



Ghana FY2015

Control of Neglected Tropical Diseases

Annual Work Plan
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Acronyms and Abbreviations

AEs	Adverse Events
AFRO	WHO Regional Office for Africa
ALB	Albendazole
APOC	African Program for Onchocerciasis Control
BCC	Behaviour Change Communication
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
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
NIH	National Health Insurance
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 Onchocerciasis 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

SCM	Supply Chain Management
SHEP	School Health Education Program
SOP	Standard Operational Procedures
STH	Soil Transmitted Helminthiasis
TAS	Transmission Assessment Survey
TF	Trachomatous Inflammation, Follicular
TIPAC	Tool for Integrated Planning and Costing
TT	Trachomatous Trichiasis
USAID	United States Agency for International Development
VRA	Volta River Authorities
WHO	World Health Organization

EXECUTIVE SUMMARY

The United States Agency for International Development (USAID) started supporting the Neglected Tropical Diseases Program (NTDP) of the Ghana Health Service (GHS) in 2006 to implement an integrated program to control/eliminate 5 neglected tropical diseases targeted through preventive chemotherapy (PC NTDs): Onchocerciasis (River Blindness), Lymphatic Filariasis (LF, or Elephantiasis), Schistosomiasis (SCH, or Bilharzia), Soil Transmitted Helminthiasis (STH, or Worms transmitted through contact with soil) and Trachoma (Blinding Eye Infection). USAID funding now covers all 10 regions of Ghana and each of the 216 health districts is supported for control/elimination of at least 1 of the 5 PC NTDs. Activities supported by USAID includes mass drug administration (MDAs), disease specific assessment (DSAs), data management, advocacy and behaviour change communication (BCC).

Almost 80% of neglected tropical diseases (NTDs) control/elimination activities in Ghana are supported by the USAID NTD Program. The NTDP receives some support from other partners: the Liverpool Centre for Neglected Tropical Diseases (CNTD); Sightsavers-Ghana; the African Program for Onchocerciasis Control (APOC); Volta River Authority (VRA), a government owned company that has dammed the Volta River for generation of electricity; the Partnership for Child Development (PCD); and the WHO Country Office in Ghana. All activities discussed in the main text of this work plan are proposed for USAID support through the END in Africa project. All activities that will be supported by other NTD partners listed above are put in footnotes in the same pages as related activities supported by USAID.

The NTDP presently targets LF, trachoma and onchocerciasis for elimination¹. All disease elimination activities are implemented strictly according to WHO guidelines. The NTDP also strictly follows the guidelines of WHO in the management of SCH and STH but these 2 diseases are currently targeted for control² because of the high reinfection rates noted and the predisposition of many communities towards the 2 diseases due to poverty. Control/elimination activities for the 5 PC NTDs are integrated as much as possible in light of the limited human resource capacity within the GHS and also for efficient use of Donor funding. Treatment for LF is considered treatment of STH since albendazole is used during LF MDA. MDA is integrated in all districts where LF and onchocerciasis are co-endemic, and SCH MDA is usually integrated with MDA for STH in the same districts.

This FY2015 work plan has resulted from a consultative process between the NTDP and NTD partners to prioritize activities that will help the NTDP to reach the goals of elimination and control of the five targeted NTDs. In FY2015 the NTDP's focus will be on the following: verification of elimination of trachoma through a survey to obtain data that can be presented to WHO and the NTD-Regional Peer Review Group (RPRG) for a decision on the trachoma status in Ghana; significant scale down of treatment for LF while progressively increasing post MDA surveillance; move towards onchocerciasis elimination by adjusting the treatment strategy from treating only onchocerciasis meso and hyperendemic communities to treating whole districts and also treating all districts that were considered hypoendemic for onchocerciasis at baseline; conduct integrated impact assessment surveys for SCH and STH and conduct treatment for both SCH and STH in the 47 districts that are hyperendemic for SCH.

¹ WHO 1998 definition of Elimination of disease/infections: Reduction to zero of the incidence (new cases) of a specified disease or infection caused by a specific agent in a defined geographical area as a result of deliberate efforts; continued intervention measures are required to prevent re-establishment of transmission are required.

² WHO 1998 definition of Control of disease/infections: The reduction of disease incidence, prevalence, morbidity or mortality to a locally acceptable level as a result of deliberate efforts; continued intervention measures are required to maintain the reduction.

The main activities that will be undertaken will be:

- Continue with integrated community-based MDA for LF in 29 districts³ with a target of treating 1,953,200 persons and MDA for Onchocerciasis in 85 districts with a target of treating 6,321,317 persons.
- Conduct MDA for onchocerciasis for the first time (as part of the integrated community-based MDA mentioned above) in 50 hypoendemic districts targeting 4,753,215 persons⁴.
- Continue MDA for SCH in 47 SCH-hyperendemic districts with a target of treating 4,094,192 persons (1,432,555 SAC and 2,661,637 high-risk adults (HRA)). Another MDA for STH will also be conducted in the same 47 districts targeted for SCH with a target of treating 1,146,044 SAC.
- Conduct an integrated impact assessment survey for both SCH and STH.
- Carry out trachoma survey in all 37 endemic districts to obtain data on the SAFE strategy that will be used for verification of elimination of trachoma.
- Conduct TAS for stopping MDA in 7 districts; TAS2 (second TAS after stopping MDA as part of post-MDA surveillance) in 5 districts; and Pre-TAS in 14 districts.
- Carry out epidemiological evaluation for onchocerciasis in 66 sentinel sites of 58 districts.
- Hold a review meeting to revise treatment regimen for SCH/STH control.
- Improve knowledge and awareness of the 5 PC NTDs and their control/elimination strategies within at-risk communities and enhance NTDP visibility through interaction with existing and potential partners, publications, and use of outdoor information, education and communication (IEC) materials already developed by the NTDP.

Other activities will focus on planning, monitoring and evaluation (M&E), advocacy and capacity building. Specifically these activities will be carried out:

- Hold 4 quarterly Intra Country Coordinating Committee (ICCC) meetings and 1 annual review meeting for the NTD program.
- Update TIPAC for 2015.
- Develop publications for country program best practices, success stories, lessons learnt and impact surveys.
- Hold media campaigns to showcase achievements and challenges of the program.
- Prepare projections for all NTD drugs for FY2016.

³ Treatment for LF is considered treatment for STH. This means that the treatment for LF in 29 districts is the first treatment for STH using USAID funding and the remaining 187 districts (since all 216 districts have to be treated for STH at least once a year) will be treated with funding from Partnership for Child Development (PCD) with a target of treating 6,108,922 school-age children (SAC).

⁴ A second MDA for onchocerciasis in 47 hyperendemic districts with a target of treating 4,024,153 persons will be conducted with funding from Sightsavers and APOC.

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) in the South, Togo in the East, Cote d'Ivoire in the West and Burkina Faso in the North. The country has an area of 238,537 square kilometers with 550 kilometers of coastline.

Ghana has a typical tropical climate with temperatures between 21 and 32 degrees Celsius. There are three clear geographic zones: dry northern savanna; the humid middle forest rainfall 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, has been dammed covering 3% of the country. Yaws and buruli ulcer are prevalent in the humid forest zone while the rivers and lakes predispose to onchocerciasis along the fast flowing tributaries and schistosomiasis (SCH) is prevalent in the areas with more stagnant waters. The coastal and dry northern zones are found to be more prevalent with lymphatic filariasis (LF).

Ghana is divided into 10 administrative regions and 216 administrative districts⁵. Each region is headed by a political administrator (Regional Minister) while the districts are headed by District Chief Executives. All districts have been subdivided into an average of 6 sub-districts with each covering a defined geographic area of 20,000-30,000 people. The implementation unit of health programs is the district level.

Almost 80% of neglected tropical diseases (NTD) control/elimination activities in Ghana are supported by the United States Agency for International Development (USAID), and these activities are presented in the main texts of this work plan while all activities that will be supported by other NTD partners listed below are put in footnotes in the same pages as related activities supported by USAID. The Neglected Tropical Disease Program (NTDP) receives some support from other partners: the Liverpool Centre for Neglected Tropical Diseases (CNTD) supports LF elimination activities including mass drug administration (MDA) and disease specific assessments (DSAs) in the 8 districts of the Greater Accra Region (GAR); Sightsavers-Ghana and the African Program for Onchocerciasis Control (APOC) support the 2nd MDA for onchocerciasis and other activities for onchocerciasis control such as coverage survey; Volta River Authority (VRA), a government owned company that has dammed the Volta river for generation of electricity, supports water, sanitation and hygiene (WASH) activities for SCH control along the Volta River that includes construction of wells and VIP toilets in communities along the Volta River; the Partnership for Child Development (PCD) supports MDA for soil transmitted helminthiasis (STH) control usually in districts where USAID is not supporting STH treatment through MDA for LF (LF treatment is also STH treatment) or MDA for SCH (the NTDP usually combines SCH MDA with distribution of treatment for STH); and the WHO Country Office in Ghana generally serves as consignee for ivermectin (IVM) and albendazole (ALB) that are donated through the World Health Organization (WHO) and the Mectizan Donation Program (MDP), and is presently providing support for the NTDP to identify communities with at risk adults that need treatment for SCH.

USAID history of support

Separate programs existed for LF, onchocerciasis and trachoma and mapping for the 3 diseases had already been completed in Ghana before USAID support for NTD control/elimination started in 2006. With promise of funding from USAID for the 5 neglected tropical diseases targeted through preventive chemotherapy (PC NTDs), the Ministry of Health (MOH) and the Ghana Health Service (GHS) decided to

⁵ There were 170 districts 2 years ago but a redemarcation was done and some of the previous 170 districts were divided, which has resulted in a total of 216 districts presently in 10 regions.

integrate management of all 5 PC NTDs under the national NTDP in 2006. 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 behaviour change communication (BCC).

National NTD Program Overview

The NTDP presently targets LF, trachoma and onchocerciasis for elimination⁶. All disease elimination activities are implemented strictly according to WHO guidelines. The NTDP also strictly follows the guidelines of WHO in the management of SCH and STH but these 2 diseases are targeted for control because of the high reinfection rates noted and the predisposition of many communities towards the 2 diseases due to poverty. Control/elimination activities for the 5 PC NTDs are integrated as much as possible in light of the limited human resource capacity within the GHS and also for efficient use of Donor funding. Treatment for LF is considered treatment of STH since ALB is used during LF MDA. MDA is integrated in all districts where LF and onchocerciasis are co-endemic, and SCH MDA is usually integrated with MDA for STH in the same districts.

Lymphatic filariasis

Mass treatment for LF started in 2001 and treatment was gradually scaled up to reach 100% geographic coverage around 2004. Presently, there are 98 out of 216 districts endemic for LF; 8 of the 10 regions of Ghana (with the exception of Volta and Ashanti regions) are endemic for LF. Treatment strategies include annual MDA with IVM and ALB, DSAs conducted according to WHO guidelines, advocacy and BCC for better acceptance and compliance to treatment within affected communities. Significant progress has been made so far with LF treatment: among the 98 endemic districts, 5 stopped MDA in 2010 and 64 will stop MDA after 2014 (a total of 69 out of 98 endemic districts) and only 29 will be treated in FY2015. Among the 29 remaining endemic districts, 14 will undergo pre-transmission assessment survey (Pre-TAS) that can lead to the decision to conduct transmission assessment survey (TAS) for stopping MDA in these districts; 7 will conduct stopping MDA TAS that can result in MDA being stopped in these districts if they “pass” the TAS; and among the 69 districts that would have stopped MDA for LF after fiscal year (FY)2014, five (5) districts (those that stopped MDA in 2010) conducted the first post-MDA TAS (TAS1) in 2012 and will conduct TAS2⁷ in FY2015 (i.e. the second post-MDA TAS after the stopping MDA TAS, which is the final TAS for these 5 districts and is part of post-MDA surveillance for LF before verification of elimination will be conducted). The NTDP Ghana wishes to conduct post-MDA surveillance for LF in all 69 districts as part of program activities or operational research. The NTDP Ghana will also conduct TAS1 and TAS2 for the other 64 districts after 2-3 and 4-5 years respectively. As indicated above LF was endemic at baseline in 8 regions (98 districts) but LF activities in 1 of the 8 regions (Greater Accra Region) is supported by the CNTD Liverpool while activities in the other 7 regions are supported by the USAID NTD program. The NTDP

⁶ WHO 1998 definition of Elimination of disease/infections: Reduction to zero of the incidence (new cases) of a specified disease or infection caused by a specific agent in a defined geographical area as a result of deliberate efforts; continued intervention measures are required to prevent re-establishment of transmission are required.

⁷ We consider the first TAS conducted to stop MDA as ‘TAS for stopping MDA’ or ‘stopping MDA TAS’ or simply TAS, the second TAS, which is the first TAS under post treatment surveillance as ‘TAS1’ and the third TAS, which is the second post-treatment surveillance TAS as ‘TAS2’.

Ghana is currently preparing a proposal for post-MDA surveillance for LF in the 8 districts of the Greater Accra Region that will be supported by CNTD Liverpool. However, there are 61 other districts in the other 7 regions that have stopped MDA for LF and the NTDP Ghana still needs support to undertake post-MDA surveillance for LF in these 7 regions. The NTDP Ghana is proposing that two (2) districts that have stopped MDA for LF be selected from each of the 7 regions using the following criteria: baseline prevalence for LF and district performance during the MDA period. Among the districts that have stopped MDA for LF in the 7 regions, districts with relatively higher baseline prevalence and districts with relatively lower reported treatment coverage during MDA campaigns will be selected for the post-MDA surveillance. The NTDP Ghana is willing to collaborate with other NTD partners recommended by FHI360 and USAID to establish post-MDA surveillance in these districts.

Onchocerciasis

Onchocerciasis control efforts started in 1974. However, between 1974 and 1997, treatment was limited to mainly vector control through aerial larviciding⁸. Community directed treatment with ivermectin (CDTI) strategy was introduced by APOC in 1998. Remapping for onchocerciasis in Ghana was done in 2009 leading to the selection of meso and hyperendemic areas for treatment in 85 out of 216 districts (prevalence of 20%-59.9% and $\geq 60\%$ respectively) and WHO policies then required treatment for onchocerciasis only in meso and hyperendemic areas (i.e. areas with prevalence $\geq 20\%$). Treatment had continued in these 85 districts at least once a year up to FY2014. A study conducted in Ghana on onchocerciasis suggested the presence of suboptimal response to ivermectin in some areas of Ghana (Osei-Atweneboana et al. 2007; Osei-Atweneboana et al. 2007). APOC subsequently commissioned a separate study in the same areas that the Osei study was conducted, which concluded that the problem reported as suboptimal response could be due to low treatment coverage in these areas. APOC then recommended biannual treatment in these 'problem areas'. Furthermore, surveillance activities (epidemiological and entomological evaluations) conducted prior to 2009 also showed that the epidemiological situation of onchocerciasis was unsatisfactory in some endemic areas. The NTDP Ghana with the endorsement and guidance of the APOC Technical Consultative Committee (TCC) took the decision in 2009 to conduct biannual treatment for onchocerciasis in 47 districts based on the above mentioned reasons. . A study on onchocerciasis in Mali and Senegal was conducted with the support of APOC that has resulted in a paradigm shift from onchocerciasis control to elimination in Africa (Diawara et al. 2009; Traore et al. 2012). In line with guidelines from APOC on onchocerciasis elimination (please see attached APOC guidelines on elimination), the NTDP Ghana also decided in 2013 to change the onchocerciasis strategy in Ghana from control to elimination. Consequently, The NTDP Ghana has decided to extend onchocerciasis treatment to all areas that were considered hypoendemic and therefore not treated previously when the treatment goal was to control onchocerciasis as a public health problem. Mass drug treatment for onchocerciasis is therefore being extended to all districts that have onchocerciasis prevalence between 1% and 19.99%. This requires that an additional 50 districts be treated to achieve the goal of eliminating onchocerciasis in the whole of Ghana by 2025. The results of the remapping in 2009 were used to select the additional districts to be treated (please see disease work book for details). Furthermore, the NTDP Ghana is also extending treatment for onchocerciasis to cover entire districts that are already being treated (85 districts) with the same goal of eliminating onchocerciasis in the whole of Ghana by 2025. This means that the total number of districts that will be

⁸ The use of chemicals to kill the vector that causes onchocerciasis (the black fly) that are deposited using helicopters in fast flowing rivers that are known to have vector breeding sites.

treated for onchocerciasis in FY2015 will be 135 (85 'old' and 50 'new' districts). A total of 9 out of 10 regions in Ghana (with the exception of GAR) are endemic for onchocerciasis. In FY2015, the NTDP plans to treat 135 districts once in the first half of the year (between January and June)⁹. Treatment for onchocerciasis will now also be extended to cover entire district populations and community meetings will be conducted to increase awareness of the change in the onchocerciasis treatment strategy and to select new community directed distributors (CDDs) emphasizing the importance of having more women as CDDs. School enrollment for boys and girls are almost equal (with variations in the different regions) and treatment figures are evenly spread among males and females. However, the proportion of female CDDs is relatively low (<21%). The END in Africa project and NTDP staff will advocate for more women CDDs to be selected during these community meetings.

Trachoma

Baseline studies conducted for trachoma in 1999-2000 indicated that trachoma is endemic in 37 out of 216 districts in 2 regions of Ghana (Northern and Upper West regions). Because of the specific nature of the disease which requires significant input from ophthalmologists and ophthalmic nurses, the NTDP has had to collaborate with the National Eye Care Program (NECP) in the treatment for trachoma using the SAFE (**S**urgery, **A**ntibiotic therapy, **F**acial cleanliness, and **E**nvironmental management) strategy. Treatment was gradually upscaled in these 37 districts and in 2008 a study conducted in the 37 districts showed that prevalence of trachomatous inflammation, follicular (TF) among children age 1-9 years was down to <5% in all the endemic districts and treatment was stopped at district level. The WHO guidelines for post-district-MDA surveillance was for 2 communities to be selected in each of the 37 endemic districts each year and a thorough investigation conducted to determine the level of TF among children 1-9 years old, and trachomatous trichiasis (TT) among older members of the communities studied (those >14 years old). Study for TF was conducted in schools and for TT within the general community and the communities were rotated each year based on information received from the district health authorities. District health authorities used information from the health facilities to pinpoint communities that are more likely to still have the infection and recommend them to the NTDP for surveillance. After 3-4 years of such surveillance, 8 communities with TF prevalence between 5% and 9.9% were identified and treated for 3 years. The last of these 8 communities is receiving the last treatment in FY2014 and the NTDP has no plans to continue treatment for trachoma in FY2015. The NTDP is proposing a survey to be conducted in collaboration with international and national partners in all 37 trachoma endemic districts that will provide the most current data on TF among children 1-9 years old, TT among persons >14 years old, and information on the F (Facial cleanliness) and E (Environmental management) components of the SAFE strategy for verification of elimination by the NTD Regional peer Review Group (RPRG) set up by WHO.

Schistosomiasis

Mapping for SCH was conducted with USAID support in 2007-2008 and between 2009 and 2012, 4 annual rounds of MDA has been conducted for SCH with some districts (category A districts with prevalence \geq 50%) treated every year, some districts treated once every 2 years (category B districts with prevalence \geq 10%-49.9%) and some treated once every 3 years (category C districts with prevalence 1%-9.9%). School age children (SAC) are treated in category A, B and C districts whilst special high-risk adults (in mainly fishing communities) are treated only in category A districts. The NTDP was unable to conduct MDA for SCH in FY2013 because of several misconducts detected in the handling of imported drugs and medical

⁹ 47 hyperendemic districts among the 135 will receive a second round of treatment 6 months after the first MDA. The second treatment for onchocerciasis in these 47 districts will be supported by Sightsavers and APOC.

logistics by other health programs, which lead the national Food and Drugs Authority (FDA) to start insisting on availability of bioequivalent data for generic drugs being imported into the country. The praziquantel (PZQ) used for SCH MDA in Ghana is a generic drug bought by USAID and was identified by the FDA as a product for which bioequivalent data are needed. The NTDP has since collaborated with the USAID NTD Program, FHI360 and other partners involved in the procurement of PZQ to make the data needed available and to get FDA approval for importation of the generic PZQ to be used for MDA. The NTDP has also submitted a formal request to the WHO Regional Office for Africa (AFRO) for 4.5 million tablets of patented PZQ donated by Merck to be supplied to the NTDP and used for treatment of SCH in up to 140 SCH-endemic districts in FY2014. Among the 140 districts to be treated, 47 are districts that should receive treatment each year. An integrated SCH/STH survey will be conducted in 30 zones identified to cover all 216 districts after 5 rounds of MDA (including the SCH MDA in FY2014). The NTDP Ghana will be using the WHO "Helminth control in school age children: a guide for managers of control programmes - 2nd edition" to make decisions on the sampling for this survey. Since SCH is endemic in all 216 districts of Ghana, the NTD program has put all 216 districts into 30 ecological zones using the following criteria: geographic characteristics (only districts with similar geographic characteristics are put in the same ecological zones); and baseline prevalence. Within each of the 10 regions of Ghana, districts that are classified as category A (prevalence $\geq 50\%$) are put in one ecological zone, and the same is done for the other districts that are classified as category B and category C at baseline. This way the results obtained in each ecological zone can be accepted as representative of all districts in the same group. The number of districts in the different ecological zones will therefore vary but the districts in each ecological zone are similar in terms of geographic characteristics and baseline prevalence. Selection of schools will be done according to the WHO guide mentioned above. Five (5) schools will be selected as indicated above in each of the 30 ecological zones and 50 students will be randomly selected for the study in each school (total of 250 children per zone). A review meeting will be organized to revise treatment regimen for SCH and STH for each district based on the data that will be obtained from the survey. A district that moves from category A (SCH prevalence $\geq 50\%$) to category C (SCH prevalence $< 10\%$) will be treated once every three (3) years instead of every year as recommended by WHO. In FY2015 MDA will be conducted only in the 47 hyperendemic districts treated each year and the new revised treatment regimen (the decision of the SCH/STH review meeting) for treating each district will be applied after FY2015.

Soil Transmitted Helminthiasis

Mapping for STH was conducted 2007-2008 and results indicated that only 16 districts have moderate prevalence ($\geq 20\%$ -49.9%). This means that only these 16 should be treated for STH once a year, however, it is the policy of the MOH in Ghana to treat all school age children at least once a year. This has so far been achieved through treatment of LF (LF treatment in 98 districts was considered STH treatment) and with support from other local organizations (the School Health Education Program (SHEP) of the Ghana Education Service (GES) and PCD). SHEP provided enough mebendazole for STH between 2010 and 2012 for STH treatment in districts not endemic for LF. With the medication available the NTDP was able to combine treatment for STH with treatment for SCH in non-LF districts (since USAID funds covered treatment for SCH in these districts mebendazole was added to PZQ and both SCH and STH were treated in the SCH districts). Funds from PCD were used to treat for STH in non-LF and non-SCH districts. After 2012, the NTDP has been receiving donation of albendazole for STH treatment from GlaxoSmithKline (GSK). There will be several rounds of STH treatment conducted in FY2015 to ensure that each SAC receives at least one treatment for STH per year. The LF treatment in 29 districts conducted as part of the community-based integrated MDA in January-March 2015 is considered the first treatment for STH, and a second STH treatment will be conducted together with SCH treatment in the same 47 districts targeted for SCH treatment. The integrated SCH/STH impact assessment will enable the NTDP to look at the STH

prevalence following 5 years of treatment. Decisions on future treatment for STH will be made during the planned review meeting in FY2015¹⁰.

Table 1 below provides a snapshot of the situation in Ghana for each of the 5 PC NTDs.

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

A	B	MAPPING GAP			MDA GAP DETERMINATION		G	H	I
		C	D	E	F	G			
Disease	Total No. of Districts in COUNTRY	No. of districts classified as endemic	No. of districts classified as non-endemic	No. of districts in need of initial mapping	No. of districts under a 'current MDA schedule' (prior to work plan discussions) MDA in FY15	No. of districts in need of MDA at any level, but MDA not yet started, or prematurely stopped (prior to work plan discussions)	No. of districts requiring DSA	No. of districts where criteria for stopping district-level MDA has been achieved	
LF	216	98	118	0	29	0	0	Pre-TAS: 14 Stop MDA TAS: 7 TAS1: 0 TAS2: 5	69 ¹¹
Onchocerciasis		135 ¹²	81	0	85	47 ¹³	50	Ent: 29 study sites Epi: 58 (66 sentinel sites)	0
SCH		216	0	0	216	0	0	216 (in 300 ecological zones)	0

¹⁰ The NTDP will also try to get funding from PCD and other local NTD partners for treatment of STH in districts that will not be treated for LF and SCH in FY2015 as SAC in all 216 districts in Ghana have to be treated at least once every year for STH.

¹¹ All 69 districts have successfully conducted and passed TAS (5 in 2010 and 64 in 2014)

¹² These 135 districts include the 50 hypoendemic districts with onchocerciasis prevalence 1%-19.99%.

¹³ Second round MDA in these 47 districts will be funded by APOC and Sightsavers 6 months after the first MDA. These districts are part of the 85 districts that were treated up to 2014 for onchocerciasis.

STH	16	200 ¹⁴	0	76 ¹⁵	140 ¹⁶	0	216 (in 300 ecological zones)
Trachoma	37	179	0	0	0	0	37 ¹⁷

Goals/Deliverables for the year 2015

Based on the progress made by the country program in previous years, the following goals have been set for the FY 2015:

- Continue with integrated community-based MDA for LF in 29 districts with a target of treating 1,953,200 persons; and MDA for Onchocerciasis in 85 districts with a target of treating 6,321,317 persons¹⁸.
- Conduct MDA for onchocerciasis for the first time (as part of the integrated community-based MDA mentioned above) in 50 hypoendemic districts targeting 4,753,215 persons by September 2015¹⁹.
- Continue MDA for SCH in 47 SCH-hyperendemic districts with a target of treating 4,094,192 persons (1,432,555 SAC and 2,661,637 high-risk adults (HRA)); and conduct a second MDA for STH in the same 47 districts targeted for SCH with a target of treating 1,146,044 SAC by September 2015.
- Carry out trachoma survey in all 37 endemic districts to obtain data on the SAFE strategy that will be used for verification of elimination of trachoma (prevalence of TF among children 1-9 years old; prevalence of TT among persons >14 years old; and information on the F and E component of the SAFE strategy) by September 2015.
- Conduct TAS for stopping MDA in 7 districts; TAS2 (second TAS after stopping MDA as part of post-MDA surveillance) in the 5 districts that stopped MDA in 2010; and Pre-TAS to decide whether to conduct TAS for stopping MDA in 14 districts by September 2015.
- Carry out epidemiological evaluation for onchocerciasis in 66 sentinel sites of 58 districts by September 2015.
- Conduct an impact assessment survey for both SCH and STH in 30 ecological zones selected to represent all 216 districts by September 2015. Hold a review meeting to revise treatment regimen for SCH/STH control in all 216 districts based on 2012 WHO guidelines on SCH and STH by September 2015.

¹⁴ Baseline studies show that 16 districts are endemic for STH but the MOH/GHS/NTDP has a policy of conducting at least 1 MDA for STH among SAC in all 216 districts because of the high level of poverty in almost all of the districts that can lead to a high reinfection rate for STH.

¹⁵ This is the treatment for LF in 29 districts that is considered as STH treatment and the integrated SCH/STH treatment in 47 districts in FY2015. Treatment in the remaining 140 districts should be covered by other partners. However, the numbers can change for other years when the SCH treatment will cover more districts.

¹⁶ These are the 140 districts that will not be treated for LF and SCH in FY2015.

¹⁷ This is the special study referred to in the text for trachoma that will hopefully provide data for verification of elimination of trachoma in Ghana.

¹⁸ Treatment for LF is considered treatment for STH. This means that the treatment for LF in 29 districts is the first treatment for STH using USAID funding and the remaining 187 districts (since all 216 districts have to be treated for STH at least once a year) will be treated with funding from Partnership for Child Development (PCD) with a target of treating 6,108,922 school-age children (SAC).

¹⁹ A second MDA for onchocerciasis in 47 hyperendemic districts with a target of treating 4,024,153 persons will be conducted with funding from Sightsavers and APOC.

- Conduct 4 meetings of the Intra-Country Coordination Committee (ICCC) and 1 annual review meeting.

PLANNED ACTIVITIES

Strategic Planning

The End NTDs in Africa (END in Africa) project is managed by a consortium led by Family Health International (FHI360) that includes organizations such as Deloitte (that is responsible for financial management and capacity building, Liverpool Associate for tropical Health (LATH) that is responsible for M&E and John Snow, Incorporated (JSI) that is responsible for supply chain management. FHI360 has a technical advisor for NTDs, Deloitte has a technical advisor for financial management, and LATH has a technical advisor for M&E all based in the FHI360 Ghana Country office in Accra. These advisors in collaboration with other colleagues in the headquarter offices will provide technical support to the NTDP when needed. JSI has no technical advisor in Accra but can always provide a consultant to meet the needs of the NTDP. Furthermore, serious capacity shortfalls were identified within the NTDP Ghana that lead to employment by FHI360 of the following staff that are based in the NTDP office and work almost entirely with the NTDP: A Community program manager who provides technical support to the NTDP Manager and his team on a day-to-day basis; an M&E Specialist that manages data generated within the NTDP and acts as liaison on all M&E issues within the GHS and between the NTDP and other NTD stakeholders; 2 Finance officers, who are responsible for all financial management issues and liaise between the NTDP, FHI360 Ghana Country Office and the GHS Finance Department. Another need for a Communication Support Consultant was addressed with the employment of a consultant for six months (March – August 2014) to support the NTDP in implementing a previously developed communications plan. The FHI360 Support team are based in the NTDP office and so will provide direct support to all activities implemented by the NTDP including planning, implementation of MDAs and DSAs, and supervision of all activities relating to MDAs and DSAs.

Update TIPAC for FY2015.

The NTDP was supported by the END in Africa project (the Deloitte Technical Advisor for financial management and capacity building) through a workshop on the tool for integrated planning and costing (TIPAC) in January 2013, during which the NTDP was trained to know and use the TIPAC to obtain data for making program decisions. Another workshop was held in October 2014 during which knowledge of the NTDP staff on TIPAC was refreshed and they were taught how to update the data for FY2014 in the TIPAC to obtain information that can be used for program planning. Another meeting will be organized in FY2015 for the NTDP staff to update the TIPAC with information for FY2015 with technical support from the END in Africa project. This activity is expected to be conducted in the first quarter of FY2015.

Support to review and update the Ghana five-year Master plan

The NTDP in Ghana is implementing annual operational plans that are based on the 2013-2017 NTD Master Plan. The NTD Program of the WHO Regional Office for Africa (AFRO) is organizing a meeting in July/August 2014 for the National NTDPs in Lusaka, Zambia, to review progress and achievements made with the Master Plans and also to update or develop another master plan for 2015-2020. Unfortunately, only 2 people are invited to this workshop and the NTDP representatives at this meeting (the program manager and a technical officer) will need to work with the rest of the NTDP to update the Master Plan after the WHO meeting. The END in Africa project will work with the NTDP to conduct a midterm review of the Master Plan taking cognizance of the recent achievements made by the NTDP with LF and trachoma, and also bringing in the most recent WHO guidelines and policies on NTDs.

Support to MOH to develop an annual work plan

FHI360 supports the NTDP in May each year to host a meeting of all NTD stakeholders in Accra, Ghana, during which plans for the following year is discussed and agreed on by all stakeholders. Participants in this meeting usually include representatives of the USAID NTD Program; FHI360 Headquarter staff; personnel of the END in Africa regional hub in Ghana, including FHI360 staff, Deloitte and LATH staff; and representatives from other organizations and agencies that support the NTDP in Ghana. The NTDP will receive support to conduct a similar work planning session in May 2015. The FHI360 support team that works directly with the NTDP will also support the NTDP to finalize the work plan, budgets, work books and other required documents for FY2016 and submit to USAID for approval.

Prepare projections for all NTD drugs for 2016.

The NTDP will be supported through the FHI360 support team within the NTDP and JSI in the second quarter of FY2015 to make projections and submit requests for all medicines that will be needed in FY2016. The WHO joint report and request forms will be used to request for ALB and IVM through WHO and the MDP. The NTDP will also make a request for FHI360 to procure PZQ and all special material needed for the DSAs (Kato Katz kits, Filtration Kits, Immunochromatographic cards (ICT)).

Update NTD National Database.

The Community Program Manager and the M&E Specialist in the FHI360 support team participated in the workshop organized by WHO and the Research Triangle Institute (RTI) ENVISION project on management of NTD database and data quality assessment (DQA) in 2014 in Nairobi, Kenya, after which the M&E Specialist was identified as one of those that will serve as facilitators when the database software will be introduced to countries supported by the USAID project. Through these 2 FHI360 technical officers the NTDP will be trained to use the national NTD database developed by ENVISION and will also be assisted to update the national NTD database with all available historical data.

To support the regional and district health authorities in capturing historical and future treatment data, the M&E specialist has developed a template to be used at the sub national levels for reporting NTD data. Two regions (with 51 districts) will be trained to use this template in FY2015. This will now form the basis for putting together required data as part of the dossier for verification of LF elimination in the near future.

Host meetings and synchronize treatment of cross border communities for Onchocerciasis and LF

During the last partners' meeting of the END in Africa project organized in Accra in April 2014, it was noted that countries sharing common borders have to meet regularly to share experiences in the management of PC NTDs and try to synchronize treatment in border communities so that people will not be missed through migration or movement across borders. It was also noted that a forum for cross-border collaboration already exists that includes Ghana, Togo, Burkina Faso, Benin and Cote d'Ivoire (3 of which are END in Africa supported countries) and that Ghana should host the next meeting of this forum. FHI360 through its office in Accra, Ghana, will support the NTDP to host this meeting in Accra, Ghana in FY2015 with the expectation that MDAs can be synchronized afterwards in border areas and that all countries will try to improve coverage within border communities.

Strengthen the capacity of the NTDP to conduct DSAs for all PC NTDs

The FHI360 support team and the END in Africa technical advisor will provide technical support to the NTDP during refresher trainings/trainings on the different DSA methodologies before the DSAs are conducted in FY2015. In instances when the technical assistance cannot be provided by the END in Africa project, FHI360 will sign a contract with local experts that can provide the technical support to the NTDP.

Support the NTDP to develop and implement a finance strategy

The END in Africa project through Deloitte is exploring ways of supporting NTDP to raise funds locally either within MOHs or among local private companies/organizations with the expectation that this will improve program sustainability especially when support from USAID ends. The END in Africa Project through Deloitte is organizing a training July 27 – August 2, 2014 at the Volta Hotel in Akosombo for the NTDP staff to improve their skill on local fund raising and financial sustainability. The objectives of the training will be to: Identify critical capabilities that are necessary to support NTDP sustainability; build critical planning and resource mobilization capabilities necessary to support NTDP sustainability, including specific skills on business case development, stakeholder mapping, using data to influence stakeholders, proposal writing, and advocacy and communications; and support GHS/NTDP in identifying and developing investment and public private partnership (PPP) opportunities through executing these skills. The END in Africa project will continue to support the NTDP to market the program's business case to the GoG and private organizations.

NTD Secretariat

To ensure smooth running of the secretariat of the national NTDP, FHI360 will provide financial resources to cover payment for the following services: vehicle maintenance; office stationery/supplies; utilities/internet; general office running cost; and also procurement of reagents and materials for the different surveys planned in FY2015 (ICT cards, Kato Katz and filtration kits, etc.).

The END in Africa project will also support the NTD Secretariat to conduct quarterly ICCC meetings and an annual meeting to review MDA reports from all the regions, identify challenges and determine the way forward with control/elimination efforts. These meetings serve as fora in which activities of the NTDP are reviewed by stakeholders and recommendations made for better program management.

Advocacy

The NTDP had already identified the need to advocate for more support for the NTDP in terms of resource allocated by the GoG, increase awareness of NTDs and their control/elimination strategies within the general population and, also increase awareness and support for NTDP activities within the business community and civil society. The addition of a Communication Support Consultant within the NTDP has had a significant impact on the advocacy and social mobilization conducted by the NTDP over the past 5 months. An NTD Ambassador, Mrs. Joyce Aryee (a well-recognized political and religious figure) was identified through the consultant and graciously consented to serve as NTD Ambassador in Ghana. The NTDP with technical support from the Communications Support Consultant was able to reproduce all the information, education and communication (IEC) materials planned for FY2014, including posters, banners, and billboards. With her support the NTDP was able to celebrate launching of the Master Plan, launching of the FY2014 MDA and celebration of the 1 billionth treatment of the USAID NTD program in Ghana in grand style with the participation of the Minister of Health, the NTD Ambassador, the Director General of the GHS and a representative of the Director of the USAID Mission in Ghana. She also contributed in the production of videos that were used in a short video production for the celebration of the 1 billionth treatment for NTDs by the USAID NTD program. The NTDP wishes to retain the services of this consultant in FY2015 so she will continue what she has already started. Advocacy activities being implemented are in accordance with the existing advocacy and communication plan developed by the NTDP Ghana in 2009 that has to be updated in FY2015.

Active engagement of NTD Ambassador

The NTD Ambassador will be engaged actively to support advocacy activities of the program within the MOH for increase of the funds allocated by the GoG to the NTDP; and also to improve awareness of the NTDP among private companies. 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 and government agencies for more support to the NTDP.

Media Engagement

As part of the advocacy and communication plan, the NTDP Ghana wishes to get the media involved in sensitizing affected communities (especially in urban and peri-urban areas) as the media plays an important role in advocacy and generating discourse on public health issues. A one day media briefing will be organized to educate and orient media personnel on NTD reporting. Field visit in areas where NTD activities are ongoing will be facilitated for media personnel (print, radio and television) to collate information and news stories for broadcast through the various media. The NTD media training package developed by ENVISION will be greatly appreciated for this activity.

Social Mobilization

Reproduction of IEC materials:

IEC materials which are already in use by the NTDP at school and community levels will be reviewed and reproduced as required for use in FY2015 since stocks of materials are depleted at the national level. IEC materials will be distributed as part of drugs and other supplies needed for MDA. Districts that are changing treatment for Onchocerciasis to cover the whole district (as previously treatment was conducted only in communities within districts that had onchocerciasis prevalence $\geq 40\%$) and those stopping treatment for LF will be sensitized using community meetings and local radio discussion programs for them to understand the need for the change and the way forward.

Success stories

The NTDP will document success stories and some of these will be shared in local print media to enhance acceptability of the program. To enhance the enthusiasm of regional and district teams to share success stories, the program will recognise and reward the best success stories from regions during the annual review meeting. Success stories will be shared with FHI360 in semi-annual reports.

Community Mobilization

Cultural practices are peculiar to different geographical areas and these practices determine the methods of mobilizing different communities. Community meetings, roof top announcements, community radio broadcast and the use of town criers to disseminate dates for MDA will be used more in more rural communities whilst health education and social mobilization in more urban will be intensified through local radio talk shows. CDDs will also be used to disseminate NTD messages within communities during MDA. All health education strategies used will be complemented by distribution of relevant IEC materials. Districts that will stop MDA after many years of treatment will be sensitized to accept their new status as well as support post MDA surveillance activities that will be implemented. Changes in strategy for LF, SCH, STH and Onchocerciasis will be communicated to districts and communities. In FY2015 the program will provide a budget line for community mobilisation as part of the drug distribution budget for districts and communities to use locally acceptable methods to communicate messages on MDA for NTDs.

Organize FY2015 MDA Launch

MDA will be officially launched by the Minister of Health to kick start the actual drug distribution in the communities. Photo exhibition will be done during the launch to showcase some key activities and successes achieved by the NTD program.

Capacity Building/Training

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. To be able to bring to the fore specific issues on SCM, the training manual has been updated with an addendum on SCM and standard operational procedures (SOPs) for drug management at all levels. Training will focus on the following specific areas: Endemicity of the PC NTDs, social mobilization for MDA, MDA implementation, MDA supervision and monitoring, SCM and SOPs for MDA drug management, management of adverse events (AEs) and severe adverse events (SAEs) and record keeping and reporting after MDA. However, with the development of a national database for the NTDP there is need to train GHS personnel that are involved in the NTDP nationwide so as to improve overall data management within the NTDP. The NTDP started capacity building to replace the laboratory staff that are retiring in FY2014. New laboratory technicians were trained on TAS in February 2014. This training is expected to continue just before specific DSAs in FY2015 to build capacity of national and regional GHS staff to undertake surveillance for all PC NTDs. Table 2 below shows the numbers and types of trainings/refresher trainings that will be conducted in FY2015.

Table 2: 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			
Central Level	TAS and PreTAS for LF, epidemiological survey techniques for onchocerciasis, Kato Katz and filtration techniques for SCH/STH	30	0	30	14	National NTD Laboratory	
Central Level	National NTD database	20	0	20	5	National Office	

MOH/MOE at Central Level	<ul style="list-style-type: none"> • MDA supervision and monitoring • MDA implementation • SCM and SOP for MDA drug management • Social mobilization for MDA • Record keeping and reporting after MDA 	0	20	20	1	National Office	
Supervisors	<ul style="list-style-type: none"> • MDA supervision and monitoring • SCM and SOP for MDA drug management • Social mobilization for MDA • Record keeping and reporting after MDA 		3,600	3,600	1	Regional /District Health Directorates	
Supply chain managers	<ul style="list-style-type: none"> • MDA implementation • SCM and SOP for MDA drug management • Record keeping and reporting after MDA 		200	200	1	Regional/District Health Directorates	
Drug distributors	<ul style="list-style-type: none"> • SCM and SOP for MDA drug management • Record keeping and reporting after MDA 		20,000	20,000	1	Sub district Health Centers	

Mapping

Planned supplemental mapping needs:
Mapping for all diseases has been completed²⁰.

MDA

There will be two rounds of MDA conducted in 2015 as listed below:

²⁰ Selection of high risk SCH endemic communities has been completed in 7 regions with support from the WHO Country Office in Ghana. In FY2015 the program plans to complete this exercise in the Greater Accra Region, Central and Western regions to further focus SCH community treatment and accurately determine the number of HRAs to be treated for SCH. This is not supplemental mapping for SCH but rather identification or selection of high risk communities within districts that have already been mapped. The process does not involve sample collection but working with the districts to list these communities for each category A and B districts.

MDA for LF, Onchocerciasis and STH

One integrated round of MDA for LF, Onchocerciasis and STH is planned to take place in February/March 2015. For LF²¹ and onchocerciasis the MDA will be community-based using the door-to-door delivery method and for STH the MDA will be school-based treatment. This will include MDA in 26 districts for LF only, MDA in 82 districts for Onchocerciasis only and MDA in 3 districts coendemic for both Onchocerciasis and LF. The NTDP is planning to expand treatments to cover whole districts that are endemic for onchocerciasis instead of just treating communities with baseline prevalence $\geq 20\%$ and also to 50 districts that were considered hypoendemic for onchocerciasis (based on baseline studies) in line with the paradigm shift towards elimination of onchocerciasis in Africa. If the proposal to treat in the 50 districts is approved by USAID, then the total number of districts to be treated for onchocerciasis during the first integrated community-based MDA will be 135. It is believed that Ghana being an ex-Onchocerciasis Control Program (ex-OCP) country can achieve elimination of onchocerciasis in most foci by 2025. The STH MDA will be conducted in all 216 districts as part of the first integrated community-based MDA. This will include the 29 districts treated for LF (LF MDA is considered STH MDA because ALB is used)²². Planning meetings, trainings, drugs and supplies distribution, and community mobilization for this MDA will start in January/February 2015. IEC materials will be reproduced and distributed with the medicines and other MDA supplies and community mobilization will be conducted as described above depending on the level. Actual mass administration of drugs to at-risk populations is expected to last for 5 to 7 days.

MDA for SCH and STH

An MDA will be conducted for SCH in the 47 SCH-hyperendemic districts. This MDA will be both school-based and community-based: SAC will be targeted in schools whilst high-risk adults will be targeted in communities. A second MDA for STH will also be conducted in the same 47 districts targeted for SCH. It is expected that with this plan the NTDP will provide STH treatment to all SAC at least once a year²³.

Trachoma

Ongoing surveillance activities have not revealed any more communities requiring treatment for trachoma and the last community requiring treatment will complete the third year of treatment in FY2014. Even though surveillance activities for FY2014 have not been completed, it is not expected that any hotspot communities will be found. The NTDP is instead planning to conduct a survey to obtain data that will be used for verification of elimination of trachoma in Ghana. The continuation of the trachoma program will depend on guidelines from WHO and the NTD-RPRG. Activities have to be conducted to verify absence of trachoma transmission and post-treatment surveillance of some sort will have to continue even after transmission is verified.

²¹ The LF MDA in 29 districts is considered MDA for STH because ALB is used for LF treatment.

²² The remaining 187 districts will hopefully be supported through funding from PCD and other local NTD partners.

²³ A second round of community-based treatment will be conducted for onchocerciasis (round 2) in the 47 hyper endemic districts with drug distribution estimated to last also for 5 to 7 days.

Table 3: USAID-supported districts and estimated target populations for MDA in FY15

NTD	Age groups targeted (per disease workbook instructions)	Number of rounds of distribution annually	Distribution platform(s)	Number of districts to be treated (as of June 2014)	Total # of eligible people targeted (as of June 2014)
Lymphatic filariasis	<i>Entire population ≥ 5 years</i>	1	Community MDA	29	1,953,200
Onchocerciasis	<i>Entire population ≥ 5 years</i>	2*	Community MDA	85 ²⁴ 50	6,321,317 4,753,215
Schistosomiasis	<i>SAC and High risk Adults</i>	1	School and Community based	47	4,094,192
Soil-transmitted helminths	SAC	2 ²⁵	School based	29	1,953,200 ²⁶
				47 ²⁷	1,146,044
Trachoma	-	-	-	0	0

*

MDA Challenges

A small number of districts could not reach the effective epidemiological and program coverage in FY2013 (FY2014 MDA results are either not available or incomplete) due to the challenges mentioned below. The number of districts that did not meet epidemiological and program coverage, the reasons for poor performance and recommended solutions are noted in Table 4 below.

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

- 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 and also to avoid competition with other public health programs that conduct community-based activities. The NTDP has not been able in the past 3 years to conduct MDA between January-March because somehow work and budgets are approved in October-November each year and funds are received towards the end of the year. As DSAs for LF and onchocerciasis have to be conducted before the MDAs, DSAs are conducted early in the year and MDAs end up being conducted after April the following year.

²⁴ The first MDA will involve 85 plus 50 districts and *the second round of Onchocerciasis treatment (supported by Sightsavers and APOC) will be limited to 47 hyperendemic districts with a population of 4,024,153.*

²⁵ *Two (2) MDAs are planned for STH in FY2015.* The first MDA will be the LF treatment in 29 districts that is considered STH treatment and the second MDA will be conducted in the 47 districts targeted for SCH treatment. The NTDP Ghana will also make efforts to implement STH treatment in districts not treated for LF and SCH.

²⁶ This is the LF MDA that is considered treatment for STH.

²⁷ This treatment will be integrated with SCH treatment in 47 districts.

- Lateness in receiving treatment results from districts after MDAs.
- Absence of specific WHO guidelines for post-MDA surveillance for the 5 PC NTDs.
- Poor quality of data submitted.
- Few areas within some districts were detected to be hotspots for LF with microfilaremia prevalence $\geq 1\%$ during the last 2 pre-TAS. These districts subsequently failed the pre-TAS and had to be treated for 2 more years.

However all of these challenges are already being addressed and the NTDP will continue to address them in FY2015. The employment of an M&E Specialist to work within the NTDP is yielding results already and data reporting is improving gradually. The M&E Specialist has developed a new reporting template for data collection at regional and district levels and will conduct trainings in collaboration with the LATH M&E technical advisor on the use of this template to improve quality and timeliness of data reporting. The NTDP believes that the change in strategy to redefine the implementation unit for onchocerciasis treatment from community-level to district-level will correct the poor estimation of community populations which have in previous years led to program coverage greater than 100% in some onchocerciasis endemic districts. FHI360 is also working on ensuring that funds are provided for DSAs as early as October each year so that community based MDAs can be conducted in February-March the following year. FHI360 is also working with international NTD stakeholders to support WHO in developing specific guidelines for post-MDA surveillance of PC NTDs. The NTDP had also intensified BCC and supervision in the districts that failed the last 2 pre-TAS. This will be continued in FY2015 to ensure that these districts pass the next planned pre-TAS and TAS.

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

Epidemiological coverage targets are defined below.

Programmatic coverage targets are $\geq 80\%$ eligible population

NTD	Total number of districts treated in FY13*	Epidemiological coverage targets	Number of districts that did not meet coverage targets in FY14*	Reason(s) for poor district performance	Proposed remediation actions
Lymphatic filariasis	70	$\geq 65\%$ epi coverage ; $\geq 80\%$ Prog coverage	Epi: 23 Prog: 23	<ul style="list-style-type: none"> ❖ Poor compliance to treatment within some at-risk communities. ❖ Poor quality of data reported (most districts reported either more than 100% or less than 65% program coverage either because denominator used is incorrect or the data reporting tool used does not accurately capture the treatment figures, 	<ul style="list-style-type: none"> ❖ Strengthen BCC within affected districts through the Communications Support Consultant. ❖ Conduct DQA and implement recommendations of DQA. ❖ Train regions and districts on

				especially for onchocerciasis and LF)	use of new reporting template.
Onchocerciasis	73	>=65% epi coverage ; >=80% Prog coverage	Epi: 2 Prog: 2	<ul style="list-style-type: none"> ❖ Poor compliance to treatment within some at-risk communities. ❖ Poor quality of data reported (most districts reported either more than 100% or less than 65% program coverage either because denominator used is incorrect or the data reporting tool used does not accurately capture the treatment figures, especially for onchocerciasis and LF) 	<ul style="list-style-type: none"> ❖ Strengthen BCC within affected districts through the Communication s Support Consultant. ❖ Conduct DQA and implement recommendations of DQA. ❖ Train regions and districts on use of new reporting template.
Schistosomiasis	-	>=75% epi coverage of SAC	Epi: 0 Prog: 0	-	-
Soil-transmitted helminths	170	>=75% epi coverage of SAC	Epi: 0 Prog: 0	-	-
Trachoma	6**	>=80% epi coverage	Epi: 0 Prog: 0	-	-

**Reports on FY2014 MDAs not yet available (or incomplete); FY2013 MDA reports are referred to here. Figures reflect previous district arrangements before the redemarcation was done.*

*** 8 hotspot communities were treated in 6 districts as part of the post-MDA surveillance.*

Drug and Commodity Supply Management and Procurement

Drug quantification was done in June 2014 for all medicines to be used in FY2015 and a joint request for selected medicines has already been sent to WHO for approval. The estimation for PZQ was done by the program with technical support from FHI360 (JSI). The PZQ for 2013 and 2014 were delayed due to in-country regulatory challenges. These challenges are being resolved but the NTDP is trying to get 4.5 million PZQ tablets through WHO that are donated by Merck for the FY2014 SCH MDA that is planned for September 2014 in 140 districts. The estimated PZQ requirement for FY2016 will be determined after the SCH/STH survey and the SCH/STH review meeting planned for FY2015.

Drugs will be received at the Central Medical Stores (CMS) from the ports when they arrive in the country and distributed to Regional Medical Stores (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 has started shifting responsibility for managing NTD medicines from the district level focal points to

district pharmacists based at the district level and this will be extended to all districts in FY2014. Unused drugs after treatment will be retrieved to the RMSs for storage or redistribution during the next MDA. Expiration of drugs for treating NTDs is not anticipated because of the strict practice of the ‘first-in first-out’ principle in the medical stores but if this occurs then expired drugs will be destroyed (incinerated) according to GHS policies and regulations.

During the planned cascade trainings, GHS and GES personal will be trained to identify and refer all AEs to the nearest health facility. At the facility level, the health workers will fill out a pharmacovigilance form and report all SAEs to the district health authorities and the FDA representative in the district. Cases of 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 (NHS) scheme 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 then informs partners of any SAE including the FHI360 NTD project Director, USAID, the drug manufacturing companies and WHO.

Table 5 below shows details of medical items that USAID has to procure for implementation of NTD activities in FY2015.

Table 5: PROJECT Drug and Commodity Procurement (USAID-specific)

Drug/commodity	USAID support mechanism (e.g., ENVISION, SCORE, END)	Quantity (tablets/tubes) to be procured	Date of application (MM/YR)	Expected delivery date of drugs (MM/YR)
ICT Cards	End in Africa	6,000	July/2014	October/2014
Other:				
Kato Katz kits	End in Africa	30 by 400 tests	July/2014	October/2014
Filtration kits	End in Africa	30 by 400 tests	July/2014	October/2014

Supervision

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 team.

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 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 2.

Short-Term Technical Assistance

There will be only one technical assistance need for the NTDP in FY2015. Ghana started MDA for SCH in 2009 and has treated for 4 years. The SCH MDA in September 2014 (FY2014) will be the 5th round of SCH MDA and the NTDP has not conducted any survey after 2009 to determine impact. The laboratory technicians that will be involved in the SCH/STH impact assessment will need training and supervision by an expert because they have not conducted this survey for 6 years.

Table 6: Technical Assistance request from END in Africa

Task-TA needed (illustrative example below)	Why needed	Technical skill required	Number of Days required and anticipated quarter
TA to conduct training and supervision of impact assessment of SCH/STH treatment after 5 years of MDA. ²⁸	<i>The last survey was done over 6 years ago and the technical team will require refresher training to conduct this assessment</i>	<i>Expertise in Kato Katz and filtration techniques</i>	<i>3 weeks (1 week for training and 2 weeks for field supervision)</i>

M&E

Plans for Reporting Project Data

For FY15, MDA data will be reported through the Diseases and Program Workbooks semiannually. The program intends to make supportive visits to districts that historically have challenges with data quality to support them improve on their data quality. This will be done immediately after MDA to ensure that data is cleaned before reporting. The END in Africa project will continue to support the NTDP to report treatment figures that are disaggregated by gender.

Key M&E Needs and Plans

As part of improving M&E for NTDs, the Program will complete updating of the National Database Template for Ghana with all available historical data. The key program staff at the national level will be trained to update and use the national database to generate and customize reports to meet partner requirements. The reporting template developed by the M&E specialist will be introduced to the regional and district health authorities through trainings that will be conducted in FY2015 for two regions (51 districts) just before MDAs. Trainings in other regions will be conducted in subsequent years.

Changes in M&E Strategy

LF: The impact of program implementation will continue to be assessed as required. Specifically pre-TAS will be conducted in 14 districts and TAS in 12 districts (7 districts will conduct TAS for stopping MDA and 5 districts will conduct TAS2 for LF). Post MDA surveillance is already ongoing in 5 districts where the last TAS (TAS2) will be conducted. Post MDA surveillance activities will be started in the 64 districts that will stop MDA after FY2014.

Trachoma: The last trachoma survey was conducted in 2008, which showed that WHO criteria for stopping MDA had been achieved at the district level in all 37 endemic districts. The 8 communities that were identified through ongoing surveillance to have TF among children 1-9 years old above 5% have had three rounds of treatment. The program will carry out an assessment survey in FY2015 to obtain data in preparation for eventual verification of elimination.

Onchocerciasis: Oncho treatment has been targeting endemic communities with prevalence $\geq 40\%$ up to FY2014. In FY2015 subject to USAID approval treatment will be extended to cover whole districts and also the 50 hypo endemic districts previously not treated in a move towards elimination of onchocerciasis by FY2025.

SCH/STH: Having conducted 4 rounds of treatment for SCH and another round to be conducted in September 2014 (bringing the total number of MDA rounds for SCH to 5) the program will carry out an

²⁸ This includes treatment to be conducted in September 2014

integrated impact assessment survey of SCH and STH with the aim of using the results to revise the treatment regimen for the two diseases after FY2015.

Planned Coverage Surveys

In addition to data quality assessment (DQA) that will be conducted by the NTDP Ghana in FY2015, the program will conduct coverage surveys to assess the community level drug distribution coverage in districts that report very low or greater than 100% program coverage in FY2016. This will help verify coverage reports and clarify the reasons for these unusual reports to be able to address them.

Plans for disease-specific assessments and post-treatment surveillance in FY2015

Table 7 below summarizes planned DSA for specific diseases in FY2015. For LF, Pre-TAS will be conducted in 14 districts, TAS in 7 districts and TAS2 in 5 districts. For onchocerciasis, epidemiological evaluation will be conducted in 66 sentinel sites of 58 districts. The NTDP Ghana had identified 183 villages nationwide in 2009 that are used as sentinel sites for onchocerciasis surveillance activities. According to APOC Technical Consultative Committee (TCC) guidelines, each of the 183 villages has to be evaluated once every 3 years. Since it is cumbersome to evaluate all 183 villages in one year, the NTDP Ghana has put the 183 villages (sentinel sites) into 3 groups. This group of 66 villages was evaluated in 2012 and now has to be reevaluated in 2015. This surveillance strategy is in line with a 5-year oncho surveillance plan developed by the NTDP Ghana. The NTDP is planning to treat for SCH in September 2014 (FY2014 work plan) and conduct an integrated impact assessment survey for SCH and STH for revision of treatment strategy at least 6 months after the SCH treatment. A review meeting will follow during which survey results will be discussed and the treatment regimen of both diseases will be adjusted for each district based on survey findings. A trachoma survey is planned to obtain data on TF among children 1-9 years old, TT among persons >14 years, and information on the F and E components of the SAFE strategy. It is expected that the data obtained will be presented to the NTD-RPRG for possible verification of elimination of trachoma in Ghana.

Table 7: Types of DSAs to be conducted in FY2015

Disease	Types of Assessments			
	Epidemiological Survey	Entomological Survey	Pre TAS	TAS
LF	No	No	Yes	Yes
Onchocerciasis	Yes	No	NA	NA
SCH/STH	Yes (integrated impact assessment survey)	NA	NA	NA
Trachoma	Yes (survey to obtain data that can be used for verification of elimination)	NA	NA	NA

Review of DSA results

LF: All districts in which Pre-TAS is conducted and report a microfilaremia rate of below 1% will be recommended for TAS the following year. For districts that conduct stopping MDA TAS, MDA will be stopped in those that pass the TAS (i.e. districts that have ICT positive or antigenemia rates that are below the critical cut-off values recommended by WHO). Districts that pass TAS2 will intensify efforts to build their dossier for verification of elimination. Reports of PreTAS, TAS for stopping MDA and TAS2 will be presented to the NTD-RPRG for review and approval.

Trachoma: Results of the planned survey will be presented to the NTD-RPRG for review and a decision to verify elimination will have to be made by the NTD RPRG. It is hoped that the protocol for this survey will be widely reviewed so that the experience in Ghana can be used to develop guidelines for verification of trachoma elimination in other countries.

Onchocerciasis: Results of the epidemiological evaluations will be discussed with APOC and compared with ONCHOSIM predictions to see how these districts are progressing towards elimination of onchocerciasis. ONCHOSIM is a simulation model developed for APOC by ERASMUS University that has predicted epidemiological values based on years of treatment. The results of this survey should either be at par with the predicted values or better than predicted values for the districts to be considered as progressing well towards elimination. Those with higher values than predicted have to be further assessed to determine the reasons for the poor performance, and these reasons have to be addressed by the NTDP in future years.

SCH/STH: A review meeting of local and international experts will be convened in FY2015 to review the results of the SCH/STH survey and treatment regimen for the two diseases will be revised after FY2015.

Strategies for addressing DSAs that do not achieve critical cut off.

LF: All districts that fail PreTAS (microfilaremia \geq 1%), Stopping MDA TAS and TAS 2 (ICT positives above WHO-recommended critical cut off values) will conduct MDA for two more years and repeat the test.

Development and Implementation of Post treatment surveillance:

Post treatment surveillance for trachoma is presently ongoing and expected to end in FY2014. The NTDP is now requesting for verification of elimination. Post treatment surveillance for LF will continue in 69 districts after FY2014 but this surveillance will be mainly active (TAS, TAS1 and TAS2).

Data Quality Assessments (DQAs)

DQAs are independent assessments conducted to determine the capacity of NTDPs to collect data at central, middle and lower levels and to also determine the quality of data submitted to the national level. The NTDP will conduct a DQA in the second quarter of FY2015 after the community-based MDA. The teams will include representatives from international and national stakeholder organizations. The findings from the DQA will aid in the development of an action plan which will be implemented to improve on data quality and the overall improvement of the health management system.

Specific M&E challenges anticipated for DSAs

The NTDP has identified the following challenges for DSAs: Absence of WHO guidelines for post treatment surveillance; need for training of new laboratory technicians to conduct the DSAs; need to establish passive surveillance for LF. To address these challenges for DSAs the NTDP will continue training of new laboratory technicians and will start discussion with the University of Ghana in FY2015 to put in place a passive surveillance system for LF. The USAID NTD program and the END in Africa project is collaborating with WHO, the NTD-RPRG and other international NTD partners to develop concrete guidelines for post-MDA surveillance of all PC NTDs.

Planned fixed obligation grants (FOGs) to local organizations and/or governments

All activities planned for FY2015 will be put in 5 FOGs as indicated in Table 8 below. A fifth FOG (FOG 5) has been created to include activities that cannot be completed by the NTDP Ghana before September 30 2014 and have to be conducted in the first quarter of FY2015.

Table 8: Planned FOG recipients

FOG recipient	Number of FOGs	Activities
GHS (NTDP)	5	<ul style="list-style-type: none"> • FOG 1 <ul style="list-style-type: none"> ○ National post MDA review meetings ○ TIPAC update for 2015 ○ Training of Trainers- LF, Oncho STH MDAs - supervision and facilitation ○ General Monitoring and Supervision of NTD and LF-Oncho-STH ○ Carry out Pre TAS in 14 LF districts that have completed more than 7 rounds of MDA ○ Carry out TAS in 3 EUs (12 districts) which have attained an LF prevalence of less than one percent • FOG 2 <ul style="list-style-type: none"> ○ Intra country coordinating committees meetings ○ Mid Term Review of Master Plan ○ Conduct one integrated round of community-based MDA for LF, Oncho and STH in 111 districts • FOG 3 <ul style="list-style-type: none"> ○ Training of Trainers- School Base MDA ○ Data Quality Assessment Training and Implementation ○ Training on NTDs Database / DQA ○ Data Management and related issues (M&E System, Reporting Levels, Data Storage and use, and data quality) ○ School Based MDA • FOG 4 <ul style="list-style-type: none"> ○ Training of Trainers - Oncho 50 Additional Districts ○ Trachoma Survey ○ SCH/STH Survey ○ Epi Survey ○ Conduct one integrated round of community-based MDA for - 50 additional Oncho districts ○ • FOG 5 <ul style="list-style-type: none"> ○ FY14 National post MDA review meeting ○ Conduct FY14 National Training for School Based MDA for Schistosomiasis (SCH) ○ Conduct FY14 School based MDA in 140 districts

Table 9: NTD partners working in country and summarized activities

Partner	Location	Activities	Is USAID providing financial support to this partner?
Volta River Authority	Accra and Akosombo	Funding for SCH MDA in Volta and Eastern regions	No
Partnerships for Child Development	Accra	Funding for STH treatment	No
APOC	Ouagadougou	Technical support and funding for Onchocerciasis control. Funding for Oncho round 2 treatment	No
CNTD	Liverpool	Technical and financial support for LF elimination activities in Greater Accra Region	No
WHO	Accra/AFRO	Technical and financial support for NTD control: serves as consignee for drugs received through MDP and WHO; supports identification of high risk communities for SCH.	
Sightsavers	Accra	Technical support and funding for oncho and trachoma elimination activities in Ghana	No
The United States Center for Disease Prevention and Control (CDC)	Georgia, USA	Technical support and funding for operational research relating to LF and STH.	No

Looking Ahead

- The following activities have been identified as key by the NTDP in Ghana and are to be addressed for the successful implementation of the NTD program in Ghana: morbidity management activities for LF including training for hydrocele surgery, and training and implementation of lymphedema management; and post-MDA surveillance for LF in 61 districts of 7 regions. The NTDP will appreciate any financial support that will enable the program conduct trainings for hydrocele surgery. It is expected that after surgeons are trained on the new surgical method that prevents recurrence of hydrocele, the National Health Insurance Scheme in Ghana will cover costs relating to the operations themselves. Training will be needed for community volunteers and district health workers on management of lymphedema and funds will be needed for these volunteers and district health workers to train people with LF related lymphedema and provide them with basic materials such as soap and towels during the trainings until they master the method of keeping their feet clean and dry at all time. The NTDP Ghana is currently preparing a proposal for post-MDA surveillance for LF in the 8 districts of the Greater Accra Region that will be supported by CNTD Liverpool. However, there are

61 other districts in the other 7 regions that have stopped MDA for LF and the NTDP Ghana still needs support to undertake post-MDA surveillance for LF in these 7 regions. The NTDP Ghana is proposing that two (2) districts that have stopped MDA for LF be selected from each of the 7 regions using the following criteria: baseline prevalence for LF and district performance during the MDA period. Among the districts that have stopped MDA for LF in the 7 regions, districts with relatively higher baseline prevalence and districts with relatively lower reported treatment coverage during MDA campaigns will be selected for the post-MDA surveillance. The NTDP Ghana is willing to collaborate with other NTD partners recommended by FHI360 and USAID to establish post-MDA surveillance in these districts.

Table 10: Remaining gaps to be addressed

Identified gap or activity	Would external support be needed –funding or technical (outside of existing partners)?	Estimated time needed to address activity	Estimated cost to carry out activity (US\$)
Training of surgeons on the new surgical method that prevents recurrence of hydrocele	Yes: funding.	2 years	50,000
Cascade training of volunteers, health workers and people with lymphedema on lymphedema management	Yes: funding	2 years	100,000
Implementation of post-MDA surveillance for LF in 61 districts of 7 regions	Yes: funding	6 years	500,000

Figure 1: USAID NTD support map

All regions in Ghana receive USAID support for MDAs, DSAs and other activities for at least 1 of the NTDs targeted through preventive chemotherapy (PC NTDs).

