Ghana

FY2017

Control of Neglected Tropical Diseases
Annual Work Plan

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Acronyms and Abbreviations

AEs	Adverse Events
AE-f-MDA	Adverse Events following MDA
AFRO	WHO Regional Office for Africa
ALB	Albendazole
APOC	African Program for Oncho Control
BCC	Behaviour Change Communication
CDC	The United States Centers for Disease Prevention and Control
CDD	Community Drug Distributor
CDTI	Community Directed treatment with Ivermectin
CMS	Central Medical Stores
CNTD	Center for Neglected Tropical Diseases
DQA	Data Quality Assessment
DSA	Disease Specific Assessment
FHI360	Family Health International 360
FOG	Fixed Obligation Grants
FPSU	Filariasis Program Support Unit
GAR	Greater Accra Region
GES	Ghana Education Service
GHS	Ghana Health Service
GoG	Government of Ghana
ICCC	Intra Country Coordinating Committee
ICT	Immuno-Chromatographic Test
IEC	Information Education and Communication
IVM	Ivermectin
JSI	John Snow Incorporated
LATH	Liverpool Associate of Tropical Health
LF	Lymphatic Filariasis
M&E	Monitoring and Evaluation
MDA	Mass Drug Administration
MDP	Mectizan Donation Program
MOH	Ministry of Health
NECP	National Eye Care Program
NHIS	National Health Insurance Scheme
NMIMR	Noguchi Memorial Institute for Medical Research
NTD	Neglected Tropical Diseases
NTDP	Neglected Tropical Diseases Program
OCP	The World Health Organization's West African-Based Oncho Control Program
PCD	Partnership for Childhood Development
PC NTDs	Neglected Tropical Diseases targeted through Preventive Chemotherapy
Pre-TAS	Pre-Transmission Assessment Survey
PZQ	Praziquantel

RMS	Regional Medical Stores
RPRG	Regional Peer Review Group
RTI	Research Triangle Institute
SAC	School-Age Children
SAE	Severe Adverse Events
SCH	Schistosomiasis
USAID	United States Agency for International Development
WHO	World Health Organization

COUNTRY OVERVIEW

General background information on country structure

Ghana lies on the West Coast of Africa between latitudes 5° and 11° North of the Equator and between longitudes 1° East and 3° West of the zero meridian. The country is bordered by the Atlantic Ocean (Gulf of Guinea) on the South, Togo on the East, Cote d'Ivoire on the West and Burkina Faso on the North. The country has an area of 238,537 square kilometers with 550 kilometers of coastline. Ghana has a typical tropical climate with average temperatures ranging between 21 and 32 degrees Celsius. There are three clear geographic zones: dry northern guinea savannah; the humid middle rain forest zone; and the coastal savannah and mangroves. There are six major rivers with several tributaries, some of which are fast flowing. One of the rivers, River Volta, covering about 3% of the country has been dammed for hydroelectric power generation creating the Volta Lake. The rivers and lakes predispose populations living in their catchment areas to oncho along the fast flowing tributaries and schistosomiasis (SCH) in the areas with stagnant water. The coastal and dry northern zones have higher prevalence of lymphatic filariasis (LF) while yaws and buruli ulcer are predominant in the humid forest zone.

Ghana is divided into 10 administrative regions and 216 administrative districts[1]. A politically appointed administrator, designated Regional Minister, manages each region while a district is managed by a District Chief Executive. Districts are subdivided into sub-districts with a population of 20,000-30,000 for administrative purposes. Implementation unit of health programs is the district level.

Neglected Tropical Diseases (NTD) endemic in Ghana include – lymphatic filariasis, onchocerciasis (oncho), schistosomiasis, trachoma, soil-transmitted helminthiasis (STH), buruli ulcer, leprosy, yaws, human African trypanosomiasis (HAT), Leishmaniasis and rabies. Five of the NTDs – LF, SCH, STH, oncho and trachoma - which employ preventive chemotherapy (PC) or mass drug administration (MDA) as the key control strategy are managed by the Neglected Tropical Diseases Program (NTDP) while the others have distinct single purpose programs for their control. However, there is some level of collaboration among NTD programs in Ghana. Almost 80% of control intervention activities for the five NTDs managed by preventive chemotherapy (PC NTDs) in Ghana are funded through support of the United States Agency for International Development (USAID) since 2010. Other partners supporting the NTDP are Sightsavers, Filariasis Program Support Unit (FPSU), DFID, Centres for Disease Control and Prevention (CDC) and the World Health Organization (WHO). The WHO Country Office in Ghana generally serves as consignee for donated NTDP logistics including medicines, equipment and supplies for disease specific assessment (DSA) as well as provides technical support and ad hoc targeted funding. The CDC of the United States provided technical and financial support for passive post-treatment surveillance of LF in 2 regions in Ghana but this ended mid-year FY16.

On the local front partners include the Volta River Authority (VRA), a government owned company that runs the Akosombo Hydroelectric power plant, provides funding and some logistics support for SCH control along the Volta Lake as part of its corporate social responsibility. In FY16 a local private bank,

[1] There were 170 districts which was re-demarcated in 2012 where districts considered too large in terms of population and were divided resulting in a total of 216 districts presently in the 10 regions.

UniBank Ghana Limited provided funding for LF morbidity management in one region. The Ministry of Health (MoH) provides storage space for NTDP medicines and other logistics in the central medical stores (CMS) at the national level and the regional medical stores (RMS) located across the 10 regions of the country.

Table 1: NTD partners working in country, donor support and summarized activities

Partner	**Location (Regions/States)**	**Activities**	**Is USAID providing direct financial support to this partner?** *(Do not include FOG recipients)*	**Other donors supporting these partners/ activities?**
Sightsavers, Ghana		Technical support and funding for second round oncho MDA, oncho DSAs and trachoma pre-validation survey	No	Yes
FPSU, Liverpool, UK		Technical and financial support for LF post-treatment surveillance (PTS) in Greater Accra Region (GAR)	No	Yes (DFID)
WHO Country office in Ghana; WHO Regional Office for Africa (AFRO)		Technical and financial support for NTD control; serves as consignee for NTD drugs, DSA equipment and supplies from donors and partners	No	Yes
DFID, UK		Funding for Operational research into LF hotspots under the CountDown Project	No	No
CDC, Atlanta, USA		Technical and financial support for passive surveillance of LF in Ghana	Yes	Yes
Volta River Authority, Accra and Akosombo		Funding for SCH MDA in Volta and Eastern regions	No	No
UniBank Ghana Ltd, Accra		Funding limited morbidity management in one region	No	No

National NTD Program Overview

The Ghana NTDP presently targets LF, trachoma and oncho for elimination while SCH and STH have control targets. Interventions for NTDs are implemented strictly according to WHO guidelines. Poor environmental sanitation and sewage disposal is pre-dispose school-age children to high reinfection rates for SCH and STH in some communities. Five key intervention strategies for the PC NTDs include (1) annual or bi-annual MDA, (2) morbidity management and disability prevention (MMDP), (3) vector control, (4) health education and behaviour change communication (BCC) for better acceptance and compliance with treatment, and (5) DSAs, surveys to determine impact of treatment on target causative parasites in

endemic populations. Control/elimination activities for the 5 PC NTDs are integrated as much as possible to maximise efficient use of available resources to achieve the greatest possible impact. Treatment for LF, oncho and STH are implemented on the same community-based MDA platform using ivermectin (IVM) and albendazole (ALB) tablets in co-endemic districts. The NTDP conducts integrated school-based MDA for SCH and STH using ALB and praziquantel (PZQ) tablets.

Summary of Key activities for FY2017

Lymphatic filariasis

1. Conduct integrated LF/Oncho/STH treatment in 100 districts including 17 LF endemic districts.

2. Conduct pre-transmission assessment survey (pre-TAS) in 9 districts using filarial test stripes (FTS).

3. Conduct transmission assessment survey (TAS) in 9 districts grouped into 3 evaluation units (EUs) – TAS for stopping MDA (TAS 1) in 2 districts and first post-MDA TAS (TAS 2) in 7 districts.

4. Conduct MDA coverage survey in 5 districts selected to represent the country for LF and oncho.

5. Conduct advocacy meetings in 8 regions to communicate implications for stopping treatment for LF in 81 districts, timelines for TAS after stopping treatment as a post-treatment strategy and how to return all unused medicines from communities to the Regional or Central Medical Stores.

6. Implement Action Plan developed to address poor supply chain management (SCM) system for NTD medicines to reduce wastage and improve accountability.

Oncho activities

1. Conduct integrated LF/Oncho/STH MDA in 100 districts including 85 oncho endemic districts.

2. Conduct an impact assessment in 120 districts to determine the status of oncho in the country using a combination of Ov16 and skin snip tests. The assessment will be conducted in the following categories of districts:

    a) 85 districts currently receiving treatment
    b) 50 hypo-endemic districts not receiving treatment
    c) 16 additional previously untreated districts with indications of infection to determine if treatment is required.

3. Re-demarcate the endemic zones into transmission zones which will be used as the evaluation units during elimination program phase.

4. Conduct prospection of black fly breeding sites to update current breeding sites to be used as assessment sites at the elimination program phase. This will be supported by END Fund.

5. Establishment and operationalize an Oncho Elimination Committee as required by the new oncho guidelines for stopping MDA and for validation of elimination.

Schistosomiasis (SCH) activities

1. Conduct school-based SCH/STH treatment in 47 category-A districts.

2. Conduct community based SCH treatment for adults in 47 category-A districts.

3. Conduct assessment of SCH in 2 districts in the catchment area of the recently constructed Bui Hydroelectric dam using urine filtration and methods.

Soil Transmitted Helminths (STH) activities

1. Conduct STH treatment in 17 districts using the LF/STH/oncho integrated MDA platform where ALB and IVM will be administered in 17 LF endemic districts.

2. Conduct treatment for STH in 47 districts using the school-based SCH MDA platform targeted at SAC by administering ALB with PZQ.

Trachoma activities

1. Set up the Ghana Trachoma Elimination Steering Committee to oversee the preparation of Elimination dossier to WHO in FY2017.

2. Conduct case search to identify estimated trachomatous trichiasis (TT) backlog in one district (which did not meet the TT elimination criteria of TT < 0.1%).

3. Train 5 ophthalmic nurses to provide TT surgery in the post elimination phase.

4. The MoH/Ghana Health Service (GHS) will organize an official event to announce trachoma elimination in Ghana.

Program Capacity Strengthening

1. FOG management, planning and program performance management to reinforce mentoring and ensure operational efficiency.

2. Improve partnership management and reporting capabilities to manage incoming resources and implementing partners.

3. Continue partnership and resource mobilization drive to address areas currently not supported by the USAID NTD Program and other NTD partners.

4. Conduct workshop and mentoring sessions to improve project management.

5. Train 30 staff on oncho epidemiological survey techniques – OV-16 rapid diagnostic tests (RDT) and ELISA and skin snip recommended by the new WHO oncho guidelines.

Advocacy and communication

1. Mount an NTD exhibition at the 2-day Annual Health Summit to improve visibility of NTDs and NTDP interventions among leaders in the health sector.

2. Roll out implementation of NTD advocacy strategy developed in FY16 through engagement with key stakeholders identified.

3. Produce 5,000 branded polo shirts for community drug distributors.

4. Produce other IEC materials used for social mobilization during MDAs (school-based and community-based) such as in-school posters (6,000 copies), community posters (6,500) and parent notification forms (500,000).

M&E activities

1. Follow up implementation of the data quality assessment (DQA) recommendations at all the reporting levels of the MDA data management and reporting system by conducting field assessment in 2 communities each in 4 districts of 4 regions.

2. Conduct field visits to verify data in districts reporting very low and extremely high MDA epidemiological coverages by assessing 2 districts in each category.

3. Introduce Quality Improvement tools in the 17 LF hotspot districts in FY17 to improve quality of MDA and treatment coverage to ensure that elimination targets can be reached in these districts by 2020.

Lymphatic filariasis

Mass drug administration with IVM and ALB for treatment of LF in Ghana started in 2001 with 5 districts and gradually scaled up to include all LF endemic districts in 2004. Ninety-eight out of 216 districts in Ghana were identified as endemic for LF in 8 regions with the exception of Volta and Ashanti regions where LF is non-endemic. Significant progress has been made so far with LF treatment: 81 out of 98 endemic districts would have stopped treatment by the end of FY16 leaving 17 districts expected to continue treatment in FY17. Treatment was stopped in 5, 64, and 7 districts in 2010, 2014, and 2015 respectively. Additionally, 5 districts have passed TAS for stopping MDA (TAS 1) conducted in 2016. The results have been submitted to the NTD Regional Program Review Group (RPRG) of WHO for validation. The 5 districts that stopped MDA in 2010 conducted and passed the second post-MDA TAS (TAS 3) in 2015. The first post-MDA TAS (TAS 2) has been completed in the 64 districts where treatment was stopped in 2014 with all 64 districts passing. Quality control assessment for pre-TAS using night blood survey conducted in 6 districts is currently ongoing. USAID under the END in Africa project has funded different aspects LF elimination intervention in Ghana since 2010. USAID currently funds LF MDAs, DSA, social mobilization and capacity building activities.

Seventeen LF endemic districts will be treated in FY17 in an integrated MDA for LF, oncho and STH. Pre-TAS will be conducted in 9 districts out of the 17 remaining LF endemic districts and TAS 1 will be conducted in 2 districts which will be grouped as one evaluation unit (EU). TAS 2 will be conducted in 7 districts (grouped into 2 EUs) which passed TAS 1 and stopped treatment in 2014. All pre-TAS and TAS will be conducted using the FTS. The NTDP will conduct an integrated LF and oncho treatment coverage survey in 5 districts in 5 regions – Western, Brong Ahafo, Northern, Upper East and Upper West regions. The regions have been selected to reflect regions with the highest concentration of the two diseases and also to represent the lower, middle and upper zones of the country. District will be selected based on MDA treatment coverage trends, cross-border challenges and hotspots. The WHO coverage survey protocol will

be used to guide the survey in Ghana. Data Quality Assessment (DQA) and data verification conducted in FY15 and FY16 identified poor supervision quality from district and regional health staff as a major concern. Specifically, it identified non-utilization of MDA monitoring and assessment tools although a couple of them have been developed previously by the NTDP. These tools were reviewed and modified for use during the FY16 MDAs. One of the tools was deployed for use to monitor planning and implementation of MDA at the regional, district and sub-districts levels. A community level MDA rapid assessment tool was also developed and piloted to assess effectiveness of social mobilization and treatment coverage at community level during an MDA especially in the remaining 17 LF endemic districts considered as hotspots. This tool is expected to provide timely intra-activity feedback to community drug distributors (CDD) and supervisors necessary to improve treatment coverage during the MDA. The tool will be finalized for use in FY17.

The NTDP will conduct advocacy meetings in all regions to communicate implications for stopping treatment for LF in 81 districts, post-treatment surveillance strategies and to encourage reverse logistics strategies to retrieve all unused IVM and ALB and community registers from these districts to the Central Medical Stores (CMS). There has been repeated questions from regional and district health managers on the status of LF after treatment was stopped due to unclear understanding of post-treatment strategies. These meetings will also prepare regional and district health managers for eventual elimination of LF in Ghana. The advocacy meetings will be attended by regional directors of health, regional deputy directors of public health and district directors of health for districts that have passed TAS 1[2] and hence stopped treatment for LF.

During the NTD SCM training organized by Management Sciences for Health (MSH) under the USAID funded Systems for Improved Access to Pharmaceuticals and Services, the NTDP identified reverse logistics for NTD medicines as the most important SCM problem. The NTDP will implement, in F2017, an Action plan developed by the NTDP, procurement unit of the GHS and the CMS to address the problem. The following key activities will be conducted:

1. Use NTDP medicines utilization service data rather than populations to estimate medicines distributed to regions, districts and communities conducting MDA. District and regional pharmacists will be charged to manage NTD medicines and provide the relevant data.

2. Develop Job Aides in conformity with GHS standard operating procedures (SOPs) on management of pharmaceutical products and process maps for distribution of NTD medicines from the CMS through all intermediary levels to the community. Staff will be trained on these and copies produced for all levels handling NTD medicines.

3. Conduct monitoring and supportive supervision after each MDA to monitor compliance with NTD medicines Job Aide and support improvements in implementation.

[2] Number of district passing TAS 1 in each region are as follows: Greater Accra-8, Western-9, Eastern-6, Central-18, Northern-22, Brong Ahafo-2, Upper East-11, Upper West-5

Onchocerciasis

Oncho control in Ghana started in 1974 with vector control strategy until the community directed treatment with ivermectin (CDTI) strategy was introduced by APOC in 1998. Ghana conducted a remapping for oncho in 2009 using the rapid epidemiological mapping for oncho (REMO) methodology. The REMO results indicated 29 districts were hyperendemic (nodule prevalence ≥60%), 15 districts were mesoendemic (nodule prevalence 40%-59.9%), 91 districts were hypoendemic (nodule prevalence < 40%) and the remaining 81 districts were non-endemic (nodule prevalence 0%). Previous WHO guidelines implemented under APOC recommended treatment for mesoendemic and hyperendemic districts only. However, the MOH NTDP decided to continue treatment in 41 of the 91 hypoendemic districts receiving treatment prior to the REMO. Since the REMO in 2009 the Ghana NTDP conducts biannual community-based MDA in 44 districts (29 hyperendemic and 15 mesoendemic) and annual treatment in the 41 hypoendemic districts which were receiving treatment under the APOC CDTI campaign before the REMO was conducted. The MDA implementation unit was the community level, however in 2016 the NTDP elevated the implementation unit to the sub-district level as the programme prepares to implement an oncho elimination programme. This means that all eligible persons in a sub-district are treated if at least one community in the sub-district is endemic and receiving treatment.

Following release of the WHO Oncho Guidelines for Stopping Mass Drug Administration and Verifying Elimination of Human Oncho the NTDP held an Oncho review meeting to solicit the support of experts and partners on how to position the program as an elimination program from the current control program. The review meeting was attended by USAID, FHI 360, Sightsavers, and WHO. The review meeting proposed that the NTDP take the following steps:

1. Conduct an impact assessment to determine the status of oncho by using a combination of Ov16, O-150 PCR and skin snip to determine the status of the diseases in the 85 endemic districts. The results of the assessment will be used to align the endemic districts to the new guidelines.

2. Conduct an assessment in the 50 oncho hypoendemic districts currently not receiving treatment as well as in an additional 16 districts that have never been treated but were identified to have increasing oncho infection (for various reasons including stopping LF treatment or high parasite load on skin snip tests) to determine if treatment is required. OV16 RDTs, skin snip and O-150 PCR will be used.

3. Re-demarcate the endemic zones into transmission zones which will be used as the evaluation units during elimination program phase.

4. Conduct a black fly breeding site prospection to update current breeding sites to be used as assessment sites at the elimination program phase. This will be supported by END Fund.

5. Establishment and operationalize an Oncho Elimination Committee as required by the new oncho guidelines for stopping MDA and for validation of elimination. Ghana will set up its committee with national and international membership including partners such as FHI 360 and Sightsavers. FHI 360 technical team will serve in the committee and provide logistical support to operationalize the committee.

In FY17 all 85 districts with a population of 8,091,192 will be treated as part of an integrated LF/oncho/STH. An integrated LF and oncho treatment coverage survey will be conducted in 5 districts in 5 regions – Western, Brong Ahafo, Northern, Upper East and Upper West regions. Further details are outlined under LF above.

Schistosomiasis

Mapping for SCH was conducted with USAID support in 2007-2008. All 216 districts in Ghana were found to be endemic for SCH. The results indicated 47 category-A (prevalence ≥50%, high-risk) districts, 38 category-B (prevalence ≥10%-49.9%, moderate-risk) districts and 133 category-C (prevalence 1%-9.9%, low-risk) districts. Treatment for SCH is conducted as an integrated SCH/STH school-based MDA targeting school-aged children (SAC) complemented with community-based treatment of adults in selected high risk category A and B districts. Treatment follows the WHO guidelines: category-A districts are treated once every year; category-B districts are treated once every 2 years and category-C districts treated once every 3 years.

The NTDP conducted a nation-wide mid-term impact assessment of SCH/STH following 4 rounds of SCH treatment according WHO guidelines. Urine filtration method and Kato Katz methods were used for SCH and STH surveys respectively. Results of the impact assessment indicated significant improvement in SCH in Ghana. The Ghana NTDP will be holding a meeting of experts on 25th August, 2016 to discuss the survey results and decide on appropriate treatment strategy for SCH/STH in the next phase starting FY17. In FY17 SCH school-based and community based treatment will be conducted in the 47 category A districts. END in Africa will fully support school based treatment targeting SAC in the 47 districts and fund 50% of community-based treatment for high risk adults in the 47 districts. The Volta River Authority (VRA) will provide funds to cover the remaining 50% community-based treatment in high risk adults in the 47 districts.

The Bui Hydroelectric power plant was constructed in 2010 by damming the Bui river. Recent assessment conducted in selected areas by the GHS indicated significant rise in SCH among a growing population along the river compared to initial surveys conducted prior to building the power plant. The population in the catchment area of the dam include migrants from fishing communities along the Volta river basin which is also endemic for SCH. The NTDP proposes to conduct an assessment of SCH prevalence in 2 districts up stream along the dam using urine filtration and Kato Katz methods to determine the prevalence of SCH (S. Haematobium and S. mansoni). A sample of 50 adults and children will be sampled in 10 communities along the river per district. Endemic communities identified will included in SCH MDA in FY2017.

Soil Transmitted Helminthiasis

Mapping for STH was conducted 2007-2008 and results indicated that only 16 districts had moderate prevalence (≥20%-49.9%). This means that only these 16 should be treated for STH once a year. However, the MOH decided as a matter of policy to treat all SAC in Ghana at least once a year due to the poor environmental sanitation which facilitates a high re-infection rate. This has so far been achieved through multiple channels. The first is the LF MDA funded by USAID which uses ALB in the LF endemic districts. Secondly, STH treatment is conducted through the school-based SCH/STH deworming in collaboration with School Health Education Program (SHEP) of the Ghana Education Service (GES). After about 4 rounds

of treatment the conducted an integrated SCH/STH survey as a mid-term impact assessment in FY16. The survey results indicated significant improvement in STH prevalence. The NTDP will continue to implement the policy of treating SAC for STH at least once a year. However, the avenues to treat STH using other MDA platforms are limited in FY17 due scale down of LF treatment to only 17 districts. The NTDP will need support from other partners to reach the remaining 196 districts (i.e. 216-20 districts) since STH only treatment is not a priority under current USAID support to countries. USAID has support STH treatment indirectly since 2010 through funding of integrated LF/oncho/STH and SCH/STH MDA.

Since SCH is currently endemic in all districts of Ghana, the NTDP will use the school-based SCH MDA platform to treat SAC children for STH. However, not all districts will be treated every year for SCH. In districts where SCH is treated once every other year or once every three years the NTDP will seek the support of other partners to support annual STH MDA in such districts after LF MDA is stopped and will also explore the possibility of using oncho MDA platform to deliver STH MDA.

In FY17 the NTDP will conduct STH treatment in a total of 64 districts. This will involve taking advantage of the LF/STH/oncho integrated MDA in which LF is endemic in 17 districts (where IVM and ALB will be used) and SCH school-based MDA in 47 districts to treat SAC by administering ALB with PZQ.

Trachoma

Baseline studies for trachoma conducted in 1999-2000 indicated that trachoma was endemic in 2 regions (Northern and Upper West) with a total of 37 (18 districts before re-demarcation in 2012) out of 216 districts in Ghana. The NTDP in collaboration with the National Eye Care Program (NECP) implemented treatment for trachoma using the SAFE (**S**urgery, **A**ntibiotic therapy, **F**acial cleanliness, and **E**nvironmental management) strategy. Treatment was gradually scaled up to the 37 districts. Impact assessment survey conducted in 2008 showed prevalence of follicular trachomatous inflammation follicular (TF) among children age 1-9 years was down to <5% in all the endemic districts for which reason treatment was stopped at district level. A 3-year post treatment surveillance was conducted from 2008-2011 which identified 8 communities with 5 -9.9% TF prevalence among children 1- 9 years. These communities where treated for 3 years each ending in 2014. The NTDP completed a pre-validation survey in all 37 districts in March 2016. The results, which has been reviewed by the Trachoma Pre-validation Survey Committee, indicate that all districts recorded TF prevalence below 5% in children 1 – 9 years while all districts except one met the WHO TT elimination criteria of less than 1 per 1000 population (< 0.1%).

The NTDP is currently taking steps to conduct case search to identify estimated TT backlog in the one district for corrective surgery by trained ophthalmic nurses. Furthermore, 5 new ophthalmic nurses will be trained in TT surgery to equip them for addressing any cases of TT that will be identified in the districts post elimination. The Director General of the GHS has started the process of setting up the Ghana Trachoma Elimination Steering Committee to oversee the preparation of Elimination dossier to WHO in FY17. END in Africa will support the case search activities which is necessary to provide the evidence for meeting the criteria for elimination. Other partners of the NTDP, Sightsavers, will fund TT surgery for the identified TT cases and train ophthalmic nurse in TT surgery. END in Africa will also provide technical and logistical support to the Trachoma Elimination Steering Committee to facilitate preparation of the dossier to be presented to WHO. The MoH/GHS will organize an official event to officially announce trachoma elimination in Ghana.

USAID history of support

Until 2006 Ghana had separate control programs for LF, oncho and trachoma. With the promise of medium to long term USAID support in 2006, the GHS decided to integrate management of 5 PC NTDs (LF, oncho, trachoma, SCH and STH) under the Ghana NTDP. USAID support started with funding for mapping of SCH and STH in 2007, work planning for the following year (2007) and development of a 5-year NTD strategic plan (2007-2011) for the country. In 2007, the NTDP received initial support from USAID for implementation of MDA in 5 out of the 10 regions. Funding was later extended to cover all 10 regions and other NTD activities relating to MDAs, DSAs, data management, advocacy and BCC. Since 2010, USAID support to Ghana has been through the END in Africa Project managed by FHI 360.

Table 2: Snapshot of the expected status of the NTD program in COUNTRY as of September 30, 2016

		Columns C+D+E=B for each disease*			Columns F+G+H=C for each disease*				
		MAPPING GAP DETERMINATION			MDA GAP DETERMINATION			MDA ACHIEVEMENT	DSA NEEDS
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 receiving MDA as of 09/30/16		No. of districts expected to be in need of MDA at any level: MDA not yet started, or has prematurely stopped as of 09/30/16	Expected No. of districts where criteria for stopping district-level MDA have been met as of 09/30/16	No. of districts requiring DSA as of 09/30/16
					USAID-funded	Others			
Lymphatic filariasis	216	98	118	0	17	0	0	81	Pre-TAS: 9 TAS: 9
Onchocerciasis		135	81	0	85	0	50	0	EPI: 151
Schistosomiasis		216	0	0	216	0	0	0	0
Soil-transmitted helminths		216	0	0	216	0	0	0	0
Trachoma		37	179	0	0	0	0	37	0

PLANNED ACTIVITIES

NTD program Capacity Strengthening

The NTDP has its implementation budget entirely supported by partners with government providing support largely in the area of staff remuneration and office infrastructure at all levels of the health system. The partner dependency has been identified as a capacity weakness that can disrupt interventions in the absence of partners' support. END in Africa is building the capacity of the NTDP to effectively engage government, the private sector and other civil society organizations in partnerships that will offer financial sustainability over the long term. NTDP staff have had capacity building on Strategic Social Partnership (SSP). Through advocacy the GHS has set up an SSP section within the Policy Planning Monitoring and Evaluation Unit of the (PPME) Division of the GHS and appointed staff to facilitate SSP activities for the NTDP and the larger GHS. A capacity building workshop has been organized for the SSP team. In FY17 the following mentoring and capacity building activities will be implemented through Deloitte Consulting LLP.

A. **FOG management, planning and program performance management –** Reinforce mentoring to ensure operational efficiency, especially at the Disease Control Unit.
    - Refine existing SOPs and tools to manage funds control, cash requirement planning and general financial management system.
    - Define and implement operational performance measurement indicator for timely release of funds.
    - Work with the GHS/Finance Directorate to validate the Finance Strategy and define meaningful performance indicators that help measure the efficiency and effectiveness of program planning, budgeting and management
    - TIPAC updates -Enhance country capacity to use TIPAC outputs for decision-making.
    - Financial reviews and institutional strengthening at BMC levels.

B. **Partnership management and reporting capabilities to manage incoming resources and implementing partners.**
    - Management of UniBank Ghana LF project - develop and institutionalize a systematic methodology to track, analyze and communicate resource allocation, spending and performance.

C. **Partnership & Resource Mobilization to address areas currently not covered by the USAID NTD Program and other NTD partners (using the colour-coded charts)**
    - develop a business case for the Ministry of Finance and Economic Planning and Parliamentary Select Committee on Health to advocate for increasing the share of government expenditures for NTDs.
    - in collaboration with the PPME, continue to build business cases/proposals to be submitted to identified resource partners.
    - Utilize the Inter-Country Coordinating Council (ICCC) platform for advocacy and resource mobilization.

D. **Workshop and mentoring in project management skills** – conduct training and mentoring sessions on project management.

Strategic Planning (Budget tab 'Meetings and Training')

Total cost for activities in this section: $123,980.49

The END in Africa Project is managed by a consortium led by FHI 360 and includes Deloitte Consulting LLP responsible for financial capacity building and sustainability planning. FHI 360 directly implements the project in Ghana through its country office in Accra and the regional hub of the project that is based in the FHI 360 Accra office. The regional hub of the project has 4 FHI 360 personnel – Associate Director Technical, M&E Advisor, Senior Finance Officer and an Executive Assistant. The regional hub also has a Deloitte Technical Advisor on financial capacity building and sustainability planning. FHI 360 staff managing the support to the NTDP were recruited to complement critical human resource capacity gaps identified by and within the NTDP in addition to the core oversight role. The team includes a Technical Advisor who provides technical support to the NTDP Manager and his team on a day-to-day basis; an M&E officer who manages data generated within the NTDP and acts as liaison on all M&E issues within the

NTDP and between the NTDP and other NTD stakeholders; a Finance Officer and admin/finance officer responsible for all financial management issues and liaise between the NTDP, FHI 360 Ghana Country Office and the GHS Finance Department. USAID has purchased 2 Ford Expedition vehicles for the NTDP in FY16. The project has one existing vehicle provided by FHI 360 to the project, this brings the total vehicles on the project to 3. In FY17 FHI 360 will hire 2 additional drivers for the new vehicles bringing the total number of drivers to 3. The FHI360 support team are based in the NTDP office and so provides direct support for all activities implemented by the NTDP including planning, implementation of MDAs and DSAs, and supervision of all activities relating to MDAs.

Update TIPAC for FY16

The NTDP was supported by the END in Africa project (under the supervision of the Deloitte Technical Advisor for financial sustainability and capacity building) to update the Tool for Integrated Planning and Costing (TIPAC) in April 2016. This meeting included not only the 5 PC NTDs but also programme representatives for the intensive diseases management (IDM) NTDs such as buruli ulcer, yaws and leprosy that are also captured in the Ghana NTD Master Plan. The tool can be used to generate funding and resource gaps that could be used during advocacy and resource mobilization efforts. In FY17 USAID through the END in Africa project will support the NTDP in a five-day workshop to update the TIPAC with current programme data and also enhance the NTDP capacity to utilize TIPAC outputs for decision making. The workshop will be under the supervision of the Deloitte Technical Advisor on financial sustainability and capacity building.

Planning and Technical Meetings (budget tab Meetings and Trainings)

1. **Annual NTDP Activity Implementation Planning Meeting:** The NTDP conducts several activities including MDAs, various DSAs, capacity building, advocacy and engagement with multiple local and international partners. Almost all NTDP activities are implemented with decentralized regional and district health administrations who have to implement multiple public health interventions including immunization campaigns, malaria, TB, HIV/AIDS, infant and child nutrition, maternal and reproductive health interventions among a host of others. Therefore, getting the full attention of districts and regional health administrations over a specific period to implement NTD interventions requires a lot of meticulous planning to synchronize activities. There is the need therefore to plan NTDP activities and coordinate it with the many competing public health interventions at the regional and district levels. The absence of a well-structured plan that is synchronized with other GHS activities has often adversely affected effective implementation of NTDP activities. To address this challenge it is proposed that the NTDP undertakes a 2 day NTDP Activity Implementation Planning Meeting in the first quarter of FY2017 to produce an annual activity schedule. This will be shared with the regional and district health administrations to assist them plan ahead for NTDP interventions. Additionally, this tool can be used to request that the PPME division within the GHS Headquarter block specific periods for NTDP to carry out major nationwide activities such as MDAs. Participants in this meeting will include NTDP staff, PPME, regional and districts health administration staff and partners.

2. **Quarterly NTDP Technical Review Meeting:** The NTDP conducts several activities over a one-year programme cycle. Often times the programme is unable to conduct a technical review of its activities or take a critical look at challenges that come up within the year to address them effectively within a programme cycle. This means that some challenges are carried through the year and only reviewed for the next annual activity cycle. There are a lot of activities in NTD control that are still being refined by the global public health community. The NTDP needs to review and strategize on how to implement new guidelines and findings into the program. The Ghana NTDP is relatively more advanced in several NTD intervention areas compared to some other endemic countries. However, the programme has often not been able to share its experiences in peer reviewed journals to contribute to knowledge. The quarterly 5-day technical meeting is proposed as a platform to help address technical implementation challenges that come up in the course of the year, plan adaptation and adoption of new guidelines, analyse NTDP activity results, complete reports, and serve as a platform to develop peer reviewed papers. It is expected that in FY17 the NTDP through this forum will develop and submit 2 articles for publication in peer reviewed journals. The programme intends to conduct 2 of such meeting in FY17.

3. **Annual NTDP Portfolio Review Meeting:** Each year the NTDP must put together a work plan with corresponding budget to share with the multiple partners for their input and financial support. This is a key activity that will determine which activities the program conducts in the ensuing year. The work plan must take into consideration all guidelines for specific disease interventions and DSAs. The NTDP proposes to conduct a 5-day portfolio review and budgeting meeting to review activities and propose needed activities for FY18 with corresponding budgets. This activity document and budget will serve as the base document for the work planning meeting with partners.

4. **Work Planning Meeting for FY18:** This will be a partners meeting in June or July 2017 to present proposed activities for FY18 to have partners' input and commitment.

5. **Intra-Country Coordinating Committee Meetings** (budget tab Meetings and Trainings, FOG 1) The END in Africa project will support the NTD Secretariat to conduct 2 ICCC meetings. The ICCC body was set up by the Minister of Health to advise and coordinate activities for NTD control in Ghana. It has membership from the GHS, academia, program managers of all NTD Programs, representatives of NTDP partners including the GES and WHO. It advices both the NTD Programs and the Minister of Health on how to achieve NTD control targets in Ghana. There are three sub-committees of the ICCC – the Technical Subcommittee, the Advocacy Subcommittee and Resource Mobilization Subcommittee. Each subcommittee is expected to meet twice in FY17. The subcommittees may co-opt experts outside the ICCC to support their activities. The three subcommittees of the ICCC will also be supported to conduct 6 meetings in FY17.

6. Establishment and operationalize an Oncho Elimination Committee (OEC) as required by the new oncho guidelines for stopping MDA and for validation of elimination. The 2 meetings and work of the OEC will be supported in FY17.

NTD Secretariat (Location in Budget, e.g., Office Expenses, STTA)
Total cost for activities in this section: $119,040.

The END in Africa project will support the NTDP secretariat with office sundry expenses. This will include cost of utilities – water, electricity, telephone, courier services and internet bills; printer and copier cartridges; stationery – A4 sheets, envelopes, files etc. maintenance of vehicles, generator set, air conditioners and other office equipment. The NTDP is expected to have about 11 vehicles (of which 6 are quite old) at its disposal in FY17. END in Africa will support about 80% of maintenance and servicing costs of these vehicles while other partners cover the remaining 20%.

Advocacy for Building a Sustainable National NTD Program (Budget tab 'Advocacy & IE&C Materials', 'Meetings & Trainings')
Total cost for activities in this section: $69,237.63**.**

- The NTDP will conduct a national launch of the integrated LF, oncho and STH MDA. This launch will be conducted by the Minister of health or Director General of the GHS with dignitaries from the MOH, GES, partners, community leaders and the media to officially announce the MDA cycle. It provides the media attention needed to start the MDA.

- The NTDP has identified that NTDs and the current PC strategy for their control is not known and understood by most health personnel including public health leaders and medical practitioners who are leaders in the health sector. The NTDP will mount an exhibition at the 3-day Annual Health Summit, where all leaders and partners in the health sector in the country meet to deliberate on key health strategies and progress made, to improve visibility of NTDs and NTDP interventions among leaders in the health sector.

- The NTDP worked with Deloitte Consulting LLP to review the advocacy and resource mobilization document of the NTDP in FY16. In FY17 implementation of the advocacy strategy will be rolled out through engagement with key stakeholders identified in document. This will be facilitated by Deloitte Consulting LLP.

- **Active engagement of NTD Ambassador:** The NTD Ambassador will be engaged actively to support advocacy activities within the MOH towards encouraging the MoH to increase funds allocated by government of Ghana (GoG) to the NTDP; and also to improve awareness of the NTDP among private companies so they can support NTDP as part of their corporate social responsibility. The Ambassador will visit project beneficiaries, make statements at major NTD events and on selected television and radios stations, support networking and collaboration with potential donors, private companies and government agencies for more support to the NTDP.

- **Regional LF Post-Treatment Strategy Awareness Meetings:** The NTDP will conduct advocacy meetings in 8 regions endemic for LF to communicate implications for stopping MDA, PTS strategies and reverse logistics strategies to retrieve all unused IVM and ALB and community registers from districts to the CMS. There has been repeated questions from regional and district health managers on the status of LF after treatment was stopped due to unclear understanding

of post treatment strategies. These meetings will also prepare regional and district health managers for eventual elimination of LF in Ghana. The advocacy meetings will be attended by regional directors of health, regional deputy directors of public health and district directors of health for districts that have passed TAS 1 who are the primary target. However, with the remaining 17 LF endemic districts expected to stop treatment by 2020, they will be included in the meetings to avoid repeating this meeting annually until 2020.

- The MoH/Ghana Health Service (GHS) will organize an official event to announce trachoma elimination in Ghana.

Social Mobilization to Enable NTD Program Activities (Located in Budget Tab 'Advocacy & IE&C Materials)

Total cost for activities in this section: $178,240.80.

- The NTDP has identified poor social mobilization as one of the key challenges for MDA. It has also identified absence of tools for CDD education and for use by CDDs and teachers to educate community members and pupils. The NTDP is developing simplified laminated pictorial flip charts to be used by GHS and GES to conduct CDD and teacher trainings respectively and social mobilization. Flip charts will be made available to all 216 districts, 10 regions and the national level for educating CDDs on MDAs, Adverse Events following MDA (AE-f-MDA), community enumeration, use of register, etc. Community education flip charts is also being developed and produced for CDDs to use in community education. Due to the large number of schools in Ghana the NTDP is producing copies for half of the basic schools (about 18,000 schools) in the country in FY17.

- CDD apathy has been identified as a challenge to the success of NTD-related MDAs in Ghana. To address this the NTDP intends to equip CDDs with basic tools to improve their identification/recognition, facilitate their work, provide safety for drugs as well as motivate them. In FY16 13,000 branded Polo-shirts were produced out of an expected 26,000. In FY17 additional 5,000 polo shirts will be produced for the other half of CDDs. However, the number has been reduced due to the fact that MDA has stopped in some districts after assessment in FY16.

- Other IEC materials that are routinely used for MDA such as in-school posters (6,000 copies), community posters (6,500) and parent notification forms (500,000) will be produced in line with schools and communities targeted for treatment in FY17.

Table 3 Social Mobilization/Communication Activities and Materials Checklist for NTD work planning

Category	Key Messages	Target Population	IEC Strategy (materials, medium, activity etc.)	Where/when will they be distributed	Frequency	Is there an indicator/ mechanism to track this material/activity? If yes, what?	Other Comments
MDA Participation	MDA will take place in 100* districts in March	Community members	Posters	Hung in communities at least 2 weeks before MDA		% of audience who recall seeing the poster and message – in coverage survey, or at point of MDA	
	The drugs provided are free and safe	Community members	Radio, community information Centre (PA system)	Local station 1 week in advance of Oncho/LF/STH MDA campaign	Messages played twice daily - in the morning and evening	# of times messages aired on radio during reference period- Radio broadcast reports % of audience who recall message- coverage survey, local/national omnibus survey	
	Some side effects are normal and they will pass – inform CDD about side effect or report to the nearest public health facility	Drug Distributers	Flip Chart, radio, community PA system, CDD education	District, sub-district and community level, CDD refresher training	Flip charts will be distributed once	# of Flip charts disseminated during reference period- training attendance list (admin report)	
	Drugs handed out at school are safe and keep you healthy	School aged children	Flip charts, teacher refresher training	To all schools conducting school-based SCH/STH MDA	Once	% of schools having a copy of flip chart. % of teachers in school who have used flip chart to educate pupils	
Disease Prevention							
Other	Promoting visibility of NTD Program	Health Managers and private sector	Advocacy and SSP document, exhibition at health summit	Health summit, SSP engagement with private sector, Health Summit			

**100 = 85 oncho endemic districts + 17 LF endemic districts but 2 districts are co-endemic for LF and oncho*

Training (Located in Budget Tab 'Meetings and Training')

Total cost for activities in this section: $505,288.12.

The NTDP has identified the need to continue refresher training of all category of staff that are involved in MDAs each year to maintain quality of the service they provide and also to motivate them to carry on providing this service. Trainings will be held at all levels in a cascaded manner to ensure that all persons involved in the MDA have received some training relevant to the MDA for the year. The trainings will focus on three cadres of staff. These are health (GHS) and education (GES) staffs at the regional, district and sub-district/circuit levels; teachers at the district level; and community volunteers at the community level. Training will focus on the following specific areas: endemicity status of the 5 PC NTDs, social mobilization for MDA, MDA implementation, MDA supervision and monitoring, SCM and SOPs for MDA drug management, management of AE-f-MDA, and record keeping and reporting after MDA.

The NTDP started capacity building to replace the laboratory staff that are retiring. New laboratory technicians were trained on TAS in February 2014. Twenty laboratory staff were trained on Urine filtration and Kato Katz methods prior to the SCH/STH impact survey conducted in FY15. Thirty staff were scheduled to be trained on oncho DSAs in FY16 but this has been put on hold while the training is modified to include tools and tests recommended in the new WHO oncho guidelines for verifying elimination. In FY17 this training will be conducted for 30 staff on epidemiological survey techniques that will include OV-16 RDT and ELISA and skin snip, which have been recommended by the new WHO guidelines.

Table 4: Training targets

Training Groups	Training Topics	Number to be Trained			Number Training Days	Location of training(s)	Name other funding partner (if applicable, e.g., MOH, SCI)
		New	Refresher	Total trainees			
Central Level	Oncho Epidemiological survey techniques	30	0	30	14	Centre for Scientific and Industrial Research lab (CSIR)	None
Central Level	National NTD database	15	0	15	3	National level	
GHS/GES at Central Level	- MDA supervision and monitoring - MDA implementation - SCM and SOP for MDA drug management - Social mobilization for MDA - Record keeping and reporting after MDA	0	98	98	4	National level	PCD, VRA
Supervisors	-MDA supervision and monitoring - SCM and SOP for MDA drug management - Social mobilization for MDA - Record keeping and reporting after MDA	0	3,600	3,600	1	Regional /District Health Directorate	
Drug distributors	- SCM and SOP for MDA drug management - Record keeping and reporting after MDA	0	13,000	13,000	1	Sub district Health Center	

Mapping (Location in Budget, e.g., subawardee, FOGs, STTA)
Total cost for activities in this section: cost put under DSA below.

The Ghana NTDP has no baseline mapping gaps. However, as the NTDP transitions from oncho control to elimination there is the need to remap/reassess 50 districts identified as hypo-endemic during the 2009 by REMO to guide intervention in these districts.

MDA Coverage and Challenges

The NTDP had identified the challenges listed below during the implementation of MDAs for the control/elimination of the 5 PC NTDs:

- Late reporting of MDA results.
- Poor quality of data submitted including late reporting, high coverage (above 100%) and low coverage (below 80% programme coverage).
- Difficulty in conducting the community-based MDA between January and March each year. This is the period identified as the best time to conduct community-based MDAs to obtain optimal results, avoid competition with other public health programs that conduct community-based activities and is outside the rainy season, which makes it difficult for CDDs to reach sections of the population. The NTDP has not been able in the past 3 years to conduct MDA between January-March because of difficulty to plan activity schedules in a way that avoids interference with other public health activities conducted by the regions and districts. As DSAs for LF and oncho have to be conducted before the MDAs, DSAs are conducted early in the year and MDAs end up being conducted after April or later in the year. Another key reason is that the NTDP do not have a coordinated well outlined plan to implement their activities. The NTDP proposes to conduct an NTDP activity implementation planning meeting (see details above) to improve coordination of NTDP activities with GHS, GES, regional and district health administration activities.
- Late reporting of MDA results. The FHI 360 M&E officer in the team working directly with the NTDP has developed an excel-based integrated data reporting tool to facilitate collation and reporting of MDA results. Health information officers at the regional and district health administration were brought on board and trained on the tool to work closely with programme officers for data quality improvement and early reporting in FY16. In districts where the tool was used data reporting improved with respect to both timeliness and accuracy. The M&E officer will continue to train health information officers having challenges with use of the tool to improve data quality. Following the DQA, data Quality Improvement Measures have been introduced in one districts with improved results. The NTDP proposes to implement the quality Improvement Measures in the 17 remaining LF hotspots in FY17.
- At the FY16 national training of trainers for the integrated MDA results of DQA was presented and thoroughly discussed. Regions and districts are being monitored for implementation of action points.

Table 5: USAID supported coverage results for FY15/16 and targets for FY17

NTD	# Rounds of annual distribution	Treatment target (FY15/16) # DISTRICTS	# Districts not meeting epi coverage target in FY16	# Districts not meeting program coverage target in FY16	Treatment targets (FY15/16) # PERSONS	# persons treated (FY16)	% of treatment target met (FY16) PERSONS	FY17 treatment targets # DISTRICTS	FY17 treatment targets # PERSONS
LF	15	22	-	-	1,941,544	1,754,833	90.38%	17	1,120,903
OV	15	85	-	-	3,995,382	3,307,735	83.62%	85	6,434,528
SCH	5	216	105	70	4485334	2,508,668	55.9	47	2,779,216
STH	5	216	105	70	4485334	2,508,668	55.9	47	1,351,973
Trachoma	-	-	-	-	-	-	-	-	-

Drug and Commodity Supply Management and Procurement (Located in Budget Tab 'Meeting and Trainings' and 'Monitoring & Supervision')

Total cost for activities in this section: $26,894.13.

Drug quantification was done in early 2016 for all medicines to be used in FY17 and a joint request for selected medicines has already been sent to WHO for approval. The estimation for PZQ was also done by the program. Drugs will be received at the CMS from the ports when they arrive in the country and distributed to RMS by using the GHS distribution system. Districts will pick up their allocations from their respective RMS and distribute to sub districts. Volunteers will be allocated drugs from the sub districts as required for the communities they treat. In order to ensure that donated NTD medicines are managed according to GHS established standards, the NTDP in FY16, has shifted responsibility for managing NTD medicines from the district level focal points to district pharmacists based at the district level. Unused drugs after treatment will be retrieved to the RMS for storage or redistribution during the next MDA. Expiry of drugs for treating NTDs is not anticipated because of the strict practice of the 'first-to-expire-first-out' principle in the medical stores but if this occurs it will be reported for disposal according to GHS policies and regulations.

During the planned cascade trainings, GHS and GES personal will be trained to identify and refer all adverse events following MDA (AE-f-MDA) to the nearest health facility. At the facility level, the health workers will fill out a pharmacovigilance form and report all AE-f-MDA to the district health authorities and the FDA representative in the district. Cases of severe adverse events (SAEs) will be referred as appropriate to district or regional hospitals depending on the seriousness of the condition. This treatment is usually covered under the National Health Insurance scheme (NHIS) operated by the GoG. Reports of all SAEs are sent to the district health authorities who then forward the reports to the NTD Program Manager. The NTD Program Manager subsequently informs partners of any SAE including the FHI360 NTD project Director, USAID, the drug manufacturing companies and WHO.

In FY17, the NTDP will implement an Action plan developed by the NTDP, procurement unit of the GHS and the CMS to address the problem. The following key activities will be conducted:

1. Use NTDP medicines utilization service data rather than populations to estimate medicines distributed to regions, districts and communities conducting MDA. District and regional pharmacists will be charged to manage NTD medicines and provide the relevant data.

2. Develop job aides in conformity with GHS standard operating procedures (SOPs) on management of pharmaceutical products and process maps for distribution of NTD medicines from the CMS through all intermediary levels to the community. Staff will be trained on these and copies produced for all levels handling NTD medicines.

Conduct monitoring and supportive supervision after each MDA to monitor compliance with NTD medicines Job Aide and support improvements in implementation.

Supervision (Located in Budget Tab; 'Monitoring & Supervision', 'MDA1', 'SCH MDA' and 'Schisto Community MDA'.)
Total cost for activities in this section: $726,854.79.

Supervision of MDA will be done along the GHS structure of national, regional, district and sub district health systems. FHI 360 has 4 permanent staff working directly with the national NTD office and will be part of the national level supervisory team. Supervision of MDA will be expanded to include the Director General and Director of Public Health of the GHS as done in FY16. The presence of these 2 senior technical representatives of the GHS HQ will act as good motivation for the regional directors of health services and regional deputy directors of public health to improve the overall quality of NTDP activities especially MDAs. Funding will be provided for the NTDP to conduct supervision at all levels as part of the MDA budget. Supervision will be done using GHS developed monitoring checklists at all levels to ensure that supervision is standardized. In addition to the refresher trainings that will be conducted before the MDAs start, national supervisors will be oriented prior to visiting regions for supervision and monitoring of MDAs. They will be required to send reports on issues that need urgent attention to the Program Manager during the course of the MDAs. Regional and district supervisors will be trained prior to each MDA as outlined above in table 4.

Short-Term Technical Assistance (Located in Budget tab; 'Planning Budget')
Total cost for activities in this section: $54,000.00.

- Technical assistance in training of laboratory staff on oncho epidemiological and entomological surveys. Laboratory staff of the GHS will be trained as described previously.

- Technical assistance to support the Ghana NTDP in the transition from oncho control to oncho elimination program. This will involve providing supervision and quality control for oncho assessment in the 50 hypo-endemic districts and 85 districts conducting MDA, re-demarcation of oncho endemic districts into transmission zones, and general guidance for oncho elimination as the NTDP progresses towards oncho elimination.

- Technical assistance to develop strategy for ensuring STH treatment in absence of LF MDA. LF MDA platform which uses IVM and ALB has been used as treatment for STH as well. However,

with LF MDA stopped in 81 districts out of 98 districts there is the need to explore alternative public health intervention platforms that STH treatment can be tagged on at minimal cost to deliver ALB to SAC at risk of STH infection. The strategy is expected to determine the best platform to achieve this.

- A communication consultant will be hired for 3 months to support the development of flip charts for community and pupil education as well as for CDD training.

Table 6: Technical Assistance request from PROJECT

Task-TA needed (Relevant Activity category)	Why needed	Technical skill required; (source of TA (CDC, RTI/HQ, etc.))	Number of Days required and anticipated quarter
To train 30 laboratory staff on oncho epidemiological survey	The NTDP staff conducting these surveys have retired and currently engaged on contract basis	Noguchi Memorial Institute for Medical Research (NMIMR)/CSIR/School of Public Health (SPH)	14 days in the second quarter
To assist NTDP in to transition from oncho control to oncho elimination program	To guide activities including assessments, transmission zone demarcation and provide supervision and quality control	WHO, Noguchi Memorial Institute for Medical Research (NMIMR)/CSIR/School of Public Health (SPH)	4 months.
Develop strategy for STH treatment after LF elimination	LF treatment platform used for STH treatment is now reduced from 98 to 17 and expected to be absent before year 2020	STH program implementation and technical expertise	Up to 2 months
To develop flip charts for community and pupil education and CDD training	Flip charts needed to improve social mobilization in communities, pupil education and effective CDD training	Development of BCC/IEC materials	3 months

Monitoring & Evaluation (Located in Budget tab; 'M&E', Pre-TAS, Trachoma Activities)

Total cost for activities in this section: $325,264.22.

Plans for Reporting Project Data

In FY17, MDA data will be reported through the Diseases and Program Workbooks semi-annually. The program intends to monitor the improvement in data quality and reporting time following the introduction of the integrated reporting tools.

The NTDP will be supported to collect and assemble the relevant data to prepare a trachoma elimination dossier for submission to WHO.

Details of DSA activities

Total cost for activities in this section: $ 141,934.38.

Lymphatic Filariasis: Pre-TAS will be conducted in 9 districts. TAS 1 will be conducted in 2 districts while TAS 2 will be conducted in 7 districts that passed TAS 1 in 2015. The NTDP will continue ongoing PTS in

the Greater Accra region in FY17 with financial support from FPSU. Ghana used FTS for TAS in the 69 districts in FY16 but pre-TAS was conducted using night blood survey. In FY17 both pre-TAS and TAS will be conducted using FTS.

Oncho: The NTDP will conduct an impact assessment in 120 selected districts to determine the status of oncho in the country using combination of OV-16 and skin snip to orient the NTDP on the elimination path. The programme will use OV-16 or skin snip to assess disease prevalence in 50 hypo-endemic districts not receiving treatment after the 2009 REMO, 85 oncho districts currently receiving MDA, and 16 districts identified to have high oncho infection after LF treatment stopped. As described previously, the 85 districts currently being treated will also be assessed using OV-16 or skin snip. The program will continue treatment in the 85 hyper-endemic districts until prevalence is less 1% when the stop MDA protocol can be applied. Results of the assessment will determine if the 50 hypo-endemic and 16 problem districts will require treatment. Coverage survey will be conducted in 5 districts. For details please see the oncho section in page 12.

The NTDP will conduct LF/oncho coverage survey in 5 districts (please see details under LF above in page 10). The survey will provide an avenue to compare the survey results and reported coverages. The results of the survey will be share with the all level of the health system to help them improve their performance.

Ghana has conducted DQA in 2015 and results were presented at the last National MDA national review and Trainer of trainers (TOT) meeting. In FY17, the NTDP will follow up on the implementation of the DQA recommendations at all the reporting levels of the MDA data management and reporting system within the Ghana Health Service. To accomplish this, 4 districts in 4 regions will be selected for assessment. In addition to this activity, site data verification will be conducted in 18 districts in 36 communities in all of 2 communities per district.

The NTDP will follow up on districts reporting very low and extremely high MDA epidemiological coverages to assess challenges, cause and support necessary action to address any future recurrence. Where the number of districts with such data are more than 4, two districts with very low and two districts with extremely very high coverages will be reviewed.

There is the need to ensure effective MDA with high coverage in the 17 remaining LF endemic districts to ensure that they meet the stop MDA target by the year 2020. The NTDP proposes to improve the quality of MDAS in the 17 hotspot districts by introduction of the Quality Improvement tools in 5 selected districts. This employs workshop and mentoring sessions to assist district diagnose and identify challenges to poor MDA performance through a root cause analysis and develop solutions for implementation. Implementation of the proposed solutions are monitored during an MDA to assess effect on treatment results. A pilot conducted in one district in FY2016 resulted in improvement in MDA.

SCH: The NTDP proposes to conduct an assessment of SCH prevalence in 2 districts up stream along the dam using urine filtration and Kato Katz methods to determine the prevalence of SCH (S. Haematobium

and S. mansoni). A sample of 50 adults and children will be sampled in 10 communities along the river per district. Endemic communities identified will included in SCH MDA in FY2017.

Trachoma: Conduct case search to identify estimated trachomatous trichiasis (TT) backlog in one district (which did not meet the TT elimination criteria of TT < 0.1%).

Table 7: Reporting of DSA supported with USAID funds that did not meet critical cutoff thresholds*

NTD	Number of endemic districts	Type of DSA carried out (add extra rows as needed for each type)	Number of DSAs conducted with USAID support	Number of EU that did not meet critical cutoff thresholds
Lymphatic filariasis	98	Pre-TAS	6	5
Trachoma	37	Pre-validation survey	37	1 district for TT

Table 8: Planned Disease-specific Assessments for FY17 by Disease

Disease	No. of endemic districts	No. of districts planned for DSA	Type of assessment	Diagnostic method (Indicator: Mf, ICT, hematuria, etc.)
Lymphatic Filariasis	98	9	Pre-TAS	FTS
		9	TAS	FTS
Oncho	135	50	Epid survey, serology	Skin snip, OV-16 RDT
		85	Epid survey, serology	Skin snip, OV-16 rapid test
		16	Epid survey, serology	Skin snip, OV-16 rapid test

Planned FOGs to local organizations and/or governments

Table 9: Planned FOG recipients

FOG recipient	Number of FOGs	Activities
GHS (NTDP)	5	• FOG 1 ○ Annual Work Planning Meeting ○ Hold 2 ICCC meetings ○ Oncho Elimination Committee Meeting ○ Develop SOP and process map document for distribution of NTD Medicine ○ Annual Implementation Planning Meeting ○ Quarterly NTDP Technical Meetings ○ Annual Portfolio Review Meeting ○ Training of Trainers- Community Based MDAs for SCH in 47 Districts ○ Training of Trainers- School-Based MDAs in 47 Districts ○ Advocacy to Regions with Districts passing TAS/stopped MDA • FOG 2 ○ Training of Trainers- LF, Oncho STH MDAs in 100 Districts ○ Conduct monitoring and supervision of MDA ○ Conduct Financial Monitoring ○ Conduct Monitoring of Supply Chain Management by CMS ○ Carry out Pre-TAS in 9 districts ○ Carry out TAS in 3 EUs (9 districts) ○ School Based Drug Distribution • FOG 3 ○ Oncho Impact Assessment ○ SCH Community Based Treatment in 47 Districts

		• FOG 4
		  ○ Conduct one integrated round of community-based MDA for LF, Oncho and STH in 100 districts
		  ○ Trachoma Case Search
		  ○ Trachoma Dossier Preparation
		  ○ National Conference and Launch of Elimination
		  ○ Coverage Survey - LF & Oncho
		  ○ Data Verification
		  ○ Follow up on very low very high coverage districts
		  ○ Follow up on implementation of DQA recommendations
		  ○ Quality Improvement in 5 Districts
		  ○ SCH survey in 2 districts
		• FOG 5
		  ○ Notification forms
		  ○ In-School Posters
		  ○ Community Posters
		  ○ Branded T-shirt or Polo shirt
		  ○ Production of Job Aide
		  ○ Media/Publicity Events with Ghana NTD Ambassador
		  ○ Field visit by Ghana NTD Ambassador
		  ○ Launch MDA
		  ○ NTD Exhibition at Health Summits

Cross-Portfolio Requests for Support

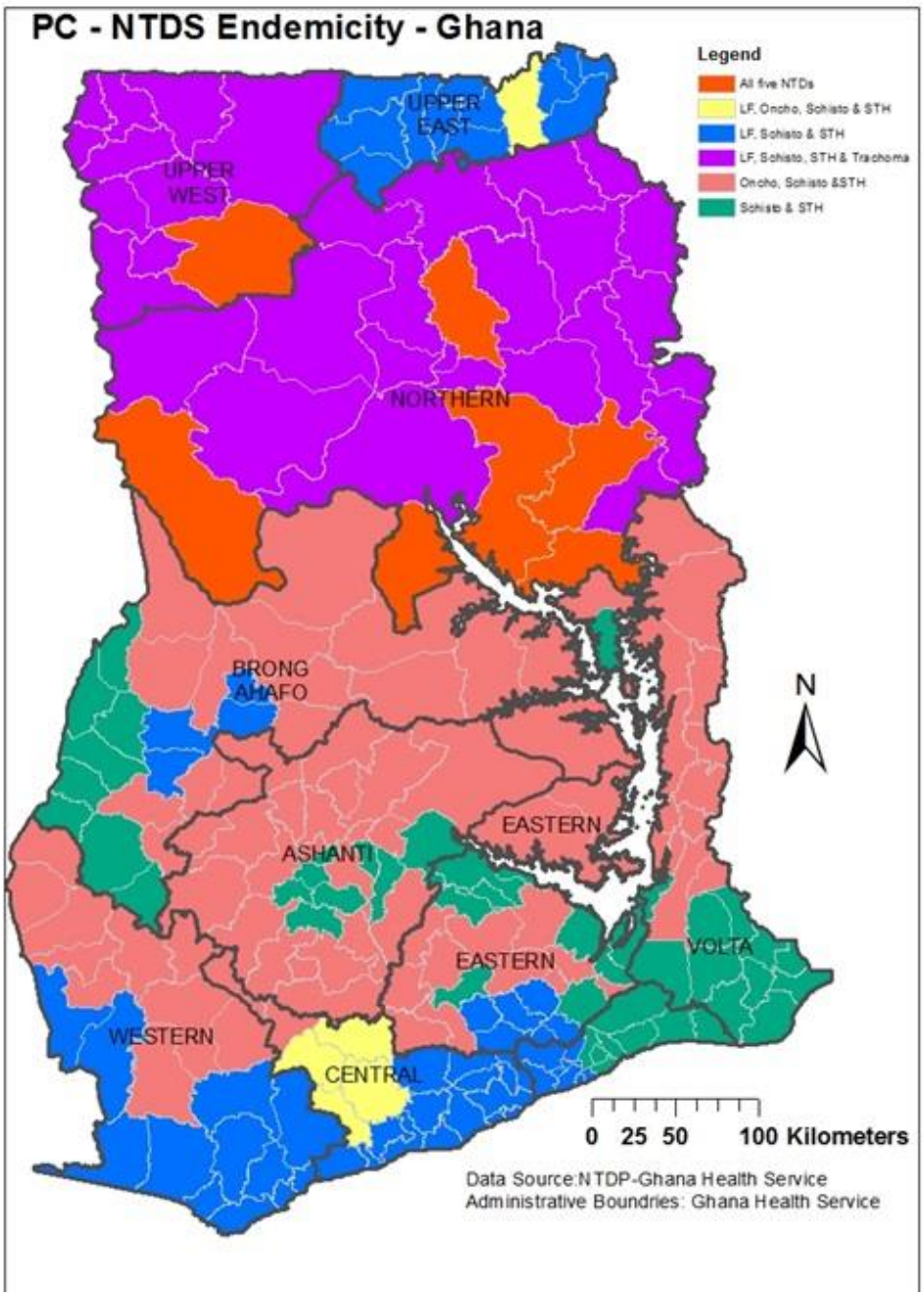
The NTDP is considering the use of the oncho MDA platform to conduct STH treatment. Other platforms such as the Expanded programme on Immunization (EPI), school health education, community level health facilities and bed net distribution has been proposed for distribution of ALB for STH. The NTDP proposes a study to determine the feasibility and effectiveness of these platforms for STH MDA.

Table 10: Cross-Portfolio Requests for Support

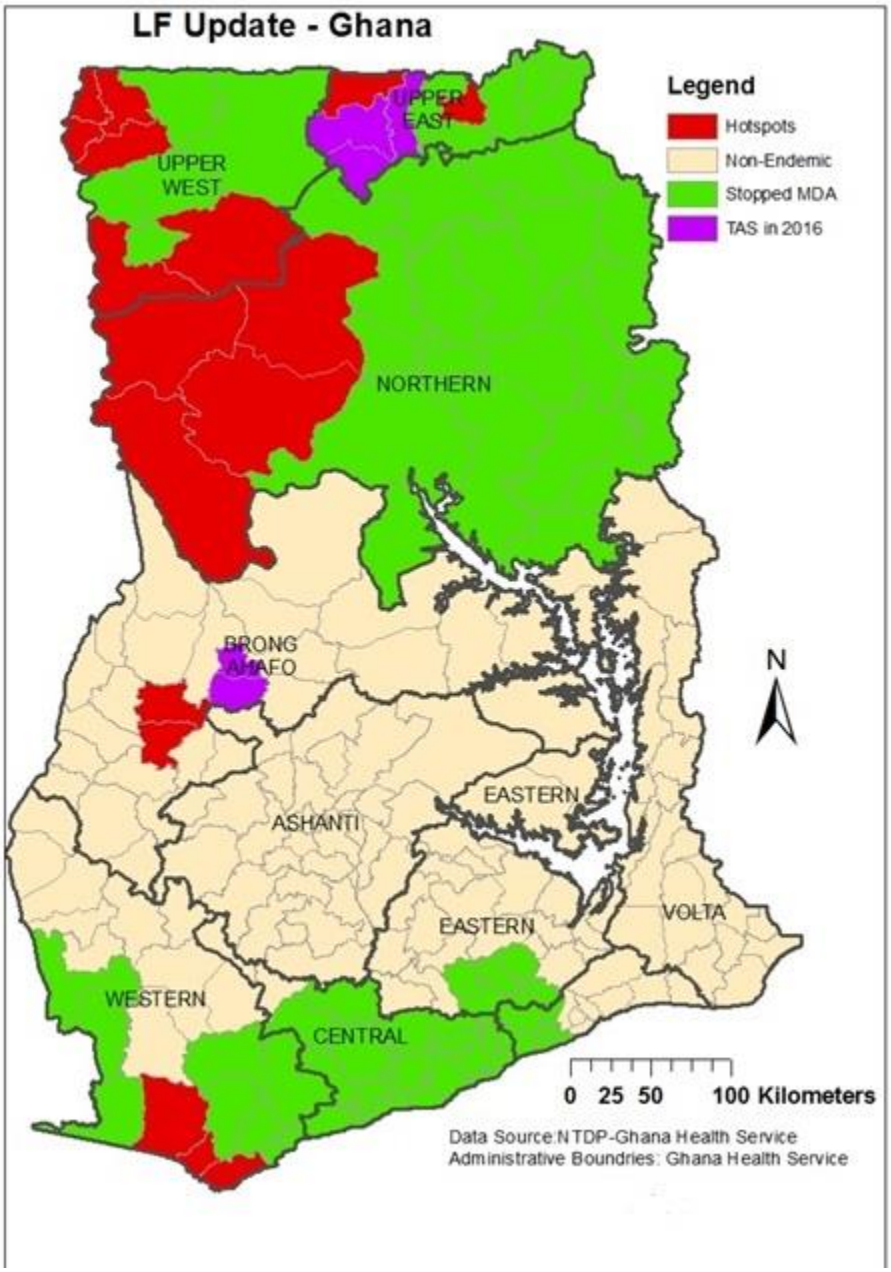
Identified Issue/Activity for which support is requested.	Which USAID partner would likely be best positioned to provide this support?	Estimated time needed to address activity
Make input to LF morbidity estimation protocol developed by Ghana	Task force	1 month
Determine appropriate and effective platform for STH treatment outside of LF and SCH MDA	Task force	6 months

Maps

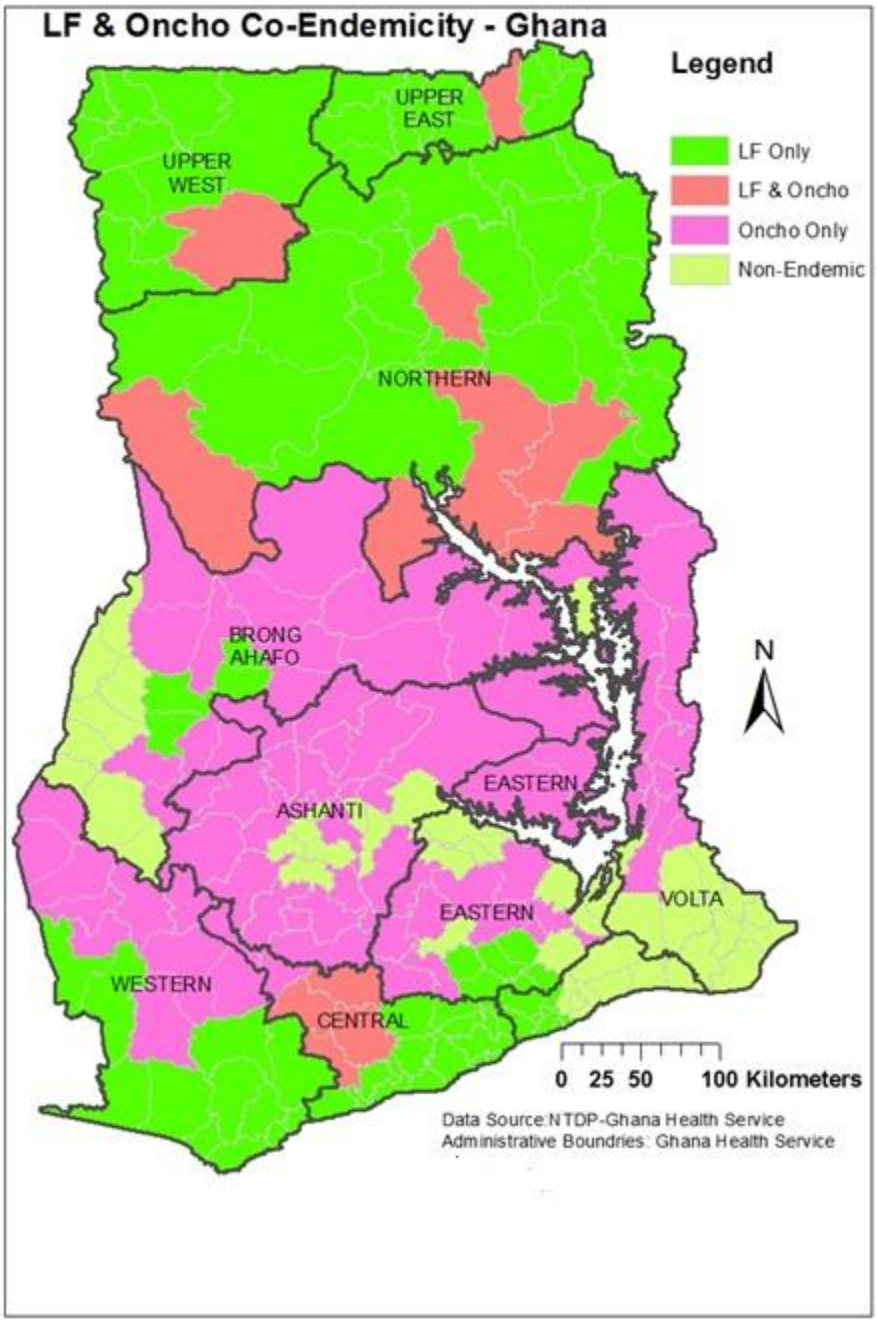
PCT Diseases Distribution in Ghana 2016



LF Situation in Ghana 2016



LF and Oncho Co-endemicity in 2016



APPENDICES

Appendix 1. Country staffing/partner org chart
Appendix 2. Work plan timeline
Appendix 3. Work plan deliverables
Appendix 4. Table of USAID-supported provinces/states and districts
Appendix 5. Program Workbook
Appendix 6. Disease Workbook
Appendix 7. Country budget
Appendix 8. Travel Plans
Appendix 9. Ghana Post LF/STH and SCH Transition