Ghana

FY2018

Control of Neglected Tropical Diseases

Annual Work Plan
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ACRONYM LIST

AE-f-MDA	Adverse Events following MDA
AEs	Adverse Events
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	Centre for Neglected Tropical Diseases
DFID	United Kingdom Department for International Development
DQA	Data Quality Assessment
DSA	Disease Specific Assessment
FDA	Food and Drugs Authority
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
GOEC	Ghana Onchocerciasis Expert Committee
GoG	Government of Ghana
HAT	Human African trypanosomiasis
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
MoFEP	Ministry of Finance and Economic Planning
NBS	Night blood survey
NECP	National Eye Care Program
NECU	National Eye Care Unit
NGOs	Non-governmental organization
NHIA	National Health Insurance Authority
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
Oncho	Onchocerciasis
PC	Preventive chemotherapy
PC NTDS	Neglected Tropical Diseases targeted through Preventive Chemotherapy
PCD	Partnership for Childhood Development
Pre-TAS	Pre-Transmission Assessment Survey
PTS	Post-treatment surveillance
PZQ	Praziquantel
QI	Quality Improvement
REMO	Rapid epidemiological mapping of onchocerciasis
RMS	Regional Medical Stores
ROI	Return on investment
RPRG	Regional Program Review Group
RTI	Research Triangle Institute
SAC	School-Age Children
SAE	Severe Adverse Events
SCH	Schistosomiasis
SHEP	School Health Education Programme
SOP	Standard Operating Procedure
SSP	Strategic Social Partnership
TAS	Transmission assessment survey
TEC	Trachoma Elimination Committee
TF	Trachomatous inflammation follicular
TIPAC	Tool for Integrated Planning and Costing
TT	Trachomatous trichiasis
USAID	United States Agency for International Development
VRA	Volta River Authority
WHO	World Health Organization

COUNTRY OVERVIEW

1. General country background

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 onchocerciasis (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. 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. The Ministry of Health (MOH) has overall responsibility of the health sector in Ghana. The MOH works through autonomous agencies including the Ghana Health Service (GHS), National Health Insurance Authority, Health Training Institutions, and various regulatory bodies such as the Food and Drug Authority (FDA). The MOH is directly responsible for resource mobilization and allocation, policy formulation and regulation. The GHS is responsible for delivery of clinical and public health services across the country through public-owned health facilities, institutions and programs. The GHS is organized operationally at three levels – the national, regional and district levels; and functionally at five levels – the national, regional, district, sub-district and community levels. At the national level are the headquarters of the GHS, heads of various divisions of the service, and management of specific public health programs such as the Neglected Tropical Diseases Program (NTDP).

Neglected Tropical Diseases (NTD) endemic in Ghana include – LF, oncho, SCH, 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 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 interventions and activities for the five NTDs targeted through 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, supporting the NTDP in MDA, DSA and related activities for oncho and trachoma; Centre for Neglected Tropical Diseases (CNTD), supporting post-treatment surveillance (PTS) for LF in one region with funding from the United Kingdom Department for International Development (DFID). AIM Initiative is supporting the NTDP with development of a strategic plan for integrated management of case-management NTDs and will support the survey as well. The World Health

Organization (WHO) Country Office in Ghana provides technical support and ad hoc targeted funding, and generally serves as consignee for donated NTDP logistics including medicines, equipment and supplies for disease specific assessment (DSA). 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, UniBank Ghana Limited provided funding for LF morbidity management in one region. The 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 Non-END in Africa 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	Accra	Technical support and funding for second round oncho MDA, oncho DSAs and trachoma dossier preparation	No	Yes (DFID)
CNTD, Liverpool, UK		Technical and financial support for LF PTS in Greater Accra Region	No	Yes (DFID)
WHO Country Office in Ghana; WHO Regional Office for Africa (AFRO)	Accra	Technical and financial support for NTD control; serves as consignee for NTD drugs, DSA equipment and supplies from donors and partners	No	Yes
CountDown Project, UK		Funding for Operational research into LF hotspots under the CountDown Project	No	Yes (DFID)
AIM Initiative, Canada		Technical and financial support for passive surveillance of LF in Ghana	Yes	Yes
VRA, Accra and Akosombo	Accra	Funding for SCH MDA in Volta and Eastern regions	No	No
UniBank Ghana Ltd, Accra		Funding limited morbidity management in one region	No	No

2. 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 per WHO guidelines. Poor environmental sanitation and sewage disposal pre-dispose school-age children (SAC) 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.

Lymphatic filariasis

MDA 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 out of the 10 regions in the country. The Volta and Ashanti regions are non-endemic for LF. Significant progress has been made so far with LF treatment; a total of 83 out of 98 endemic districts would have stopped treatment by the end of FY17 leaving 15 districts expected to continue treatment in FY18. In FY17, transmission assessment survey (TAS) was conducted in 9 districts using FTS and all the districts passed. TAS for stopping MDA (TAS 1) was conducted in 2 districts while the first post-treatment TAS (TAS 2) was conducted in the remaining 7 districts. Therefore, treatment for LF was stopped in 5, 64, 7, 5 and 2 districts in 2010, 2014, 2015, 2016 and 2017 respectively. Pre-transmission assessment survey (Pre-TAS) was conducted in 9 districts using both FTS and night blood survey (NBS) microscopy. Between 300 and 500 persons 5 years old and above were sampled for each sentinel and cross-check site per district surveyed for testing using FTS. All persons testing positive for FTS were then tested using NBS. Based on the FTS tests, only one out of the 9 districts passed; however, using the NBS results 5 districts out of nine districts passed the pre-TAS. The NTDP will use results of FTS to decide the next steps. Treatment will continue in the 8 districts that failed pre-TAS for 2 years (FY 17 and FY18) and pre-TAS repeated in FY19. The results of TAS conducted in the 9 districts and 1 district that passed pre-TAS will be submitted to the NTD Regional Program Review Group (RPRG) of WHO for validation. USAID under the END in Africa project has funded different aspects of LF elimination intervention in Ghana since 2010. USAID currently funds LF MDAs, DSA, social mobilization and capacity building activities.

Onchocerciasis

Oncho is targeted for elimination in Ghana by the year 2020. 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 NTDP decided to continue treatment in 41 of the 91 hypoendemic districts that were receiving treatment prior to the REMO. Since the 2009 REMO, 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 prior to the REMO. The MDA implementation unit for oncho was the community level, however in 2016 the NTDP revised the implementation unit to the sub-district level as the programme prepared 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.

In addition, since the NTDP is now pursuing elimination for oncho, the remaining 50 hypoendemic districts were evaluated as part of the nation-wide impact assessment conducted in early FY17 using skin snip microscopy and OV-16 RDT and OV16 ELISA. The results have been reviewed by the Ghana Oncho Expert Committee (GOEC), which has recommended those with positive mf and OV-16 for treatment starting FY18.

Following release of the WHO Oncho Guidelines for Stopping MDA 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 which were approved by the Ghana Onchocerciasis Expert Committee (GOEC) at its first meeting in December 2016.

1. Conduct an impact assessment to determine the status of oncho by using a combination of OV16 RDT, OV16 ELISA, O-150 PCR and skin snip microscopy 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 and other suspected problem areas to delineate for possible treatment.
3. Re-demarcate the endemic zones into transmission zones[1], 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 sentinel sites at the elimination program phase.

The GOEC was established by the Director General of the GHS in 2016. The 14-member committee made up of local and international experts has held two meetings in December 2016 and May/June 2017. In April-May 2017, a nation-wide oncho epidemiological survey was conducted in 304 sites (communities) in 154 districts using OV16 rapid diagnostic test (RDT), OV16 ELISA and skin snip test. The OV16 RDT was conducted in children 5-9 years old while skin snip microscopy was conducted in adults 20 years or more. All children testing positive for OV16 RDT and 10% of children testing negative for OV16 RDT were randomly selected for dry blood spot collection, which will be tested later by OV16 ELISA. Preliminary results of the survey were reviewed by the GOEC in its second meeting where they recommended that 40 additional districts must be included for MDA. The 40 additional districts were derived from 2 groups of districts based on results of the recent survey: the 50 untreated districts among the 91 previously classified as hypoendemic districts in the 2009 REMO; and some districts among the 81 previously classified as non-endemic but surveyed due to suspicion of oncho in 2017 (determined by fly nuisance reported by communities and NTDP conducting limited surveys – skin snip microscopy and blackfly dissection – in areas with reports of fly nuisance for L3 larvae). This increases the number districts endemic for oncho and requiring MDA in Ghana from 85 to 125. Bi-annual treatment will be conducted in 51 out of the 125 oncho endemic districts while the remaining 74 will undergo annual treatment. The 51 targeted for bi-annual treatment include 44 districts (29 hyperendemic and 15 mesoendemic) already undergoing bi-annual treatment and 7 districts that recorded mf prevalence ≥ 5% from the 2017 impact assessment. The black fly breeding site prospection and blackflies collection in selected sites for PCR will proceed in

[1] Defined using data on river basins, known blackfly breeding sites, and endemic districts. Has been refined by the GOEC with blackfly species data. The GOEC has recommended further refinement into transmission foci using data from ongoing blackfly breeding site prospection.

FY17 to complete the surveys. The GOEC has endorsed the current 7 transmissions zones demarcated based on river basins until breeding site prospection results are ready to further refine the transmission zones. USAID supports first round MDA for oncho as an integrated MDA with LF and STH, and Sightsavers supports the second round. The USAID also supported the nation-wide oncho epidemiological survey conducted in April-May 2017.

Schistosomiasis

SCH is targeted for control in Ghana using WHO strategy. 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, 138 category B (prevalence ≥10%-49.9%, moderate-risk) districts and 31 category C (prevalence 1%-9.9%, low-risk) districts. Treatment for SCH is conducted as an integrated SCH/STH school-based MDA targeting 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 impact assessment of SCH/STH in 2015 following 4 rounds of SCH treatment per 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. Category A endemic districts reduced from 47 to 3 while category B reduced from 138 to 54. The results were reviewed by an expert meeting in August 2016. Participants included WHO SCH/STH focal person in Geneva, two SCH experts from the Noguchi Memorial Institute for Medical Research (NMIMR), FHI 360 and USAID Evaluation team visiting the NTDP. The meeting proposed that the NTDP should continue with the current treatment strategy due to the poor environmental risk factors that sustain a high reinfection rate. The program has also stopped treatment in large urban communities which recorded zero prevalence in the assessment and where urban sanitation improvement have resulted in absence of risk factors.

The Bui Hydroelectric power plant was constructed in 2010 by damming the Bui river. Assessment conducted in selected areas along the river by the GHS indicated significant increase in SCH among a growing population along the river compared to surveys conducted prior to building the power plant. The population in the catchment area of the dam include migrants form fishing communities along the Volta river basin which is also endemic for SCH. In June 2017, the NTDP assessed 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). The results indicate SCH prevalence greater than 50% in both districts.

Soil-transmitted helminthiasis

STH is targeted for control in Ghana. 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 per the WHO recommendations. 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 a combination of ALB and ivermectin 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). The integrated SCH/STH impact assessment conducted in 2015 indicated significant improvement in STH prevalence. With very little improvement in environmental risk factors, the NTDP continues 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 increasingly limited due to scale down of LF treatment to only 15 districts in FY18. While the NTDP continues to seek the support of partners besides USAID to sustain the policy, the expanded oncho MDA platform, which will involve from FY18 125 districts under the elimination strategy from 85 previously could be leveraged to make ALB available to children. USAID has supported STH treatment indirectly since 2010 through funding of integrated LF/oncho/STH and SCH/STH MDA.

Trachoma

Trachoma is targeted for elimination in Ghana and the country is expected to submit a dossier to WHO for verification of elimination of trachoma as a public health problem before end of FY17. 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. 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 indicate that all districts recorded TF prevalence below 5% in children 1 – 9 years while all districts except one met the WHO Trachomatous trichiasis (TT) elimination criteria of less than 1 per 1000 population (< 0.1%). The NTDP has conducted case search to identify estimated TT backlog in the one district and corrective surgery performed for 62 patients who consented to undergo TT surgery. The case search was used to train 5 ophthalmic nurses in TT surgery.

In June 2016, the GHS Director General established a committee to provide technical guidance and oversee activities towards validation of elimination of trachoma as a public health problem in Ghana. The 15-member committee, known as the Trachoma Elimination Committee (TEC), is made up of current and past program and technical staff of the GHS NTDP and National Eye Care Unit (NECU); and partners supporting trachoma activities in Ghana – FHI 360 and Sightsavers. The TEC is guiding consultants recruited to draft a dossier for submission to WHO towards validation of trachoma elimination in Ghana. The second draft is currently under review by members of the TEC and a final version of the dossier is expected to be ready for submission to WHO before end of FY17.

3. Snapshot of NTD status in country

Table 2: Snapshot of the expected status of the NTD program in COUNTRY as of September 30, 2017

		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 09/30/17		No. of districts expected to be in need of MDA at any level: MDA not yet started, or has prematurely stopped as of 09/30/17	Expected No. of districts where criteria for stopping district-level MDA have been met as of 09/30/17	No. of districts requiring DSA as of 09/30/17
					USAID-funded	Others			
Lymphatic filariasis	216	98	118	0	15	0	0	83	Pre-TAS: 6 TAS: 10
Onchocerciasis		85	131	0	85	0	40[α]	0	0
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

[α] The GOEC has recommended additional 40 districts previously untreated to start treatment following review of results of impact assessment conducted in 2017.

PLANNED ACTIVITIES

1. Capacity strengthening activities

The Ghana NTDP has demonstrated capacity to conduct most activities including successful MDAs that meet the required treatment coverage, and DSA for LF, SCH, STH and trachoma. In the case of oncho, while the NTDP has the capacity to conduct epidemiological surveys such as skin snip and OV16 RDT, they do not have the capacity within the program to test dry blood spots samples for OV16 ELISA which is required as part of the stop MDA protocol. In the last GOEC meeting held in June 2017, USAID committed to training research institution identified by the NTDP, NMIMR, to conduct OV16 ELISA tests for the program.

The NTDP has funding gap for LF MMDP and to continue treatment of all districts endemic for SCH and STH in the face of eminent LF elimination and closure of the END in Africa project after FY18. In the former case, AIM Initiative and Effect:Hope are supporting the program to map LF morbidity as part of an integrated NTDs morbidity mapping which includes yaws, leprosy, buruli ulcer, leishmaniasis and human African trypanosomiasis. AIM Initiative is committed to supporting MMDP intervention in Ghana after the mapping process is complete. What is not clear is the extent of coverage of their support for the country and the gaps that will remain. This may be clear in FY18 after the mapping and the burden of MMDP assessed. With respect to SCH and STH treatment the NTDP, is making effort to seek support from other partners to meet the gap. The program will continue to use support from VRA for STH treatment of districts in the Volta Lake catchment area. Similarly, the oncho MDA platform in 125 districts and LF in 15 remaining districts would be used to deliver ALB for STH treatment. END in Africa project supported the

NTDP to conduct SCH and STH surveys in 2 districts in the catchment area of the new Bui Hydroelectric Power plant. The results indicate SCH prevalence greater than 50%, which requires treatment, but STH prevalence was zero at all sites surveyed. In FY18, END in Africa Project will support the preparation of the necessary reports and presentations that will be used to engage the Bui Power Authority to commit resources for treatment of SCH in the affected districts. This will provide yet another platform for STH MDA. END in Africa project will support the NTDP to develop and produce a Manual on school-based MDA for SCH and STH.

With the aim of increasing NTDP sustainability planning and advocacy efforts to diversify partners and mobilize resources to improve financial stability of programming, End in Africa project will support implementation of the revised GHS/NTDP Advocacy Strategy document. This will include the development of business case(s) for the Ministry of Finance and Economic Planning (MoFEP) and Parliamentary Select Committee on Health to advocate for increasing the share of government expenditures for NTDs; and creation of talking points for advocacy events. END in Africa will also continue working with GHS/NTDP and the Strategic Social Partnership (SSP) unit to engage and establish partnerships as part of the sustainability process.

As part of the business case development to support advocacy and partnership efforts, there is the need to provide country specific data regarding returns on investment (ROI). This will enable potential partners from the ecosystem (private sector, social and public sector) to measure the financial and/or economic gain to be obtained from each dollar invested in the NTD program. We intend to work with the GHS/NTDP to define the returns in terms of human capital (which can be a powerful argument to Ministries of Finance and Health when allocating funds), among many other variables. Using ROI to support decision-making within the private sector or the NTDP can help promote the long-term sustainability of NTD programs, improve country budgets for NTDs, efficiencies in how programs are funded and NTD programs are managed. It can also help enable the NTDP's potential. The sustainability strategy (SSP), started with the GHS on behalf of the NTDP, will continued to be supported with the mentoring of staff of the SSP Unit of the GHS to develop and engage the private sector for resources to support NTDP activities. The strategy, which formalizes engagement with private, other public sectors and local non-governmental organizations (NGOs) for partnerships has been ongoing for the past 2 years. Currently the unit is developing business case justification and proposals to engage key private sector organizations identified through stakeholder mapping exercise in FY17. The process has yielded modest gains with about $44,000 from an indigenous private bank towards LF hydrocoele surgery and lymphoedema management in one region in 2016.

The Intra-country coordinating mechanism for NTD presents a path to advocate and mobilize resources for NTDs activities. Strong Intra-country coordinating mechanism will realize strong and clear terms of reference, standardized reporting templates, and a clear agenda that meets stakeholder needs. Having pre-defined agendas will ensure that topics of importance are addressed. Having clear communication channels will ensure that participants feel they are getting the information needed. And having a schedule of meetings will ensure that the group meets regularly and is not dependent on one individual to schedule. If effective, meetings should remain vehicles for NTDP coordination. In this regard, END in Africa will also support Inter-country coordinating mechanism for NTD programming, partnerships, and coordination.

To enhance GHS/NTDP leadership and performance management efforts, including financial management and the effective use of data and information for planning, programming and decision making, END in

Africa and its implementation partner (Deloitte) will support implementation of the Tool for Integrated Planning and Costing (TIPAC), with emphasis on institutionalizing the preparation, planning and implementation of the tool, as well as integrating data analytics and visualization tools that enable actionable information use. It is hoped that this will also strengthen NTDP capacity on data analysis using TIPAC outputs. This will be a critical input into the advocacy/communication and partnership efforts, in terms of generating TIPAC data for business case justifications. This will also be followed with general financial monitoring to ensure financial accountability and governance.

Table 3: Project assistance for capacity strengthening

Project assistance area	Capacity strengthening interventions/activities	How these activities will help to correct needs identified in situation above
a. Strategic Planning	Activities implementation planning meeting	To draw detailed plans to guide activities implantation
c. Building Advocacy for a Sustainable National NTD Program	Hold an advocacy engagement meeting with the Director General and Directors of the GHS	Improve visibility of NTDP among key policy makers.
g. Training	Train NMIMR to conduct OV16 ELISA test for the NTDP	To enable NTDP conduct ELISA required for oncho impact assessment and stop MDA evaluation
i. Supervision for MDA	Funds will be provided to enable the NTDP national level staff, END in Africa Technical Advisor and M&E officer to monitor MDAs using rapid assessment tools developed	To conduct rapid intra-MDA coverage assessment and obtain information that is used to inform CDDs and health staff to act in achieving target coverage
k. Supervision for M&E and DSAs	Funds will be provided to enable the END in Africa Technical Advisor and M&E officer monitor DSAs conducted	To ensure compliance with WHO guidelines and protocols
m. Short-term Technical Assistance	1. Communication consultant to assist the NTDP to develop a School-based MDA Manual. 2. Training in Close-out procedures	1. To facilitate teaching of behavior change for SCH and STH prevention and conduct of school-based MDA with limited training. This is part of STH/SCH transition plan to building capacity for MDA with minimal central level training 2. Strengthen capacity of GHS/NTDP staff on the basic steps needed for the administrative closeout of physically completed acquisition and assistance instruments. It will look at applicable regulations and required procedures including FAR 4.804 – Closeout of contract and FAR 42.708 – Quick Closeout Procedures

2. Project Assistance

a. Strategic Planning (Located budget tab, 'FOG 1')

Total cost for activities in this section: **$66,692.07**

TIPAC Update: END in Africa will provide technical support through to the NTDP in a five-day workshop to update the TIPAC with current programme data and funding. The workshop will be under the supervision of the Deloitte Technical Advisor on financial sustainability and capacity building. The updated tool will help generate, reports on disease situation and funding gaps that could be used in advocacy and resource mobilization.

Annual NTDP Activity Implementation Planning Meeting: The NTDP conducts several activities including MDAs, 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 must 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, the NTDP will conduct a 3-day NTDP Activity Implementation Planning Meeting in the first quarter of FY2018 to produce an annual activity schedule. This will be shared with the regional and district health administrations to assist them plan 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 including FHI 360.

Semi-annual NTDP Technical Review Meetings: The NTDP conducts several activities over a one-year programme cycle. Often 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 NTDs 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 semi-annual 5-day technical meeting is proposed as a platform to help address technical implementation challenges that come up during 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 FY18 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 FY18.

Intra-Country Coordinating Committee (ICCC) Meetings: The END in Africa project will support the NTD Secretariat to conduct 2 ICCC meetings. The ICCC 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, FHI 360 and WHO. It advices both the NTD Programs and the Minister of Health on how to achieve NTD control targets in

Ghana. There were three sub-committees of the ICCC – the Technical Subcommittee, the Advocacy Subcommittee and Resource Mobilization Subcommittee. In the last meeting of the ICCC in June, the Advocacy and Resource Mobilization sub-committees were merged. Each subcommittee is expected to meet twice in FY18. The subcommittees may co-opt experts outside the ICCC to support their activities. The two subcommittees of the ICCC will also be supported to conduct 4 meetings in FY18.

Ghana Onchocerciasis Expert Committee Meeting: In FY18, the GOEC will have two meetings in January and July 2018. END in Africa project will fund the January meeting and Sightsavers will fund the July meeting. The meetings are expected to finalize the Ghana Oncho Elimination Strategic Plan and revise the transmission zones and transmission foci. The NTDP also proposes to hold 2 Ad hoc GOEC meetings in FY18. The Ad hoc meetings, which often involve local members of the committee, is used to address urgent challenges that require the input of the committee in between full committee meetings. USAID and Sightsavers will fund one Ad Hoc GOEC meeting each.

Trachoma Elimination Committee (TEC) Meeting: The NTDP is expected to submit a dossier to WHO before the end of FY18 towards validation of elimination of trachoma as a public health problem in Ghana. The NTDP proposes 2 meeting by the TEC to respond to possible queries raised by WHO and to plan and implement activities to mark the validation of elimination of trachoma in Ghana. END in Africa project will fund one of the meetings and the other will be funded by Sightsavers.

b. NTD Secretariat (Located in 'Planning Budget' budget tab)
Total cost for activities in this section: **$106,980.00**

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. END in Africa will support 80% of maintenance and servicing costs of these vehicles while other partners cover the remaining 20%.

c. Building Advocacy for a Sustainable National NTD Program (Located in Budget Tab, 'FOG 1, FOG 2' and ODCs line 18)
Total cost for activities in this section: **$39,663.82**

- **Advocacy engagement with Director General and Directors of GHS:** The NTDP advocacy strategy identifies weak visibility of the program within the GHS and the Ministry of Health. Furthermore, a new Director General has been appointed for the GHS in the first quarter of the year. The NTDP will conduct an advocacy engagement session with the new Director General of the GHS, Directors of Public Health and other Directors at the GHS HQ with the view to enhancing the visibility of the NTDP and bring to the fore challenges and threats to the success of the program. END in Africa will provide technical assistance to the NTDP in power point slide preparation and disease-specific briefs for the meeting. About 30 participants are expected to participate from the GHS HQ, NTDP staff, partners including FHI 360. The success of this meeting will be assessed by the presence of the Director General, Director of Public Health and a good proportion of directors participating in the meeting.

- **MDA Launch:** 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.
- **NTD Exhibition:** 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.
- **Advocacy by 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 to improve awareness of the NTDP among private companies so they can support the 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.
- **Trachoma Elimination Event:** The NTDP expects WHO to validate elimination of trachoma as a public health programme in Ghana after submission of dossier for validation in FY17. As part of activities to mark the achievement and recognize partners' support, the GHS is will organize a national event to officially announce the elimination of trachoma in Ghana.
- **END in Africa Closeout Event:** FHI 360 will organize an event to mark the closeout of END in Africa Project in Ghana. The event will bring together FHI 360, GHS, NTDP, and its partners including USAID to share the achievements and the key learning points over the period of the project. The one-day event will also be used to disseminate achievements of the project by inviting the key media houses to cover the event. A summary project report document will be produced and distributed to the key NDTP, GHS and partners.

d. Mapping

Mapping for all diseases is complete and no further mapping is planned in FY18.

e. MDA Coverage (Located in Budget Tab, 'FOG 3 & FOG 5)

Total cost for activities in this section: **$284,088.83**

Generally, the low treatment coverage recorded by districts in FY16 can be attributed to some extent to the differences in denominators. While coverage estimates indication in table 4 used population projected from the 2010 census population, the program often used registered population which is often lower than the census population. In the case of SCH, the NTDP conducted MDA in 204 districts out of an expected target of all 216 districts due to inadequate PZQ received (17,577,000 tablets) instead of an expected 22,105,040 tablets. Secondly, data on number of basic schools in the country, especially, privately-owned schools, are not complete hence the number of schools that may have been missed is difficult to determine. Since STH treatment relies on SCH treatment platform, STH coverage was also lower than expected.

Table 4: USAID supported coverage results for FY16

NTD	# Rounds of annual distribution	Treatment target (FY16) # DISTRICTS	# Districts not meeting epi coverage target in FY16*	# Districts not meeting program coverage target in FY16*	Treatment targets (FY16) # PERSONS	# persons treated (FY16)	Percentage of treatment target met (FY16) PERSONS
LF	1	22	7	6	1,461,756	1,319,165	90.25%
Oncho	2	85	50	27	6,282,922	4,331,666	68.94%
SCH	1	204	192	105	8,556,439	4,982,402	58.23%
STH	1	204	203	111	7,028,381	4,013,047	57.10%
TRA	-	-	-	-	-	-	-

*Epi and Program coverage as defined in the workbooks

MDA plans for FY18

Table 5: USAID-supported districts and estimated target populations for MDA in FY18

NTD	Age groups targeted	Number of rounds of distribution annually	Distribution platform(s)	Number of districts to be treated in FY18	Total # of eligible people to be targeted in FY18
Lymphatic filariasis	Entire population ≥ 5 years	1	Community MDA	15	1,054,822
Onchocerciasis	Entire population ≥ 5 years	2	Community MDA	51	4,246,707
	Entire population ≥ 5 years	1	Community MDA	74	5,213,651
Schistosomiasis	≥ 5 – 14 years	1	School-Based MDA	177	5,033,312
	At-risk population ≥15 years	1	Community	51	1,559,268
Soil-transmitted helminths	Entire population ≥ 5 years	1	School MDA	177	5,033,312
Soil-transmitted helminths	Entire population ≥ 5 years	1	School MDA	15	466,637
Trachoma	-	-	-	-	-

The integrated LF/oncho/STH MDA will be conducted in 130 districts which include 15 LF and 125 oncho endemic districts with 10 LF/oncho co-endemic districts. All 125 oncho endemic districts will be included in the first-round MDA while 51 high prevalence endemic districts will undergo a second-round MDA six months after the first. The first-round community MDA will be supported by USAID. The NTDP will conduct community-based STH MDA in 15 districts where STH will not be treated due to stopping LF MDA but will not be treated through any planned integrated community-based LF/oncho/STH MDA or school-based SCH MDA for FY18.

f. Social Mobilization to Enable NTD Program Activities (Located in Budget Tab, 'FOG 1, FOG 3, FOG 5, FOG 6' and ODCs line 7)

Total cost for activities in this section: **$486,419.69**

- With dwindling funding for school-based MDA for SCH and STH, the NTDP proposes to develop and produce a School-based MDA Manual/flipchart for Teachers. The manual will outline the steps required to prepare for an MDA (data needs, information to parents, pupils eating before the MDA, the dosage regimen for albendazole and praziquantel, anticipated adverse events and their management. A total of 45,000 copies of the manual will be produced. The NTDP identified the need for flip charts in basic school that will assist teacher to provide class lessons to pupils on SCH/STH transmission, prevention, behavior change for prevent and treatment. Due to the large number of schools it was planned to produce it in 2 parts; 18000 in FY17 and 18000 in FY18. In FY17, during pre-testing of the flip charts, teachers overwhelmingly recommended that the size of the flip chart should be doubled. This increased the prize and the program obtained 9,500 copies instead of 18,000. The NTDP proposes to produce 35,500 copies of the flip chart in FY18 to ensure that all basic schools in the country get copies.
- END in Africa will support the development of the tool by hiring a communications consultant for about 3 months to guide the NTDP to develop the Manual, pre-test and produce a copy for each public basic school in districts targeted for SCH and STH MDA.
- CDD apathy has been identified as a challenge to the success of NTD-related MDAs in Ghana. To address this, NTDP has provided branded polo shirts for CDDs to motivate and identify them during the MDA. An estimated 26,000 branded polo shirts were targeted to be produced in two batches in FY16 and FY17. 13,000 were produced in FY16 and 5,000 in FY17 due to the stopping of MDA in some districts. However, with additional 40 districts targeted for oncho MDA, the NTDP proposes to produce an additional 4,500 branded polo shirts for CDDs and health staff involved in MDA at regional and district level.
- Other Information Education and Communication (IEC) materials used for MDA such as in-school posters 35,000, parent notification forms 500,000 and community posters 6,500 for integrated LF/oncho community-based MDA, and will be produced in line with schools and communities targeted for treatment in FY18.
- Key aspect of social mobilization is the use of radio announcements, jingles and discussions at the regional and district levels to inform, educate and mobilize communities for an MDA. Funding for this is included in the MDA budget.

Table 6: Social Mobilization/Communication Activities and Materials Checklist for NTD work planning

Category	Key Messages	Target Population	IEC Activity (e.g., materials, medium, training groups)	Where/when will they be distributed	Frequency	Has this material/message or approach been evaluated? If no, please detail in narrative how that will be addressed.

MDA Participation	Take your medicines during MDA, Take your medicines every year, Ensure your child takes the medicines	Community members, parents	Posters	Posted in vantage points in communities and health facilities about 2 weeks prior to MDA	Annual or bi-annual	Evaluated previously
Disease Prevention	Prevent worms and bilharzia take your medicine every year; Take ivermectin tablets every year to prevent river blindness; Prevent elephantiasis take your medicines every year	General population	District and regional level radios, community public address systems, announcement read in churches and mosques	Before, during and after the campaign	Prime time – morning and evening	Tested previously

g. Training (Location in Budget tab 'FOG 2 FOG 3, FOG 4 & FOG 5')
Total cost for activities in this section: **$1,033,134.95**

The trainings to be conducted in FY18 are largely refresher training associated with the integrated LF/oncho/STH MDA in 138 districts, second round community-based MDA for oncho in 51 districts, community-based MDA for SCH in 49 districts and school-based MDA in 185 districts. However, among health staff, teachers and community volunteers a small proportion may be participating in MDAs for the first time. In each case the last training prior to the one in FY18 will be about a year. The trainings will be conducted in a cascaded manner where the regional supervisors and trainers are trained at the national level, the district supervisor and trainers are trained at regional level; the district in turn train the sub-districts who train the community volunteers. The training aims at equipping participants with knowledge for public education, social mobilization, medicines management and administration, supervision at the lower levels and capture, collation and reporting of the appropriate data.

The FY18 trainings will also include training of health workers for post trachoma elimination surveillance. The NTDP proposes to train frontline health workers in all health facilities in the 37 trachoma endemic districts to heighten index of suspicion for trachoma surveillance after validation of elimination. Two staff from all health facilities in the 37 districts and the district disease control officers in each district will be trained by Ophthalmic nurses. Two ophthalmic nurses will conduct the training in each district. It is expected that suspected cases of trachoma – TF or TT will be referred to ophthalmic nurses in the district hospitals for confirmation, management and community investigation for other possible cases. Sightsavers will support the NTDP to develop one page limited case definition cards to be posted in all health facilities and district health administration offices to facilitate the surveillance process.

Table 7: 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) and what component(s) they are supporting
		New	Refresher	Total trainees			
Supervisors and trainers	- Social mobilization and adverse events response - Monitoring & supervision of MDA - supply chain management and standard operating procedures for MDA medicines management - data collection, collation and reporting using M&E tools			41,500*	1	At the national, regional, districts, sub-districts	
CDDs and teachers	- Social mobilization and adverse events response - MDA drug management and administration - data capture and collation			103,500*	1	Community, sub-district and schools	
Frontline health workers	- Symptoms and signs of trachoma – TF & TT - case definitions of TF & TT - referral of cases to Ophthalmic nurses and follow up of suspected patient for compliance with referral and management			1,905	1	District	

*Health staff and CDDs may be trained more than once for different activities

h. Drug and Commodity Supply Management and Procurement (Located in Budget Tab, 'FOG 1, FOG 5 & FOG 6')

Total cost for activities in this section: **$15,745.95**

Drug quantification was done in early 2016 for all medicines to be used in FY2018 and a joint request for selected medicines has already been sent to WHO for approval. 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 based on population of communities they treat. To ensure that donated NTD medicines are managed per GHS established standards, the NTDP in FY16 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 while opened ones will be appropriately disposed of. Expiry of drugs for treating NTDs is not anticipated because of the practice of the 'first-to-expire- first-out' principle in the medical stores but if this occurs it will be reported for disposal per 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 staff will complete 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 to district or regional hospitals depending on the severity 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 FHI360, USAID, the drug manufacturing companies and WHO.

Production of Standard Operating Procedure tool for Logistics Management of NTD Health Products: The NTDP has identified reverse logistics of NTD medicines and other products as the key challenge with supply chain management. The NTDP through technical support from PATH under the Access and Delivery Partnership Project has engaged the programme and partners including END in Africa/FHI 360 to develop a standard operating procedure (SOP) on logistic management of NTD products from the CMS at the national level to the CDD and teacher at the community and school. The PATH support is limited to development of the SOP and training of trainers but will not produce the documents for the endemic districts. The NTDP will produce a total of 472 copies of the SOP for distribution – 2 copies each for the 216 districts and 10 regions; while the NTDP will stock 20 copies at the national level for programme officers and training purposes.

FHI 360 will procure OV16 RDTs and TEO needed to conduct the proposed FY18 activities, while the NTDP will obtain the required FTS through a request to the WHO donation program.

i. Supervision for MDAs (Located in Budget Tab, 'FOG 1, FOG 3, FOG 5 & FOG 6')
Total cost for activities in this section: **$670,927.96**

Supervision of MDA will be done along the GHS structure of national, regional, district and sub district health systems. FHI360 has 4 permanent staff working directly with the national NTD office and will be part of the national level supervisory teams. Supervision of MDA will include the Director of Public Health of the GHS. Participation by the Director of Public Health representing 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 MDAs. Regional and district supervisors will be trained prior to each MDA.

The finance unit of the Public Health Division will conduct a finance monitoring in all 10 regions and 216 districts implementing NTDP activities. This is an audit monitoring that seeks to verify appropriate use of resources per public financial regulations used by the GHS.

j. Monitoring and Evaluation (Location in Budget Tab, 'FOG 3, FOG 4 & FOG 6')
Total cost for activities in this section: **$193,602.13**

Lymphatic Filariasis: TAS 2 will be conducted in 5 districts grouped in to 3 evaluation units. All TAS will be conducted using FTS. The NTDP will conduct pre-TAS in 6 districts using FTS.

The second phase of Quality Improvement (QI) workshop and mentorship started in the remaining 15 LF "hot spots" districts will be conducted in FY18. The workshop will be used to assess the performance indicators after the FY17 MDA and identify further quality improvement activities for implementation in the FY18 activities.

After validation of trachoma elimination in Ghana, the NTDP intends to conduct activities to strengthen the health system to identify suspected trachoma cases (TF and TT) for effective management by ophthalmic nurses. To heighten the index of suspicion at all levels 2 frontline health staff in each health facility will be trained to diagnose or suspect cases of trachoma and refer to an ophthalmic nurse for confirmation. The training will include application of case definitions for TF and TT cases, signs and symptom of trachoma and a referral protocol. The training will be conducted at the district level in all 37 trachoma endemic districts by trained and WHO-certified ophthalmic nurses who conducted the trachoma pre-validation survey. A laminated information sheet with case definitions for TT and TF, signs and symptoms of trachoma and referral protocol will be developed and posted all in health facilities in the 37 trachoma endemic districts.

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. To ensure effective data management at the sub-national level. The NTDP will procure arc files for regional, district and sub-district health administrations to archive data and reports on MDA and DSA at these levels. These will facilitate dossier preparation and certification activities for LF and onchocerciasis in the future. A total of 1072 arc files will be purchased for 10 regions, 216 districts 836 sub-districts. Each Regional Health Administration will have two arc files each while the districts and sub-districts will have one arch file each.

MDA Coverage Surveys and Data Verification: 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 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 10 be used to guide the survey in Ghana. Coverage surveys will provide the opportunity to assess reported treatment coverage with coverage obtained from community members. The results will inform strategies to improve the MDA process. The monitoring and evaluations officers of the NTD programme will be provided with resources to visits 5 districts each of districts that report the lowest and highest MDA treatment coverage to review the source data collection and reporting documents – community registers, summary reporting forms to verify the reported data. Results of the survey and data verification will be shared with all endemic districts during the annual NTD review

meeting. These two monitoring and evaluation activities are expected to improve the quality of data reported by endemic districts.

Retrieval and reallocation of community registers: The NTDP will send out programme officers to all 81 districts that that have stopped MDA for LF to retrieve community registers for reallocation and medicines for reallocation.

Table 9: Reporting of DSA supported with USAID funds that did not meet critical cutoff thresholds as of September 30, 2017

NTD	Number of remaining endemic districts (same as Table2)	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	Why did the EU not "pass" the DSA?	Post-DSA failure activities (be specific about timeframes)
Lymphatic filariasis	15	Pre-TAS using FTS	9	8*	These districts are considered hotspots; exact reasons for failure remain unclear	The FTS results were not used to decide on which districts go on to conduct TAS
Lymphatic filariasis	15	Pre-TAS using NBS	9	4**	These districts are considered hotspots; exact reasons for failure remain unclear	Additional 2 MDA with intensification of social mobilization in the districts
Onchocerciasis	125	Impact assessment using OV-16 among children	154	34***	WHO guidelines on threshold for oncho impact assessment not available so districts may not have failed	-
Onchocerciasis		Impact assessment using Skin snip among adults	154	18***	WHO guidelines on threshold for oncho impact assessment not available so districts may not have failed	
Trachoma	37	-	-	-	-	-

* Threshold for FTS (<2% antigenaemia) met by only 1 out of the 9 district.
** Threshold for NBS (<1 microfilaraemia) met by only 5 out of the 9 districts.
*** Cut-off for OV16 RDT and skin snip tests were set at < 1%.

Table 10: Planned Disease-specific Assessments for FY18 by Disease

Disease	No. of endemic districts	No. of Evaluation Units	No. of Evaluation Units planned for DSA	Type of assessment	Diagnostic method (Indicator: Mf, FTS, etc)
Lymphatic filariasis	98	98	6	Pre-TAS	FTS
	98	2	5	TAS	FTS

k. Supervision for M&E and DSAs

Funds will be provided to enable the END in Africa Technical Advisor and M&E Officer monitor DSAs conducted to ensure compliance with protocols and WHO guidelines. The team will also monitor training of DSA teams prior to implementation and contribute to dissemination of appropriate knowledge and standards.

l. Dossier Development

The NTDP has no plans for dossier development in FY18. However, the NTDP is expected to submit a dossier to WHO before the end of FY18 towards validation of elimination of trachoma as a public health problem in Ghana. The NTDP proposes 2 meetings by the TEC to respond to possible queries raised by WHO and to plan and implement activities to mark the validation of elimination of trachoma in Ghana. END in Africa project will fund one of the TEC meetings and the other will be funded by Sightsavers.

m. Short-Term Technical Assistance (Location in Budget Tab, 'Planning budget')

Total cost for activities in this section: **$15,000**

END in Africa will hire a communications consultant for 3 months to support the NTDP develop a School-based MDA manual.

Table 11: 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	Funding source (e.g., country budget, overall budget, CDC funding)
TA to develop School-based MDA manual	To facilitate implementation of school-based SCH/STH MDA with limited resources – as part of transition planning	Communications Specialist	3 months	END in Africa country budget

3. Planned FOGs to local organizations and/or governments

Table 12: Planned FOG recipients—include for all sub-partners as well.

FOG recipient (split by type of recipient)	No. of FOGs	Activities	Target Date of FOG application to USAID
Ghana Health Service/NTDP	6	▪ Strategic planning meetings - Intra-Country Coordination Committee Meeting - Annual NTDP activities implementation planning Meeting - Ghana Onchocerciasis Expert Committee Meetings - Trachoma Expert Committee Meeting ▪ Advocacy events - FY18 MDA launch - NTD exhibition at Annual Health Summit - Advocacy by Ghana NTD Ambassador - Trachoma Elimination Event ▪ MDA coverage – Drug distribution by the CDDs ▪ Social mobilization for MDA activities - Developing and broadcasting of TV and radio spots - Production of IEC materials	October 2017

		▪ Trainings - Training of Trainers for MDA activities - Training of Health workers for post-trachoma surveillance - Trainings of District Officers for MDA activities ▪ Drug supply & commodity management - Transportation of materials and drugs to the distribution sites for MDAs ▪ Supervision of MDAs ▪ Monitoring and Evaluation activities - Pre-TAS - TAS 2 - Data quality improvement - MDA coverage survey (LF & Oncho) - Data verification	

4. Cross-Portfolio Requests for Support

The NTDP has made no request for cross-portfolio support.

5. Maps

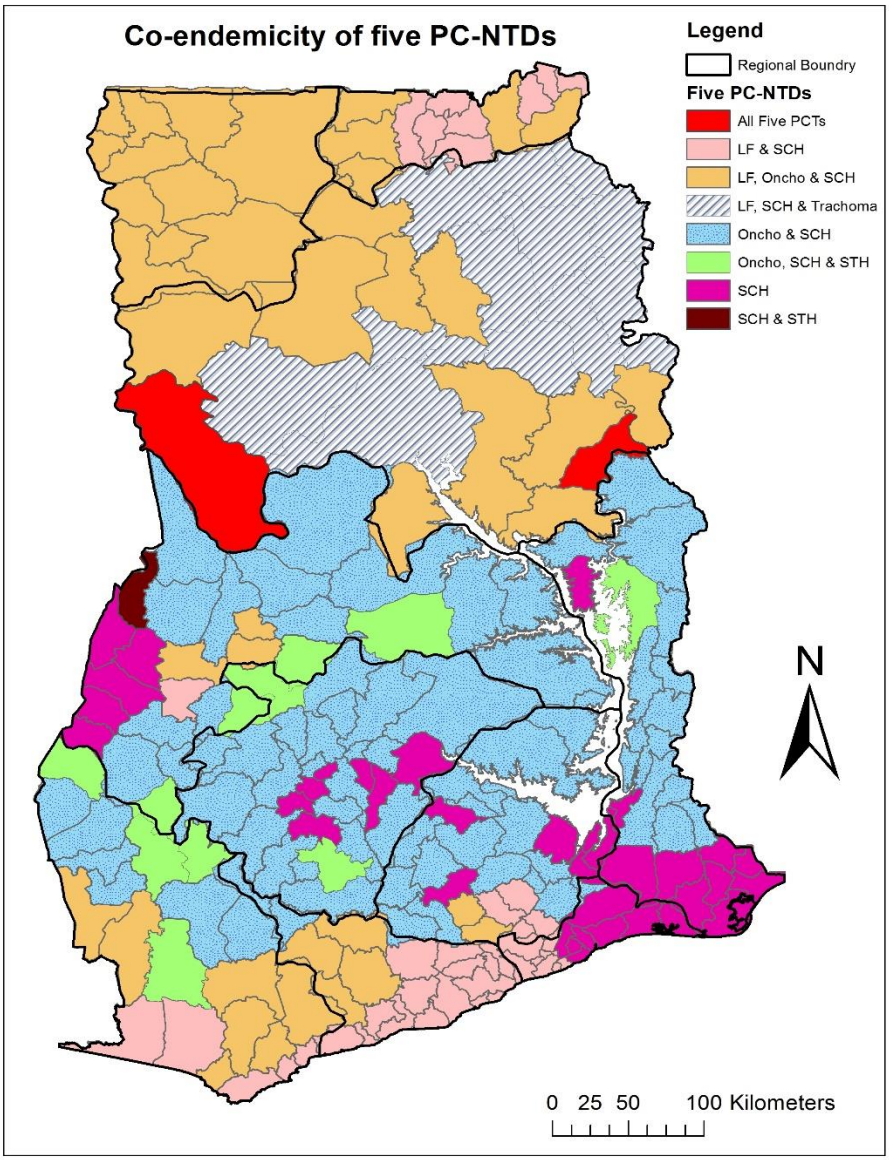

Figure 1 Disease presence by district, showing areas of disease co-endemicity

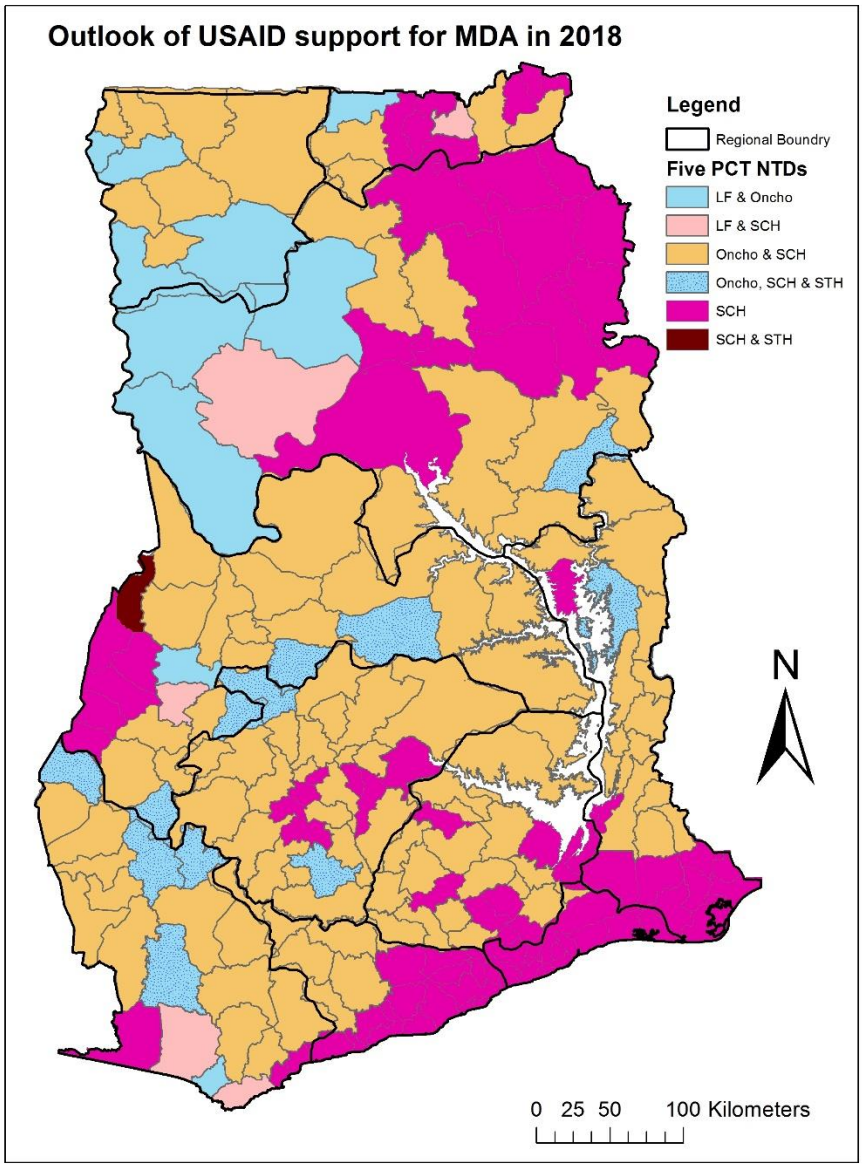

Figure 2 Districts undergoing MDA with USAID support by disease

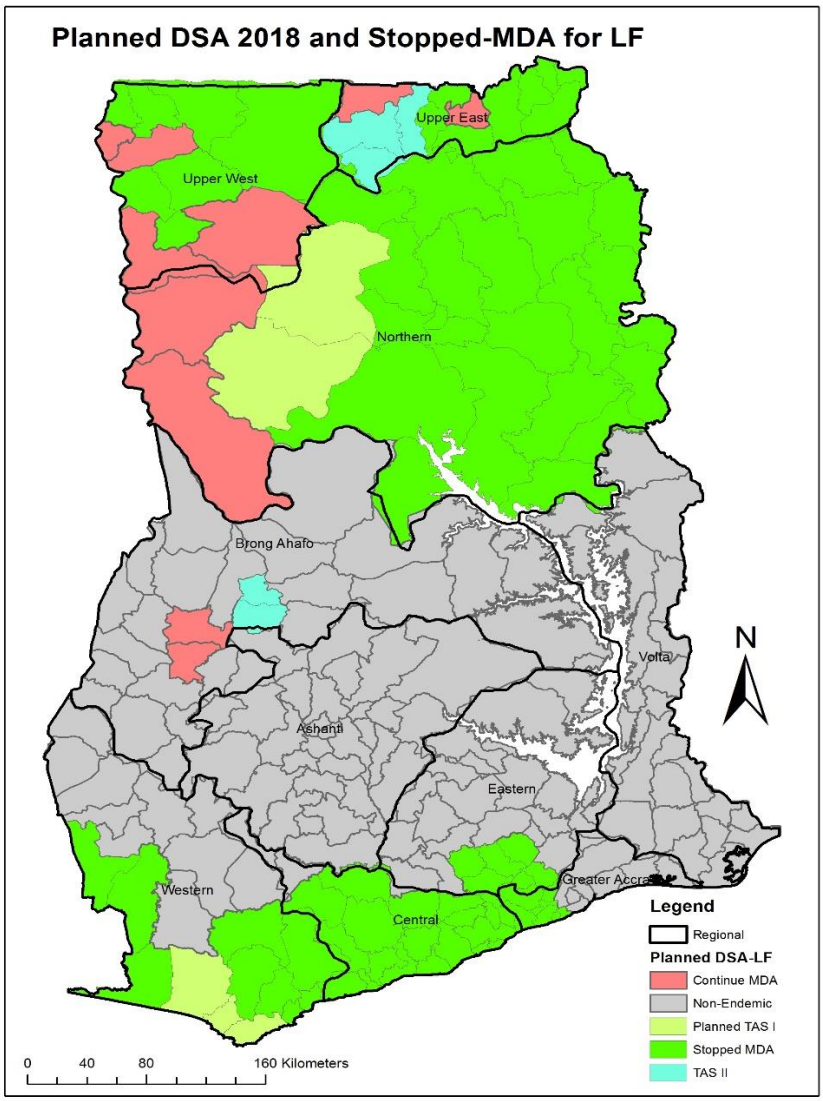

Figure 3 Districts target for DAS in FY118 or stopped MDA for LF

APPENDICES

The following appendices are attached as separate documents.

1. Country staffing/partner org chart (PDF)
2. Work plan timeline (MS Word)
3. Work plan deliverables (MS Word)
4. Table of USAID-supported provinces/states and districts (MS Excel)
5. FY17 Q1-2 Country SAR (Word)
6. Program Workbook (MS Excel)
7. Disease Workbook (MS Excel)
8. Country budget (MS Excel)