the districts to collect these collated reports and assist with the checking and if necessary visits PHU to cross-check himself/herself directly or obtain delayed reports. All the data collection tools are based on indicators described in WHO guidelines and the donor. HKI will continue to work with the NTDP to adhere to all WHO guidelines including the adoption of the new WHO joint drug request and joint report forms. Data quality will be improved by the utilization of mobile applications to send summary reports initially from district to national level but in the longer term from PHU to district level. This was first introduced by HKI to the NTDP in FY2013 and the NTDFPs received further training in FY2014. Further support will be required in FY2015 to establish this.

Issues encountered during MDA and how they could be overcome

Each MDA encounters unique barriers which are often predictable from previous independent monitoring debriefings or a general understanding of the MoHS and the pressures and additional programs of emergencies it is encountering. In-process monitoring is able to identify these swiftly and help the NTDP

and DHMTs justify and focus whatever additional support is required within days. In 2010, the launch of the universal distribution of long-lasting insecticide-treated nets occurred at the start of MDA-LF-oncho-STH in 12 HDs and kept both PHU staff and volunteers pre-occupied. In-process monitoring clearly demonstrated after 6 weeks that coverage had not reached effective levels and MDA was extended for a further month.

The transfer/leave/attendance at international or national meetings of key health personnel in the month prior to MDA when organization needs to be finalized and roles and responsibilities of other health staff confirmed can have a profound impact on coverage in the district affected as there is such a critical shortage of trained, capable health personnel. The DHMTs are encourage to roll out the MDA training to all PHU staff such that trained health staff will always be available even in the event of transfer of their colleagues. This can be achieved by rotating personnel who are nominated to attend the training and not limited to the 'In-charges' of the health facilities. The adoption of the NTD training curricula into MCHA training curricula will provide the opportunity for the MCHA in training to learn about NTDs before even they are posted to the health centers after the completion of their course. MCHA constitute over 80% of PHU staff in all the 14 HDs.

Drug shortages at some PHUs occurs in the WA. This was due originally to internal displacement during the war and now a more permanent settlement as 'displaced' families elect to stay in the WA but move around looking for space and affordable accommodation. There may also be a rapid influx of people within the WA when social mobilization regarding MDA is highly effective resulting in internal MDA-migration from other districts. Within the WA, both supportive supervision and independent monitoring with daily debriefing of the DHMT-WA enables drug shortages to be corrected overnight. As the WA is the commercial center of Sierra Leone, many persons visit for trade on a regular/infrequent basis and may 'elect' to participate in MDA as they may have missed the MDA round in the provinces. Thus the DHMT-WA is supplied with a generous buffer stock of drugs and the NTDP on stand-by to re-supply them if necessary as was the case in 2010. Drug shortages at the new mining communities due to employment–seeking migration has occurred and again the DHMTs in the affected districts (Bombali, Tonkolili and Port Loko) are resupplied by the NTDP or distribution within the district is re-organized by the DHMTs.

Negative rumors can spread quickly during an MDA and need to be equally quickly reported by the PHU staff or independent monitor to the DHMT. The NTDFP visits the affected community and reports back to the DMO who may also visit the affected community and/or address the district through the community radio the same day. This rapid investigation and response had been highly effective at resolving issues in both the provinces and the WA, maintaining the momentum of the MDA and achieving effective coverage. Rumors vary from the side effects to be encountered to fears of impotency, infertility or cholera during the rainy season. Domestic deputes between health workers/CDDs and their families or local politics can also instigate negative rumors. Fears regarding the spread of Ebola are to be expected in the WA in September 2014. Modified IEC materials, advocacy, social mobilization and radio discussions will be required or the MDA-WA deferred until early FY2015 if effective coverage is to be achieved.

Non-compliance appears due to experience of previous side effects especially when the individuals have not participated in previous MDAs. To overcome this health workers and CDDs are trained on recognition and management of common side effects and referrer of SAEs.

It is often a challenge to achieve high MDA coverage in hard to reach areas (HTRs). Special strategies will be continue to be employed to reach the hard to reach areas (HTRs) with MDA drugs include hiring boats to access riverine areas, hiring motorcycles to reach hard to reach terrain and targeting the leaders of special groups such as motorcycle riders association, drivers union with a special tailored messaged that could be disseminated to the entire members of the group.

Short-Term Technical Assistance

Technical assistance will be requested by the NTDP for the following activities in FY2015:

- **TAS Training Support**: The NTDP is requesting technical support from HKI and FHI360 to develop the TAS protocol and to train survey teams for the upcoming TAS. The date of the TAS will be determined as soon as more information on the containment of the Ebola epidemic is known.
- **TIPAC**: The TIPAC will need to be updated to reflect Sierra Leone's FY2015 data, and as such the National NTDP is requesting external support for this effort.
- **National NTD Database**: A consultant will be requested by the NTDP in FY2015 to train the National Program in the use of the National NTD Database.
- **Data Quality Assessment and Joint Application/Reporting Form Orientation:** In FY2015, the national NTDP will need technical assistance to better understand the data quality assessments, which will allow the National Program to assess the quality of reported NTD data in Sierra Leone and the ability of current NTD data management systems to collect, transmit, document and report quality data. During this visit, the NTDP will also request an orientation in the use of the WHO Joint Reporting Forms and Joint Request Forms to help with drug requests and MDA reporting.
- **Development of the next NTD Master Plan for Sierra Leone:** The NTDP is requesting a consultant to help review the NTD Master Plan 2012-2015 and provide guidance on critical elements that should be included in the follow-on Master Plan (2016-2020) to allow Sierra Leone to reach all WHO elimination and control objectives.

Table 6: Technical Assistance request from END in Africa

Task-TA needed (illustrative example below)	Why needed	Technical skill required	Number of Days required and anticipated quarter
To conduct TAS in 8 HDs that passed Pre-TAS in FY 13	The NTDP has indicated the need for TAS protocol and training of field agents	Technical knowledge on protocol development and implementation of TAS	3 weeks
To update the TIPAC for FY2015	The NTDP has indicated that they cannot do the updating of the tool on their own	Expertise on TIPAC	1 week
Orientation on DQAs and WHO joint reporting and joint drug request formats	The NTDP has indicated the need to train on the DQAs and the WHO Joint Reporting Format to help strengthen the national data management system	Expertise on the DQAs and use of the WHO reporting and request forms	1 week
Orientation on the National NTD database and roll-out	The NTDP has indicated the need to create the national NTD database for effective M&E	Expertise on the M&E database	1 week
Review of the 2011-2015 NTD Master Plan and development of NTD Master Plan for 2016-2020	The current NTD Master plan will expire in 2015 and there is a need to have a new NTD Master Plan	Expertise on PC NTDs	1 week

M&E

Table 7: Planned Disease Specific Assessments by Disease

DSA Type	# DSA Targeted with USAID Support (as of DATE)	Names of districts where DSA to take place
LF baseline or midterm sentinel/spot check site	0	NA
LF Pre-TAS sentinel/spot check site	6	RWA, UWA, Bombali, Koinadugu, Kailahun and Kenema
LF TAS: Stop MDA	8	8 Tonkolili, Port Loko, Kambia, Bo, Bonthe, Moyamba, Pujehun, and Kono
LF TAS: Post-MDA Surveillance (I or II)	0	NA

Oncho epidemiological assessment	12	Bombali, Koinadugu, Tonkolili, Port Loko, Kambia, Bo, Bonthe, Moyamba, Pujehun, Kenema, Kailahun and Kono
Schisto sentinel/spot check site/evaluation	12	Bombali, Koinadugu, Tonkolili, Port Loko, Kambia, Bo, Moyamba, Pujehun, Kenema, Kailahun, Kono and RWA
STH sentinel/spot check site/evaluation	12	Bombali, Koinadugu, Tonkolili, Port Loko, Kambia, Bo, Moyamba, Pujehun, Kenema, Kailahun, Kono and RWA
Trachoma impact survey	0	NA
Post-MDA Surveillance	0	NA
Other (please specify)		

Data Quality Assessments and National NTD database roll-out

The NTDP will require technical assistance from End in Africa Project to strengthen their data management, create a national NTD database, train their staff on its maintenance and perform the DQA as discussed during the END In Africa NTD meeting in Accra and the annual work planning meeting in Freetown. It is anticipated that the national databased will be rolled in FY2016. A national population census will be performed in December 2014. Preliminary results should be available by mid-2015 to help in the establishment of these new tools and improve planning and reporting.

M&E strategy: transition to post-treatment surveillance strategy

The HKI questionnaires, administered to community leaders, CDDs, PHU staff, DHMTs and community members to assess the extent and quality of activities performed are revised annually. The mobile application to be used in FY2015 has changed from Magpie/CommCare to ONA which is equally user-friendly and has additional features: synchronization with the webhost to prevent double data entry and GIS recording to confirm location being monitored.

Proposed surveillance efforts discussed if pass TAS

Transition to a post-MDA-LF strategy is anticipated in 8 HDs in FY2015. Preparations include further training of district/private sector laboratory technicians on the identification of microfilaria from blood samples as part of their routine work and during screening for army and police employment/recruitment. Cross border control to prevent recrudescence of LF from other districts and/or from neighboring Guinea and Liberia will focus on synchronizing NTD activities within the MRU and modifying distribution strategies to ensure coverage amongst traditional and employment seeking migrants. During the surveillance phase in the 8 HDs ALB and IVM will be available at the NTDP store to treat when positive cases are detected.

Disease Specific Assessments

In FY2015 the following DSAs will be conducted based on WHO guidelines: Pre-TAS in RWA and UWA that have completed five rounds of MDA; Pre-TAS in Bombali, Koinadugu, Kailahun and Kenema districts, which made up the 2 EUs that failed pre-TAS in 2013 but have completed 2 additional rounds of MDA; and integrated impact assessments for SCH and STH in 12 HDs. If the 2 EUs pass the pre-TAS, then they will move on to conduct TAS in FY2016. The impact assessment for SCH and STH will help the NTDP to know

the current SCH situation following 5 rounds of MDAs in 7 HDs that were classified as having moderate or high baseline prevalence and in the 5 costal HDs that were classified as having low prevalence and have never been treated. The results of the assessment will also determine if the treatment strategy of SCH and STH will be revised.

M&E challenges, inaccurate denominators, getting DSA results out, MOH approvals

The 2004 national population census was done 2 years after the end of the civil conflict in Sierra Leone[23] when many Sierra Leoneans were either internally or externally displaced. Since then, much internal migration and rapid urbanization has occurred. This has been a challenge to the government and every partner working in the country. The NTDP has therefore been dependent on the village census that is conducted annually by CDDs in the rural areas. In the urban areas the program had relied on WHO estimated numbers that has been used during NIDs for polio, measles and yellow fever vaccinations.

To ensure high quality DSA results the HKI NTD staff will participate in field work including microscopy (where applicable), data analysis, and the preparation and submission of multiple peer-reviewed publications. MoHS approval for NTD DSAs and the ensuing publications relating to these DSAs has not been problematic.

Planned FOGs to local organizations and/or governments

Table 8: Planned FOG recipients

FOG recipient (split by type of organization)	Number of FOGs	Activities
NTDP	1	• Planning meeting • Distribution of drugs and other logistics MDA LF-Oncho-STH in 12 HDs • MDA LF-Oncho-STH in 12 HDs • Annual review meeting • Training of supervisors and refresher training of PHU staff for MDA-SCH in 7 HDs • Advocacy and social mobilization for MDA SCH-STH in 7HDs • Curriculum development meeting • Social mobilization for MDA LF-Oncho-STH in 12 HDs • Distribution of drugs and other logistics for MDA SCH-STH in 7 HDs • SCH follow up survey in 12 HDs
NTDP	2	• Advocacy meeting for MDA LF-Oncho-STH in 12 HDs • Cross border meeting • Training of trainers for MDA-Oncho-LF • Refresher training of PHU staff for LF-Oncho in 12 HDs • Refresher training of CDDs for MDA-LF-Oncho in 12 HDs

[23] Civil conflict was between 1991 and 2002.

		• MDA-SCH in 7HDs • Collection, analysis and reporting for MDA-SCH in 7 HDs • Pre TAS in 6 HDs
DHMT-WA	3	• Advocacy in the WA • Advocacy with private practitioners • Social mobilization in WA • Training of PHU staff in WA • Training of CHWs in WA • MDA LF-STH in WA

Summary of NTD partners working in country

Table 9: NTD partners working in country and summarized activities

Partner	Location	Activities	Is USAID providing financial support to this partner?
HKI	National level, all 14 HDs	Provide direct overall technical assistance to the MoHS in advocacy, strategic planning, implementing, supervision, M&E and capacity building	Yes
Sightsavers	12 HDs for Oncho only	Provide financial support for training of health staff and CDDs, and supervision of MDAs	No
APOC	12 HDs for Oncho only	Provide financial support for training of health staff and CDDs and supervision of MDAs in hyper and meso endemic communities.	No

Looking Ahead

One major gap is the lack of funds for LF morbidity management if the NTDP is to achieve a full elimination. In 2010, the CDDs estimated the backlog of people living with hydrocele or lymphedema as 23,500 and 8,300, respectively. Support from Johnson & Johnson has been limited to the training of the doctors and the 200 surgeries performed during training. Since LF-sufferers have little or no disposable income to pay for transportation to a surgical center, doctors' expenses, and surgical consumables, few hydrocele surgeries are currently being performed. The Chief Medical Officer has indicated the need for the MoHS to support NTD-morbidity management, proposing that hydrocele surgeries could be performed free by the district medical superintendents. This will require support from other partners for provision of surgical consumables, and for referrals. HKI and NTDP will advocate with the NGO liaison office of the MoHS for

support from other NGO partners working with disabilities. The National Commission for Persons with Disabilities, Sightsavers, Statistics Sierra Leone, NTDP and HKI are planning to conduct a rural census in late 2014 and follow it up with an urban census in 2015 to have updated figures on the number of people having disabilities relating to NTDs (for LF: hydroceles and lymphoedema; and for trachoma: TT). The 2 planned census will use the CDD village census as a platform and mobile applications for data collection in FY2015 (non USAID funding). HKI will provide the technical support and training for the mobile application and support the management of the cloud-based database.

Secondly, since onchocerciasis has been targeted by APOC for elimination but with dwindling APOC support over the years further funding will be required as CDTI+ is scaled back to enable CDTI to continue in all communities including the hypo-endemic communities that have not been included as part of oncho treatment since 2008 because being also LF-endemic they have been treated under the LF MDA. The cost estimate to implement CDTI activities post MDA LF is about $523,489. All communities in the 14 HDs of Sierra Leone have received treatment for LF up to FY2014 and LF treatment includes IVM, which is the drug used to treat oncho.

Similarly 1 round of MDA-STH has also been dependent on MDA-LF. However, as indicated in the USAID supplemental technical guidance for END in Africa FY2015 work planning, USAID will support MDA-STH after MDA for LF has been stopped. This needs to be combined with activities to improve water, sanitation and hygiene (WASH) and behaviour change communication activities that will help to prevent re-infections. The planned SCH/STH survey in FY2015 will also help the NTDP to re-assess the STH situation.

Table 10: Remaining NTD funding gaps to be addressed

Identified gap or activity	Would external support be needed –funding or technical (outside of existing partners)?	Estimated time needed to address activity	Estimated cost to carry out activity
LF Morbidity Management	Yes - funding	To start in FY2015	TBD
MDA oncho in hypo, meso and hyper endemic communities post LF elimination	Yes - funding	To start in FY2015	$523,489
MDA STH post LF elimination(SAC and through Ministry of Education	Yes - funding	To start in FY2015	$312,483

The current ebola epidemic in the MRU countries may necessitate deferment/modification of some planned FY2014 activities into FY2015 and when this is confirmed by the NTDP a request to carry-over funds will be made by HKI.

Figure 1: USAID NTD support map of Sierra Leone

USAID supports each of the 14 health districts in Sierra Leone for the control/elimination of at least 2 of the 5 Neglected Tropical Diseases targeted through preventive chemotherapy (PC NTDs)

Source:
Helen Keller International