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USAID NEGLECTED TROPICAL DISEASE PROGRAM 2016 EVALUATION

March 2018

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Cover photo: Schoolchildren participating in a deworming program, Katosi School, Mukono District, Uganda. Credit: G. Burnham

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Global Health Program Cycle Improvement Project
1331 Pennsylvania Avenue NW, Suite 300
Washington, DC 20006
Phone: (1-202) 625-9444
Fax: (1-202) 517-9181
http://ghpro.dexisonline.com/reports-publications

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ACRONYMS

AFRO	Regional Office for Africa (WHO)
APOC	African Programme for Onchocerciasis Control
BCC	Behavior change communication
BMFG	Bill & Melinda Gates Foundation
CARN	Central Africa Regional Network
CDC	Centers for Disease Control and Prevention
CDD	Community directed distributor
CDTI	Community directed treatment with Ivermectin
CHW	Community health worker
CLs	Community leaders
COR-NTD	Coalition for Operational Research on Neglected Tropical Diseases
CPs	Community promoters
CSO	Civil society organization
DEC	Diethylcarbamazine
DFID	Department for International Development (UK)
DHIS	District Health Information System
DQA	Data Quality Assessment Tool
DRC	Democratic Republic of the Congo
DSA	Disease-specific assessments
END	End Neglected Tropical Diseases project
EPI	Expanded Program on Immunization (WHO)
EPIRF	Epidemiological Data Report Forms (WHO)
ESPEN	Expanded Special Project for Elimination of Neglected Tropical Diseases
EU	Evaluation unit
FOG	Fixed obligation grant
FY	Fiscal year
GSK	GlaxoSmithKline plc
HDI	Health and Development International
HIS	Health information system
HMIS	Health Management Information System
HNTDCP	Haiti NTD Control Program
IDA	Ivermectin, diethylcarbamazine citrate, and albendazole
IEC	Information, education, and communication
IP	Implementing partner
IR	Intermediate Result
ITI	International Trachoma Initiative
ITN	Insecticide-treated bed nets
IVM	Integrated vector management
JRF	Joint reporting form
JRSM	Joint Request for Selected PC Medicines (WHO)
JSI	John Snow, Inc.

LF	Lymphatic filariasis
M&E	Monitoring and evaluation
MCNH	Maternal, child, and newborn health
MDA	Mass drug administration
MDP	Mectizan Donation Program
MDSC	Multi-disease Surveillance Centre
MMDP	Morbidity Management and Disability Prevention
MOE	Ministry of education
MOH	Ministry of health
NGO	Nongovernmental organization
NNJS	Nepal Netra Jyoti Sangh
NPO	National Professional Officer (WHO)
NTD	Neglected tropical diseases
NTD-SC	Neglected Tropical Diseases Support Center
OCP	Onchocerciasis Control Program
OEPA	Onchocerciasis Elimination Program for the Americas
OR	Operational research
PC	Primary care
PCT	Preventive chemotherapy
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary health care
PMI	President's Malaria Initiative
RMNCH	Reproductive, maternal, newborn, and child health
RTI	Research Triangle Institute (formerly)
SAFE	Surgery, antibiotics, facial cleanliness, and environmental improvement (WHO)
SARN	Southern Africa Regional Network (WHO)
SCT	Supervision Coverage Tool
SCI	Schistosomiasis Control Initiative
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOW	Statement of work
SRNs	Sub-regional networks
STH	Soil-transmitted helminths
TAS	Transmission Assessment Survey
TIPAC	Tool for Integrated Planning and Costing (RTI International)
TIS	Trachoma Impact Survey
USAID	United States Agency for International Development
WARN	West Africa Regional Network (WHO)
WASH	Water, sanitation, and hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

THE EVALUATION

In 2016, the United States Agency for International Development (USAID) commissioned an independent evaluation of its Neglected Tropical Diseases (NTD) Program. This evaluation, on the program's 10th anniversary, was carried out by the Johns Hopkins Bloomberg School of Public Health under the Global Health Program Cycle Improvement Project (GH Pro) contract.

The evaluation's purpose was to answer four key questions:

1. Global leadership: How have the USAID NTD Program and implementing partners (IPs) influenced global policy and best practices?
2. Program implementation strategy: Is the USAID NTD Program's current strategy the best approach for achieving the 2020 goals at the country level?
3. Capacity building/country ownership: Has the USAID NTD Program built country capacity and country ownership of the program?
4. Progress toward achieving elimination/control: Are USAID-supported countries on track to achieve the World Health Organization's (WHO) NTD 2020 elimination and control goals for the diseases supported in the program?

In addition, this evaluation was to capture any unanticipated consequences of "at scale," integrated mass drug administration (MDA) programs in participating countries. The evaluation included a desk review of program materials, field visits to seven countries, telephone interviews with stakeholders, and an online survey of persons working with national NTD programs.

BRIEF HISTORY AND BACKGROUND

The term "neglected tropical diseases" became common in 2005 as a grouping of diverse diseases. The establishment of WHO's Department of Control of Neglected Tropical Diseases in 2005 focused attention on what are now about 20 conditions. Of these, there are five diseases for which effective preventive chemotherapy (PCT) programs exist: onchocerciasis, lymphatic filariasis (LF), trachoma, schistosomiasis, and soil-transmitted helminths (STH) (the latter of which are four species of intestinal nematodes). In all, about 1 billion persons are at risk for at least one of these five PCT program diseases. To address these diseases, there were some ongoing national and international donors in place before the WHO NTD program began. Other programs developed subsequently, but treatment generally functioned without much international coordination among the programs.

In 2006, USAID launched the "NTD Control Program" for the five PCT NTDs. Phase I was *Proof of Principle,* which ran from 2006 to 2010. The US$70 million budget over those four years helped establish the basis for an integrated NTD program format in 12 countries. Phase II (2010-2015), the *Expansion Phase*, followed with a $516 million budget covering 31countries. Emphasis was on developing methods for planning and management in order to scale up coverage. Currently, Phase III (2016-2020), the *Acceleration Phase,* has a budget of $100 million/year to date. In this phase, the focus is on sustaining coverage, carrying out impact evaluations, and promoting where feasible the elimination dossier development for three of the NTDs. A morbidity management component was included in this third phase, but this component was not covered in the evaluation.

The USAID NTD program objectives are centered around four intermediate results (IRs), as follows:

IR 1: Increased MDA coverage among at-risk populations in endemic communities.

IR 2: Improved evidence base for action to control/eliminate targeted NTDs.

IR 3: Strengthened environment for the implementation of integrated NTD control and elimination programs.

IR 4: Management of disease morbidity.

The USAID NTD *program targets* are to eliminate lymphatic filariasis and trachoma as a public health problem by 2020, a target consistent with the WHO 2020 goals. For onchocerciasis, the target is to eliminate transmission in the Americas and selected countries in Africa, where feasible. The target for STH and schistosomiasis is to reach 75% coverage of school-age children in 100% of the supported countries.

The *program approach* is to promote the integration of disease control activities into national NTD programs, leverage donated drugs, and expand treatment coverage of MDA for the five PCT diseases.

ACHIEVEMENTS

The USAID NTD Program started in 2006 in five "fast track" countries: Mali, Ghana, Niger, Burkina Faso, and Uganda. As of early 2017, the program supported 31 countries in Africa, Asia, and the Americas (a total of 33 countries have been involved over the 10 years of the program). Program activities support WHO's 2020 NTD goals, its *Roadmap for Implementation*, and the *Guidelines for Coordination* in participating countries. Program activities were carried out through two implementing organizations, RTI International and FHI 360, and their sub-awardees.

In each partner country, USAID helped to bring together varied and separate disease control programs into an integrated national NTD program, to develop a steering committee and a technical committee, and to create a country-specific NTD masterplan. USAID also provided support to national programs to complete disease mapping, estimate drug needs, strengthen community distribution, and evaluate program impact. Extensive efforts went into the development of advocacy materials, particularly for government and community leadership. The goal was and is to build national ownership of NTD programs through program support.

Process and Management

The initial focus of the USAID program was the control of the five PCT NTDs in selected countries, and elimination of their public health consequences. This focus was consistent with the WHO NTD program for systematic, large-scale interventions. The goals are increasingly seen by many in the NTD community as the elimination of disease, and not just the control of the public health consequences, although some countries voiced concern about the increasing complexity of the program.

Implementing the USAID Approach

Partnerships. USAID's NTD Program achievements have been facilitated through its partnerships, and pharmaceutical donations are at the core of NTD control and elimination efforts. The USAID program has been able to leverage these donations and encourage additional resource support. An important USAID contribution to date has been supporting the development of what is now the WHO joint application process for pharmaceutical donations. Strengthening the supply chain with higher quality treatment data has improved in-country drug management. The total value of donated medicines for USAID-supported countries was estimated at $15.7 billion as of 2016.

Along with the key pharmaceutical donations from manufacturers, the partnership with the WHO NTD department has enabled the USAID NTD Program to help USAID partner countries introduce

integrated, evidence-driven programs to address disease. Connections with the Bill & Melinda Gates Foundation have supported important research studies to improve treatment programs. An excellent working relationship with the United Kingdom's Department for International Development (DFID) has helped to address areas where the USAID program did not operate. Facilitating the integration of national NTD programs, with strong USAID support, has been a signal achievement. Building the partnerships among country programs has encouraged efficient and standardized approaches to disease control while still maintaining program flexibility. Also, through capacity building and skills development, country partnerships represent essential achievements for effective national program implementation. These partnerships, along with their extensive technical and financial resources, have given the USAID NTD Program the authority, leadership, and convening capacities that other control efforts have lacked.

Forecasting. The USAID NTD Program has played a major role with WHO and the pharmaceutical industry in improving the forecasting and ordering of pharmaceuticals at the country level. The assistance has been extended to help manage distribution from the medical stores downward, and assist with the accounting for distribution, return of medicines, and documentation. The documentation, reporting, and joint requisitions have been facilitated by integrated national NTD databases, which were approaching full implementation in all USAID partner countries at the time of the evaluation.

Capacity Building

Training Programs. Mass drug administration requires training of personnel at many levels, from community distributors, to first-line health workers, to supervisors, district managers, and national program personnel. Keeping this process going requires many partners, including central and local governments and nongovernmental organizations (NGOs), both national and international. The USAID NTD Program supported extensive training; from 2007 to 2015, some 3.7 million personnel were trained with USAID NTD support. The NTD Program trains about 408,600 participants per year, recognizing that many of the same persons will be trained annually as part of refresher courses. In addition, USAID supported the development of training curricula, including training in the use of program tools. These have contributed to widely perceived increases in the competence and professionalism of national NTD programs.

Mapping. An important contribution has been support to complete disease mapping for the five NTDs in some 2,800 districts globally. This activity has helped to document achievements and identify remaining gaps, and has allowed more detailed planning for MDA and disease elimination (especially for LF and trachoma). Country programs expressed deep appreciation for this support. Nonetheless, the need for additional mapping will remain into the future.

Data management. The USAID NTD Program has always been strongly data driven. An early problem in some countries was data quality and completeness, and this problem was addressed through multiple tools and training programs. The results are generally improved data quality and more complete reports. Integrated national NTD databases are now in place in almost all USAID-assisted countries, and NTD staff are trained in their operation. The use of these databases facilitates the ordering of medicines, auto-generates epidemiological reports, tracks disease trends and adverse events, and provides NTD data storage. Building capacity for conducting transmission assessments and epidemiological surveillance has been supported, resulting in a strong set of skills in most countries.

Program management and tools. Among the program's major contributions has been the development of NTD project management tools, primarily by RTI International, in collaboration with WHO and host countries. These tools are important in project management, for estimates of treatments needed for MDA, and in the development of national monitoring and evaluation plans for NTDs. A checklist of national NTD program functions serves as a best practices inventory to compare how WHO guidelines and policies have been implemented among countries. Tools developed for the

national NTD programs also have been found to be useful in other community health programs outside of the NTD efforts.

The NTD program has also used simplified financial instruments, fixed obligation grants (FOGs),[1] very effectively to support MDA implementation at the district level, particularly with local governments. This process has helped to build the capacity of local government health teams, as well as local governance.

Coverage, Control, and Outcomes

During the first 10 years of the USAID NTD Program, the treatment focus has moved from only the control of disease to include the pursuit of elimination of the public health burden from LF and trachoma by 2020, and the transmission of onchocerciasis by 2025. MDA has stopped in a number of locations for LF and trachoma. For LF, by the end of FY 2017, it was projected that MDA would be stopped in Bangladesh, Cambodia, Vietnam, Mali, and Laos; post-MDA surveillance will remain ongoing. Togo has become the first African country where all LF treatment has stopped. For trachoma, MDA was projected to be stopped by 2017 in Nepal, Mali, and Cameroon, with post-MDA surveillance being in place. Onchocerciasis transmission has stopped in all but a few foci areas in the Americas, and is now absent in many African foci. Persisting morbidity from LF and schistosomiasis remains a problem in some areas, and it needs to be addressed.

In many areas, worm burdens have been substantially reduced for STHs, and the transmission of schistosomiasis has been minimized through the treatment of schoolchildren. Moving forward, creative strategies are needed to expand the control efforts for school-age children, and to address the transmission complexities for schistosomiasis. The LF treatment cessation in many communities will likely affect their STH control levels as well.

Mapping Outcomes

At the beginning of the USAID NTD Program, disease mapping was incomplete or unsatisfactory in a number of countries, and this missing information had been a major and widely recognized deficit. The USAID program supported the completion of mapping for the five program diseases. With completed disease prevalence mapping, it was possible to target MDA more effectively, and to measure the outcomes.

Nonetheless, the mapping results are not entirely straightforward. For STH, there is a group of four species of parasites targeted, and treatment may produce reductions of some but not all of them. For schistosomiasis, selected sentinel sites along water courses may represent better measurement units than the random district sampling method commonly used for other types of parasites. Even existing maps may not capture population movements or the impact of MDA that now differ from the time the maps were originally created. For onchocerciasis, hypoendemic areas have not been mapped, but they are important now as the focus shifts toward the elimination of disease transmission.

Integration Levels and Approaches

Some research suggests that an integrated treatment approach showed some initial savings in Burkina Faso, Mali, and Uganda, allowing more funding to support expanded geographic coverage and increased numbers of persons treated. It was not clear, however, if this approach was sustainable in the longer term. Stakeholders have been very strongly supportive of the program-level integration process; during this evaluation, stakeholders affirmed the importance of integration and USAID's role in achieving it. Some respondents felt that without USAID's resources, support, and clear vision, integration would not

[1]Fixed obligation grants (or FOGs) are a simplified grant mechanism that allows payments for the performance of defined milestones, based on outputs rather than inputs like costs. USAID used FOGs to leverage and strengthen existing government systems versus creating or using parallel structures.

have been achieved. Some senior country-level health managers had advocated for the integration of programming for some time before the USAID NTD control project was implemented, and expressed happiness with USAID encouragement of the process. In reality, the integration process seemed to favor diseases that already had a strong programmatic presence. Other conditions, such as schistosomiasis control, seemed to get less attention; this situation was perhaps due to the focal nature of the disease and difficulties in achieving high coverage, and was perhaps related to the unpleasant nature of treatment as indicated by patients.

Treatment and Coverage

As a whole, by 2016, USAID-assisted NTD programs had provided a total of more than 2 billion treatments in the respective countries, representing 935 million persons treated. Medicines were provided by the established pharmaceutical donation programs through the WHO-supported joint application process. The largest numbers of medicines were provided for LF and STH, while the numbers for onchocerciasis, trachoma, and schistosomiasis were each about a third as great. In some countries, problems continued with importation clearance and duties; WHO often provided assistance with these clearance difficulties.

Through the country partners, the USAID NTD Program has supported a substantial reduction in disease burden for the target NTDs. The reduction was achieved by promoting the high treatment coverage rates necessary to meet control and elimination goals for individual NTDs. In FY 2012, 67% of districts under treatment were achieving their designated disease coverage goals; this figure had increased to 80% by FY 2016.

The completion of mapping and improvements in MDA coverage and data quality helped to more accurately measure MDA results. Coupled with this were improved capacities of countries to conduct Transmission Assessment Surveys (TASs). In USAID-supported countries, around 40% of persons are living in districts that are now free of LF and trachoma; Togo is celebrating being free of LF. It is likely that a number of USAID-partner countries will be stopping treatment for LF and trachoma in many districts in the near future. Transmission of disease has ceased in a number of onchocerciasis transmission zones in several African countries; the development of the verification of elimination of disease dossiers was also underway in several African countries. At last count (October 2017), 1,156 districts had been treated for LF, 669 for trachoma, 639 for onchocerciasis, 1,000 for schistosomiasis, and 1,502 for soil-transmitted helminths.[2]

The Future

Moving forward, there will be decreases in the number of treatments given for LF and trachoma, as MDA is stopped when the prevalence of the disease meets the established WHO threshold. Onchocerciasis treatments will not substantially diminish, although more individual foci in Africa will stop treatment as transmission is eliminated. It is worth noting that with the end of the African Programme for Onchocerciasis Control (APOC), despite some dire predictions, there was no fall-off in requests for ivermectin or, it appears, in the actual number of treatments given. The new IDA (a combination of ivermectin, diethylcarbamazine citrate, and albendazole) approach to treatment of LF will provide an increased demand for ivermectin largely outside of Africa, but its impact on the demand for albendazole is yet to be seen. An ongoing issue is the fact that no single donor covers all countries for any one NTD. Thus, depending on the thoroughness of efforts, the risk of cross-border recontamination persists in some areas.

[2] These data updates were provided after the evaluation was completed.

EVALUATION CONCLUSIONS AND RECOMMENDATIONS

General Conclusions

The USAID NTD Program has been remarkably successful in helping participating countries to develop efficient and effective mechanisms for the control and elimination of NTDs. During this program, the number of districts where lymphatic filariasis, onchocerciasis, and trachoma are endemic has dropped substantially, and the burden from schistosomiasis has decreased. Large numbers of children have been treated for STH.

All in all, the program has documented successes in reaching persons in need. There has been a generally positive reception from countries to the capacity building efforts, although the need remains in any future national efforts for better results dissemination and strengthened advocacy. The USAID program has played a global leadership and agenda-setting role while strongly supporting the WHO NTD program roadmap.

Specific Conclusions

1. Overall approach: The program's critical focus should remain the elimination of LF and trachoma by 2020, and onchocerciasis by 2025. Continued resources need to be directed to the development and use of the necessary tools to achieve these objectives. The development of the verification processes for elimination dossiers for these conditions should be initiated where appropriate. At the same time, a strong control approach for STH and schistosomiasis should be developed. The focus would emphasize efficiency, effectiveness, and coverage, with a focus on populations at risk as well as those maintaining transmission. As the prevalence and intensity of infection requires regular monitoring, periodic evaluation is required to keep the treatment focused on potentially shifting population needs.

2. Health systems strengthening: An important contribution of the USAID NTD Program has been in strengthening health services to better support MDA. The development of tools, extensive training, and seconding of persons with special skills to key positions in national secretariats were major contributions. Building national capacity for the development of work plans was another major contribution. The FOGs helped facilitate services in districts that could not be supported by national NTD program secretariats. This situation occasionally created tensions when funds were not passed through the secretariats, which argued at times that this process did not build national capacities.

3. Sustainability: A central goal of the NTD programs, sustainability is being achieved through building country ownership, strengthening supervision, enhancing data management, and building strong planning capacity. In addition, sustainability requires the capacity of countries to conduct post-MDA surveillance and to move forward with the documentation of disease elimination where appropriate. In some countries, this surveillance capacity is not fully present. Sustainability also means mainstreaming NTDs into the national health information systems (HIS) and planning departments, which at present is not common. If NTD programs are to be sustainable, a provision for eventually incorporating additional, non-PCT diseases into planning and management efforts should be considered.

4. National integration: The USAID NTD Program has actively promoted the integration of the various NTD programs into a national NTD secretariat, in line with the WHO roadmap. This integration is one of the major successes that led to increased efficiency and effectiveness. In some instances, certain diseases remain outside the NTD secretariat, and in other cases existing programs continue their pre-existing relationships.

5. Cross-program and cross-sector integration: While morbidity management for LF and trachoma is the USAID NTD Program IR 4, support has been weak for most countries. In some areas, other projects are addressing morbidity. The reluctance to support morbidity control has been a major weakness for some countries and their partners, even though morbidity is proving to be a larger problem than originally thought. Integration with other sectors, such as school health, water and sanitation, and ministries of education has been only modestly successful. Even within countries, generally there has not been a good sharing of information and capacities between the NTD program and other USAID activities. Opportunities exist for collaboration with malaria, maternal and child health (MCH), and nutrition programs. Collaboration has sometimes been easier at local or district levels rather than at national levels; this situation is reflected by NTD tasks usually being well integrated into the work of local government and district health teams.

6. National annual planning: Annual planning was a major support activity for national programs. Normally, the implementing partner ensured that all parties came together for annual planning. This process has typically worked very well, with districts generally being very involved. Support from the WHO country office was often present, and the IPs usually collaborated with WHO in developing NTD master plans. The question reoccurred of whether diseases beyond the five PCT diseases should be included; there seems to be no clear position as to whether this should be encouraged, even though control activities for the additional diseases are not funded by USAID. Supply chain management was problematic in several countries; to address this, seconding expertise by the IP to medical stores proved helpful with management in some locations. (It is useful to note that, although USAID and the national governments operated on different fiscal years, most implementing partners were able to help coordinate with national programs to accommodate the USAID planning cycle.)

7. Partnerships: Strong partnerships with countries and donors have been established by the USAID NTD Program, allowing the leveraging of additional resources provided through other donors, foundations, and, potentially, from other USAID-funded programs. The substantive resources available for NTD control and elimination gave the USAID program a leadership position and a strong voice in determining policy. Its support to the WHO NTD program has been a major contribution to WHO program achievements in partner countries. As for collaboration, unlike the APOC era and other USAID-supported programs, there are few regional collaborations or meetings. Even within countries, there generally has not been a good sharing of information and capacities between the national NTD program and other USAID activities.

8. Implementing partners: A strong working relationship between an implementing partner and the national NTD program was a common finding. Generally, the IPs and national programs worked together closely. At times, however, IPs were seen as too heavily involved in programs, or, in a few cases, as insufficiently involved.

9. Data tools and resources: The USAID NTD Program has had a consistent emphasis on using data to support activities. As the NTD programs developed, RTI International produced a series of management tools that helped with national planning, data collection, and resource need estimation. At the country level, the implementing partners have helped national programs to build the capacity to implement post-treatment monitoring and data quality measures by using the RTI International tools. IPs also helped countries set up the WHO-designed national NTD databases, which facilitated improved program management and planning. The tools were widely appreciated by the national NTD programs (although some found them a bit complex), and the tools have been used by non-NTD programs as well.

10. Disease mapping: A major contribution of the USAID NTD Program was support for the completion of disease mapping for the five PCT diseases in some 2,800 districts globally. Information from this mapping activity helped to identify areas still needing MDA.

11. Communication/coordination: Communication and coordination have many elements in this large program. Most of these elements went well, but communication among stakeholders at the country level was sometimes problematic, and was identified by several respondents as needing improvement. National NTD leadership in the countries visited expressed a desire for regional and sub-regional[3] consultation and collaboration to improve communications among the regional programs, as has been done with other disease control programs. At times, some national NTD programs felt that their implementation was held back by delays and last-minute changes in USAID timelines. Some ministries had an expectation of direct communication with USAID and were disappointed with having to communicate through the IP. Some Mission representatives also felt left out of communications about program activities. The IPs developed context-specific advocacy materials, which were appreciated. Still, there was a general feeling expressed that the communication of program achievements to the wider NTD community, as well as to the interested public, could be implemented more vigorously.

12. Local communication: Mass media—ranging from billboards to radio spots—were also employed to inform and educate communities. Local community communication efforts, through opinion leaders and civil society organizations, were also used. In some of these areas the results were excellent, but in other communication areas, stakeholders identified areas needing improvement. It was widely felt that program successes were not adequately publicized to the general public.

13. Communication evaluation: For behavior change communication specifically, there were no clear efforts evident to evaluate the potential effects or impacts in terms of reaching target audiences in appropriate ways. An evaluation component could help to ensure that appropriate audiences perceived the messages and were acting on them.

Key Recommendations

1. The **critical focus should remain on disease elimination**, with adequate support provided to operational research, training, advocacy, new donor engagement, and similar elements, in order to maintain concentration on this objective. For appropriate diseases, a pathway to the elimination dossier should be developed for countries approaching cessation of MDA. At the same time, an approach to control STH and schistosomiasis should be encouraged. This approach should emphasize efficiency, effectiveness, and coverage, with a focus on at-risk populations, and be verified by periodic mapping, as required.

2. Efforts must continue to **strengthen country ownership** of national NTD programs, such as better integration of NTD programs into core MOH planning and resource allocation. While the current NTD program has done well at developing ownership, getting greater contributions for countries is important for sustainability. This process includes both country-level financial support and more mainstreaming of NTDs into the respective ministries of health (MOH) planning and programming.

3. Following the stopping of LF treatment, **alternative community deworming activities** should be explored in high STH-burden communities. In some countries, STH treatments are given to women of child-bearing age in antenatal clinics, and to mothers and children during Expanded Program on Immunization (EPI) visits, through UNICEF support. The treatment of mothers should

[3] For the purposes of this report, general terms of "regional" and "sub-regional" typically designate boundaries within individual countries, and may include such national designations as states and provinces. More specific geographic designations will follow WHO usage, such as the Regional Office for Africa, or the East Africa Regional Network.

be encouraged (it may also help reduce the high prevalence of iron deficiency common in many areas).

4. **Post-MDA surveillance is a rapidly increasing need** that should be addressed in several countries, as should the development of epidemiological and entomological tools and capacities that has lagged in some areas. This surveillance will require some very basic epidemiology and in some cases entomology skills. In the longer term, sentinel site surveillance may be needed to identify disease flare-ups in areas previously under control. This surveillance is very important to protect the investments in disease control and elimination. The use of central public health laboratories established by other USAID programs could be employed to meet this need in some locations.

5. A **post-validation surveillance approach should be developed** for countries that are developing elimination dossiers **that will safeguard the extensive investment in control and elimination**. This surveillance approach will provide a warning where there is a serious risk of cross-border reinvasion after the elimination of LF and trachoma**.** At the same time, it is important that countries have in place the capacity to implement any follow-up measures to be instituted, such as additional MDA in areas where coverage proved to be inadequate or where disease reoccurs.

6. The **strengthening of collaboration among countries needs further attention**. At the top level in Africa, this could be a well-functioning Expanded Special Project for Elimination of Neglected Tropical Diseases (ESPEN), which USAID already supports. However, the support level that ESPEN will be able to provide is not yet clear. Below that, regional collaboration capacities need to be harnessed. There are already elements that can be brought together for this purpose, such as cross-border, quality improvement, collaborative methods.

7. USAID should encourage other country-level health projects, in conjunction with their counterpart NTD programs, to **share successes and disseminate findings** in a more systematic way, so as to better reach key stakeholders and national-level decision-makers. There should be broader communication of the many program successes. The USAID goal of elimination of three of the five PCT NTDs has been largely achieved or will soon be achieved in many countries; a stronger communication of this achievement will help sustain resources to assure that all program goals are met by the end of this program phase.

8. Within the USAID program, there are **communication issues** in some countries, for example between IPs and the respective national programs. These issues **should be reviewed and addressed as needed.** Survey comments revealed that communication is weak about the program and its goals and successes within the wider ministry and health/development community of many countries. Although communications among stakeholders has been good generally, there were some exceptions seen in country visits, where key players felt excluded; these experiences need to be addressed.

9. National-level NTD programs have become stronger through various types of staff training and the development of management and data tools (e.g., there is more country ownership, stronger management capacity, more data-supported decision-making, and improved transparency), but many districts, as well as the linkage between national and sub-national levels, still remain weak. Therefore, **efforts should continue to build capacities at sub-national levels, including with first-line health workers, community distributors, and community health workers**. These capacities would include, for example, training in planning and implementation, supply chain management, and monitoring and evaluation. The FOGs represent just one example of the elements that can help strengthen district capacities.

10. The NTD program **morbidity component should be reinforced**. The concern of countries and programs is that NTDs will not be considered eliminated until morbidity is reduced. Although

morbidity management and disability prevention (MMDP) program activities are not a part of all USAID-supported NTD programs, and morbidity was outside scope of the PCT/MDA approach, it is recommended for long-term accountability and legitimacy that country programs be strengthened in addressing morbidity. While communities and programs see morbidity as important, and it is included as IR 4, it is not well addressed by USAID outside of the three countries implementing MMDP activities (Burkina Faso, Ethiopia, and Cameroon).

11. USAID should explore ways to help ministries of health **ensure that NTD programs are part of broader primary and public healthcare efforts**. National NTD programs are not necessarily limited only to PCT/MDA efforts, and USAID IP efforts may help NTD programs prepare and work with other ministry programs. For example, as part of these activities, efforts to scale up cross-sectoral programming with water, sanitation, and hygiene (WASH) and education could be revisited and enhanced. While this process has been discussed, and the advantages are well understood, attempts to take it to a large scale have not been particularly successful. Ways to explore incorporation of the WASH sanitation component are particularly important for the STH and schistosomiasis components.

12. **Thorough and up-to-date mapping** is needed for STH and schistosomiasis to enable the monitoring of intervention and impact. Although onchocerciasis mapping has been completed, some of the data are now out of date, and do not clearly characterize the hypoendemic areas. As such, the data do not provide the full information needed to achieve elimination. Although completion of disease mapping has been an important USAID achievement, the mapping process is always ongoing, as environments and demographics change.

13. As national databases are being developed in most countries, **more attention must be given to collecting data and improving their quality**. Efforts should be accelerated to enhance electronic collection, and to develop the capacity for real-time analysis to spot difficulties in distribution.

14. The **in-country management of donated medicines should be improved** in a number of countries. There are still excess medicines that expire in some locations, and difficulties continue with shifting medicines to meet local shortages and in returning unused medicines in post-MDA periods. To address this, USAID should explore whether the NTD programs will take charge directly of this, or work through existing MOH bodies such as the national pharmacy/medicine stores. In addition, a valid logistics information system needs to be established that accounts for the delivery of medicines to each level.

I. INTRODUCTION

EVALUATION PURPOSE

This independent evaluation was carried out on the 10th anniversary (in 2016) of the United States Agency for International Development (USAID) Neglected Tropical Disease (NTD) Program to determine the extent to which strategic assumptions help to ensure that USAID's NTD focus countries are on track to meet the World Health Organization's (WHO) 2020 goals. The evaluation was carried out by the Johns Hopkins Bloomberg School of Public Health under the Global Health Program Cycle Improvement Project (GH Pro) contract.

EVALUATION QUESTIONS

1. Global leadership: How have the USAID NTD Program and the implementing partners (IPs) influenced global policy and best practices?
2. Program implementation strategy: Is the USAID NTD Program's current strategy the best approach for achieving the 2020 goals at the country level?
3. Capacity building/country ownership: Has the USAID NTD Program built country capacity and country ownership of the program?
4. Progress toward achieving elimination/control: Are USAID supported countries on track to achieve the WHO NTD 2020 elimination and control goals for the diseases supported in the program?

METHODS

The evaluation consisted of the six major components noted below. In addition, Annex 2 comprises details on the evaluation methods and limitations.

1. **Desk review.** This phase began after the signing of the consulting agreement on May 2, 2016, and the official launch on May 11, 2016. In the first phase, there was an extensive desk review of materials made available by the USAID NTD Program. These materials included country reports, annual program summaries, PowerPoint decks, monitoring indicators, program targets, and country projections. During the desk review, the evaluators spoke in person and by phone to a variety of persons involved in Washington, D.C., with implementation of the project, either with USAID or the implementing partners, RTI International and FHI 360. An interview guide was developed that covering the key points set out in the Statement of Work (SOW; see Annex 1), and arising from the discussions with program staff and from the review of program documentation.
2. **Country summaries.** During the preparatory work, a series of summaries of the NTD control situation in each country selected for a visit was assembled. The summaries combined scientific reports with the program reports for a concise background document for the field work.

3. **Country visits.** During August 2016, the following USAID-selected countries were visited by the evaluation team for about one week each: Burkina Faso, Cameroon, Ghana, Haiti, Uganda, Tanzania, and Nepal. A local consultant assisted the evaluators, and, working with the IP, appointments were made to visit key program and IP staff, ministry of health (MOH) personnel, and health workers. In each site, a field visit was conducted with community members and health workers. The notes from each site were highlighted by theme and reviewed extensively before being incorporated into the final report. See Annex 3 for details on data collection instrument development, as well as key interview questions.

4. **Interviews.** Extensive telephone interviews were carried out with key stakeholders, nongovernmental organizations (NGOs), and various technical experts. Each interview lasted about one hour and each was documented and reviewed as part of formulating the report. See Annex 4 for a list of persons interviewed.

5. **Web-based, online survey.** A 22-question, three-part online survey was constructed. In addition, there were opportunities for respondents to respond with text to most questions. There were 44 English responses with four refusals and 22 French responses with five refusals. The survey and results are presented in Annex 6.

Report writing. Writing began in September 2016, using the outline set out in the SOW. In January 2017, the online survey data had been analyzed and were incorporated. Report draft versions were then presented to USAID for review and comment.

II. NEGLECTED TROPICAL DISEASES BACKGROUND

The term "neglected tropical diseases" entered common usage in 2005 as a grouping together of diverse diseases, mostly parasitic infections that are highly endemic in parts of Africa, Asia, and the Americas. These diseases were often less well publicized and less frequently addressed than other diseases, such as HIV/AIDS, malaria, and tuberculosis. Two years earlier, in December 2003 in Berlin, WHO had convened experts from many sectors to review existing challenges and devise new ways to address the public-health needs of neglected populations.[4] One outcome was the establishment of the WHO Department of Control of Neglected Tropical Diseases in 2005, which focused attention on 13 diseases (this has grown to nearly 20 conditions at present) that exhibited a number of common clinical, epidemiological, and historical features that suggested that they could be treated as a cohesive group of infections.[5] Five of these diseases were known to be effectively treated through preventive chemotherapy (PCT) programs: onchocerciasis, lymphatic filariasis (LF), trachoma, schistosomiasis, and the soil-transmitted helminths (STH), (the latter of which represent a group of four species of intestinal nematodes). Together, these five conditions affect over one billion persons.

Prior to the start of the WHO NTD department and the USAID NTD Program, several counties had their own national disease control and elimination projects in place for the five PCT diseases. Some diseases also had well-established pharmaceutical donation programs. For example, in 1987, Merck Sharp & Dohme Corp. (MSD) committed to donating Mectizan (ivermectin), the drug for the control of onchocerciasis, for as long as necessary, making the Mectizan Donation Program[6] the longest ongoing drug donation program of its kind. The manufacturer of Albendazole, GlaxoSmithKline, offered to donate tablets until LF is eliminated. The company expected to supply about 5 billion treatments over 15-20 years, which they assert will make it the single largest drug donation in the history of the pharmaceutical industry.[7]

Although control and elimination progress was being made (for example, toward elimination of onchocerciasis transmission in the Americas through a coordinated approach), there was little coordination among programs elsewhere, and efforts in the collection and use of data concerning processes and outcomes were often weak. As the understanding of disease epidemiology expanded, there was a shift from a disease control paradigm to the elimination of disease, particularly for LF, onchocerciasis, and trachoma. This new paradigm required additional methods and resources.

In January 2012, WHO published the *Roadmap for Implementation* that detailed its vision for NTD prevention, control, elimination, and eradication. On January 30, 2012, a partnering group of global health organizations, endemic countries, donors, politicians, and pharmaceutical companies endorsed the London Declaration on Neglected Tropical Diseases. Together, they committed to control, eliminate, or eradicate 10 diseases by 2020 and to improve the lives of over a billion people.

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[4] http://www.who.int/neglected_diseases/decade_of_continues_progress/en/.

[5] Hotez, Peter. The neglected tropical diseases and the neglected infections of poverty: overview of their common features, global disease burden and distribution, new control tools, and prospects for disease elimination. *In* "The Causes and Impacts of Neglected Tropical and Zoonotic Diseases: Opportunities for Integrated Intervention Strategies." Institute of Medicine Forum on Microbial Threats, Washington, D.C.: National Academies Press.

[6] https://www.mectizan.org/about/history.

[7] https://web.stanford.edu/class/humbio103/ParaSites2005/Albendazole/index.htm#Global.

Following an initial report in 2010, WHO published a second report in January 2013 on NTDs that outlined progress made to date through renewed momentum that has shifted the world closer to eliminating several of these conditions.

For the WHO program's five PCT diseases, WHO set goals for the elimination of LF, onchocerciasis, trachoma, and in some locations, schistosomiasis, using community-based mass drug administration (MDA). In addition, to control the three STHs and schistosomiasis, the use of school-based distribution was used as the main approach.

III. THE USAID NTD PROGRAM

PROGRAM OVERVIEW

When USAID launched the NTD Control Program in 2006, it represented the first large-scale global effort to integrate the treatment of five PCT NTDs. This project was followed in 2010-2011 by the current USAID NTD Program, which runs through 2019.

The USAID NTD Program approach has focused on promoting the integration of national NTD programs, leveraging donated drugs, and expanding treatment coverage of MDA for the five PCT diseases, which is consistent with WHO guidelines.[8] The outcomes sought are also consistent with the WHO 2020 goals (see Table 1).

Table 1. Comparison of WHO and USAID NTD 2020 Targets

Disease	WHO	USAID
Lymphatic filariasis	Eliminate as a public health problem	Eliminate as a public health problem
Trachoma	Eliminate as a public health problem	Eliminate as a public health problem
Onchocerciasis	Eliminate in: -Americas -Select countries in Africa and Yemen	Eliminate transmission in: -Americas -Select countries in Africa
Soil-transmitted helminthiasis	Reach 75% coverage:100% endemic countries	Reach 75% coverage: 100% supported countries
Schistosomiasis	Eliminate from the EMRO, Mekong River basin, AMRO, WPRO, and some countries in AFRO[9]	Reach 75% coverage of school aged children in 100% supported countries

Source: USAID GH/HIDN/ID team. Neglected Tropical Diseases, Global Health Bureau Portfolio Review, March 2016

The program has been implemented in three phases to date. This evaluation was confined to the activities in Phases II and III, which are built on the achievements of the earlier phase.

Phase I, 2006-2010: Proof of principle. Phase I included 12 countries, with a budget of US$70 million over four years. Initial steps included completion of disease mapping, promoting integrated disease programming for national programming, and emphasizing full population and geographic coverage to maximize the number of at-risk patients treated.

Phase II, 2011-2015: Expansion phase. During this phase, coverage increased to 31 countries, with a budget of $516 million. In these four years, the disease mapping was completed, program quality improvement methods were implemented, and planning and budgeting tools were put into place. Plans were developed for post-MDA surveillance, and activities for regional support of onchocerciasis

[8] WHO. Preventive chemotherapy in human helminthiasis: coordinated use of anthelminthic drugs in control interventions: a manual for health professionals and programme managers. Geneva: WHO, 2006.
[9] WHO Regional Offices: Regional Office for Africa (AFRO); Regional Office for the Americas (AMRO); Regional Office for the Eastern Mediterranean (EMRO); Regional Office for the Western Pacific (WPRO).

programming began as the WHO African Programme for Onchocerciasis Control (APOC) was being closed out.

Phase III, 2016-2020: Acceleration phase. Resources for this current phase have been $100 million/year to date for the 31[10] participating countries, with a focus on maintaining program coverage, an emphasis on impact evaluation and documentation, a progressive achievement of lymphatic filariasis and trachoma elimination, a transition from onchocerciasis control to elimination, and a start for post-MDA surveillance. Acknowledging the importance of morbidity management, a program focus was identified for morbidity management in Burkina Faso, Cameroon, and Ethiopia. (Morbidity management is a separately funded USAID effort from the core NTD program that was evaluated for this report.)

Phase IV, 2020-2025 (envisioned). This phase would document elimination and accelerate catch-up strategies, while building country capacity for surveillance and control. During this phase, exit strategies and post-elimination programs would be developed.

In the current Phase III, the program objectives are centered on contributing to the global elimination of lymphatic filariasis, onchocerciasis, and trachoma globally by 2020, and improving the control of STH and schistosomiasis. The program's four intermediate results are:

- IR 1: Increased MDA coverage among at-risk populations in endemic communities.
- IR 2: Improved evidence base for action to control/eliminate targeted NTDs.
- IR 3: Strengthened environment for implementation of integrated NTD control and elimination programs.
- IR 4: Management of disease morbidity.

Implementation Approach

The USAID NTD Program implementation approach is working through IPs and also the use of fixed obligation grants (FOGs)[11] to support implementation by central and local government, NGOs, and community organizations[12]. The USAID NTD activities began with the NTD Control Program in 2006-2012, implemented by RTI International; this was followed in 2011 by ENVISION, again led by RTI. (See Annex 5 for a list of tools developed under these projects.) Two additional projects, End Neglected Tropical Diseases (END) in Africa, and END in Asia, led by FHI 360, were responsible for getting supporting program implementation in additional countries.

Further, USAID NTD activities support investments in research, drug development, morbidity management, and supply chain management, but those elements are not a focus of this evaluation. The USAID NTD Program's Congressional mandate established a centrally functioning activity, implemented directly by implementing partners without enlisting USAID country Mission participation. From the beginning, it was anticipated that this program would play a major role in influencing the global agenda for the control and elimination of NTDs.

[10] A total of 33 countries have been supported over the 10 years of the program, but two of these have been dropped.
[11] Fixed obligation grants (or FOGs) are a simplified grant mechanism that allows payments for the performance of defined milestones, based on outputs rather than inputs like costs. USAID used FOGs to leverage and strengthen existing government systems versus creating or using parallel structures.
[12] The IPs at the main contract level, RTI International and FHI 360, often subcontract with NGOs at the country level; many of these NGOs have been active for many years in onchocerciasis, trachoma, and other individual disease initiatives.

The initial USAID NTD Program yearly budget was $15 million, rising to $25 million by 2009 and then to an annual budget of $100 million in 2014, for a 10-year total of $686 million authorized by the U.S. Congress. These funds were designated as part of an integrated, coordinated program with support from other donors, the private sector, NGOs, and recipient countries.

ACHIEVEMENTS

Summary

The USAID NTD Program began in 2006 in five "fast track" countries: Mali, Ghana, Niger, Burkina Faso, and Uganda. To date, the NTD program has supported a total of 33 countries in Africa, Asia, and the Americas, supporting the World Health Organization's 2020 NTD goals, its *Roadmap for Implementation*, and the *Guidelines for Coordination* in participating countries.[13]

The program's current geographic coverage includes varying degrees of activities in the following 25 countries: Bangladesh, Benin, Burkina Faso, Cambodia, Cameroon, Côte d'Ivoire, Democratic Republic of the Congo (DRC), Ethiopia, Ghana, Guinea, Haiti, Indonesia, Laos, Mali, Mozambique, Nepal, Niger, Nigeria, Philippines, Senegal, Sierra Leone, Tanzania, Togo, Uganda, and Vietnam. In addition, USAID provides regional support to the Onchocerciasis Elimination Program for the Americas (OEPA). To date, four of the six endemic countries in the Americas have been verified as free of onchocerciasis transmission.

From the start, there was a concerted effort in helping USAID-supported countries to develop the WHO-recommended structures for a national integrated NTD program, combining control activities for the five diseases into a single program. The process included developing a national NTD steering committee, a technical advisory group, and, for program implementation, a national NTD secretariat.[14] Countries were supported in developing the WHO goal of a country-specific NTD masterplan.

Before the USAID NTD Program began, many national NTD efforts had been struggling with poor organization and a lack of resources. Some persons interviewed for this evaluation who had observed the organization process called the impact of USAID programming in participating countries "transformational," though there were variations among countries. Some observers stated that the USAID NTD Program had fostered a management discipline and program transparency in national activities. At the same time, resources from the USAID NTD Program greatly expanded activities such as advocacy, training, surveillance/monitoring, MDA, and operational research.

USAID NTD Program achievements have been realized through its partnerships. Pharmaceutical donation programs from manufacturers have been key to program success. In addition, building partnerships among country programs has encouraged efficient and standardized approaches to disease control while still maintaining flexibility. The partnership with the WHO Department of Control of Neglected Tropical Diseases has enabled the USAID NTD Program to help USAID partner countries introduce integrated, evidence-driven programs. Connections with the Bill & Melinda Gates Foundation have supported important research studies to improve treatment programs. An excellent working relationship with the United Kingdom's Department for International Development (DFID) has helped

[13] WHO. Accelerating work to overcome the global impact of neglected tropical disease. A roadmap for implementation. Geneva: WHO, 2012.
[14] WHO (AFRO). Guide for country-level coordination mechanisms for the neglected tropical diseases programme. Brazzaville, WHO, 2013.

to address areas where the USAID program did not operate. Country partnerships, through capacity building and skills development, represent essential achievements for effective national program implementation. Facilitating the integration of national NTD programs, with strong USAID support, has been a signal achievement. These partnerships, along with their extensive technical and financial resources, have given the USAID NTD Program the authority, leadership, and convening capacities that other control efforts have lacked.

Process and Management

The initial focus of the USAID program was the control of the five PCT NTDs in selected countries, and elimination of their public health consequences. This focus was consistent with the WHO NTD program for systematic, large-scale interventions.[15] As the goals are increasingly seen by many in the NTD community as the elimination of disease, and not just the control of the public health consequences, there was a concern in some countries visited during the evaluation about the increasing complexity of the program. The development of a disease elimination dossier requires capacities for post-treatment surveillance, epidemiological capacities, and in some cases entomological and laboratory capacities. In addition, some diseases require that aspects of morbidity management be addressed.

IMPLEMENTING THE USAID NTD PROGRAM APPROACH

Figure 1, below, shows the 31 USAID NTD Program countries being supported at the time of the evaluation. Most of this program support has been through extensive country support, but in some locations, such as the Americas, the role has been support to a regional program.

Figure 1. Geographic Distribution of Currently Supported USAID NTD Countries *(Source: USAID)*

[15] WHO. Preventive chemotherapy in human helminthiasis: coordinated use of anthelminthic drugs in control interventions: a manual for health professionals and programme managers. Geneva: WHO, 2006.

Pharmaceutical donations. Central to the success of the NTD program control and elimination efforts has been the donation of medicines. The USAID program has been able to leverage these donations and encourage additional resource support. An important USAID contribution has been support in the development of the joint application process for pharmaceutical donations through more accurate forecasting of treatment needs. Strengthening the supply chain with better quality of treatment data has improved in-country drug management. Some governments decided to purchase medicines to meet MDA needs, such as diethylcarbamazine (DEC), and, at times, praziquantel.

Pharmaceuticals have been available through donations from various pharmaceutical companies as part of established programs. The total value to date[16] of NTD PCT medicines from all donors for USAID-supported countries was estimated at $15.7 billion at the time of the evaluation. As of 2016, this amount helped USAID to support over 2 billion NTD treatments to 935 million individuals. This dramatic increase is reflected in the value of donations as seen in Figure 2 below.

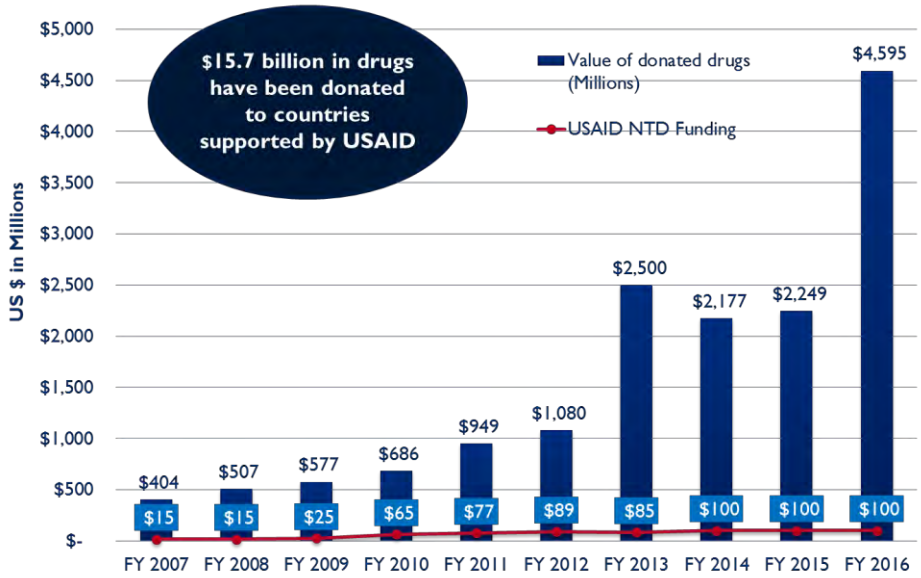


Figure 2. Value of Donated Drugs to USAID–supported Countries *(Source: USAID 2017 Portfolio Review)*

[16] "To date" indicates data available as of about mid-2017.

Typically, specific programs are created to manage the distribution of donated pharmaceuticals, and to track any adverse events. Several of these programs are located at the Atlanta-based Task Force for Global Health. In the beginning, these programs worked quite independently. Currently, these bodies more often work closely with WHO (local and headquarters offices) with support from the USAID NTD Program, and work with individual ministries of health and their respective national programs to help improve supply chain problems, and estimate the amounts and timing of medicines to be shipped. WHO continues to play an important role in securing customs entry for medicines in various countries where border entry can present problems.

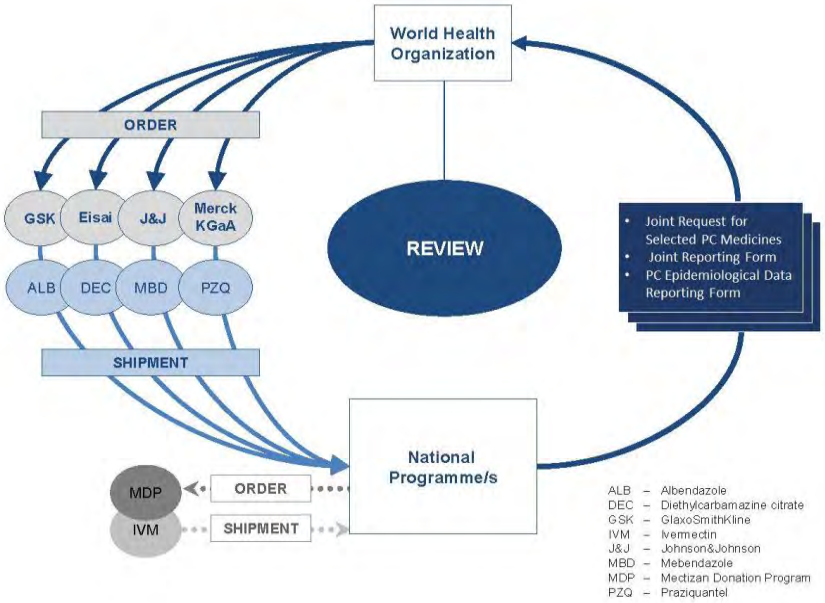


Figure 3. Ordering and Flow of Donated Medicines, Except for Azithromycin *(Source: WHO)*

The ordering and flow of medicines from the donors is depicted in Figure 3. The USAID program has maintained close ties with the pharmaceutical donation programs, and the U.S. Congress has expressed appreciation for this public-private partnership. These NTD donation programs have started at different times: Mectizan (Merck MSD) being the oldest (1987), with the praziquantel (Merck KGaA) and Mebendazole (Johnson&Johnson) donation programs being among the more recent (2006-7). Although treatment for two of the five diseases targeted by the USAID NTD Program will need to continue, three (onchocerciasis, LF, and trachoma) are moving toward elimination in many areas. While this process will lead to a decline in drug requirements, there may be little change in the administrative resource requirements where there is extensive co-implementation for other diseases.

Forecasting. The USAID NTD Program has played a major role with WHO and the pharmaceutical industry in improving the forecasting and ordering of pharmaceuticals at the country level. The assistance has been extended to help manage distribution from the medical stores downward, and assist with the accounting for distribution, return of medicines, and documentation. The documentation, reporting, and joint requisitions have been facilitated by integrated national NTD databases, which are now approaching full implementation in all USAID partner countries.

Figure 4 (following page) depicts estimated resource needs for NTD programs through 2020, as assessed by Abt Associates, Inc., for the first annual report on the London Declaration on NTDs (2013). The contributions from USAID, leveraging those of other donors, make up a substantial proportion of the international funds available for NTD control and elimination. Cooperation with the United Kingdom's DFID has been particularly strong and well-coordinated. In several countries, the NTD program has been able to use well-functioning local NGOs, in addition to the international partners of the ENVISION and END projects. Of USAID NTD Program funds, 76.3% went to country programs,

5.5% for the regional programs in the Americas and Africa, and 13.6% to global program management costs.[17] Mobilizing additional state or ministry resources through enhanced program ownership remains a challenge.[18] Determining the current levels of state contributions, in costs and in kind, could be a point for initiating discussions.

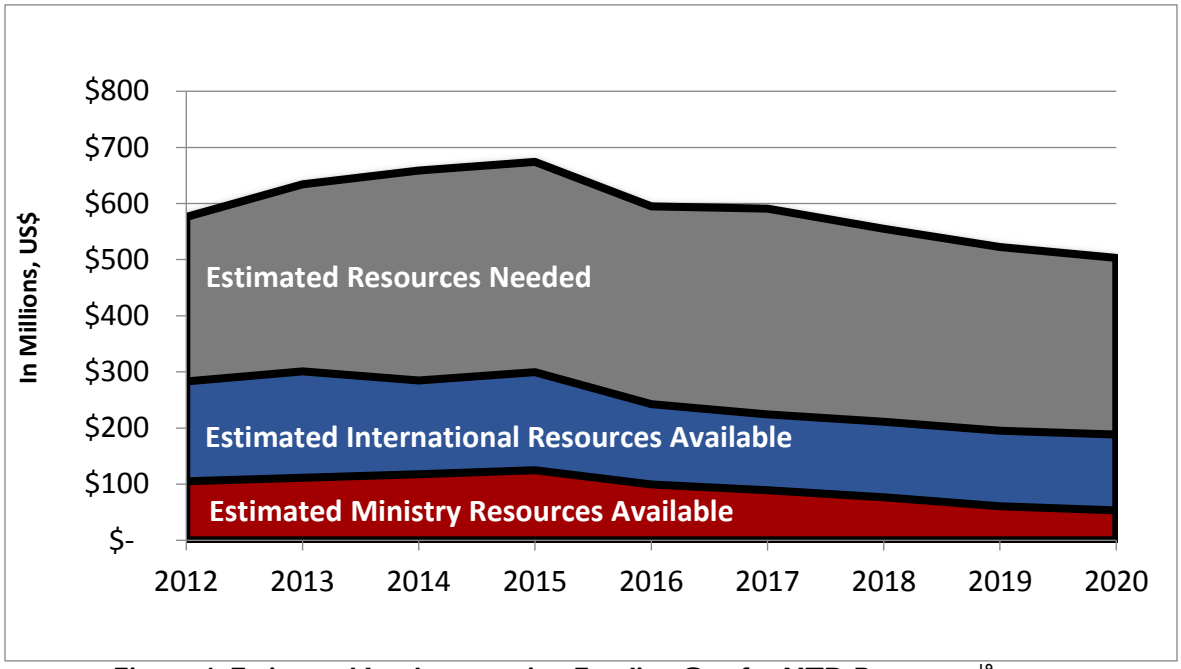


Figure 4. Estimated Implementation Funding Gap for NTD Programs[19] *(Source: Abt Associates, Inc.)*

CAPACITY BUILDING

Training programs. Mass drug administration requires trained personnel, which in turn requires training at many levels. At the lowest level, there are the community distributors, who are often community-selected (with the exception of primary school teachers, who are selected by school authorities). At the next level are first-line health workers, who are either community-based or facility-based. Above them are supervisors, district managers, and national program personnel. All receive regular training or refresher training. Keeping this process going requires many partners, including central and local governments and NGOs, both national and international.

From 2007 to 2015, some 3.7 million personnel were trained with USAID NTD support, recognizing that many of the same persons will be trained annually as part of refresher courses. On average, the sessions train about 408,600 participants per year. In addition, USAID supported the development of

[17] USAID. FY2016 HIDN Portfolio Review Final 2-2-2016, p. 7 graphic.

[18] APOC started out in 1995 with the intention that countries would assume their own onchocerciasis control activities. APOC and partner funding would cover core start-up costs in the first year (when costs are greatest), then individual country financial responsibility would increase (at lower operating cost levels). After about five years, a country (possibly with continued NGO partner support) would assume responsibility for their program. However, this end was never achieved.

[19] Figures are based on established disease burden, unit costs for screening, case detection, and treatment. The estimated international resources available assume continued funding from current donors in line with current and previous year trends. Estimated domestic resources assume a fixed percentage of total health expenditures, with projected changes in line with GDP growth.

training curricula, including training in the use of program tools. These have contributed to widely perceived increases in the competence and professionalism of NTD programs.

Disease mapping. From the beginning, the NTD program has been strongly data driven. One of the first activities was to complete disease mapping where possible; this has now reached some 2,800 districts globally, with very few remaining gaps. Political redistricting resulted in a number of new districts being created out of previously mapped areas, and prior data have been applied accordingly. While this situation may be generally acceptable, some areas should be reconsidered. In addition, some of the mapping data for certain diseases, such as onchocerciasis and schistosomiasis, are many years old, and at some point will require updating. This situation is especially true for hypoendemic areas as the elimination for onchocerciasis is pursued, and some areas for schistosomiasis, as more streamlined and efficient methods for control are sought. Nevertheless, mapping can be considered to be essentially completed, and USAID support for the completion of the mapping innitiative has been appreciated by national NTD programs. (Additional details on mapping are provided below in the outcomes section.)

Data management. Data management systems have been established from the community to national levels. An integrated national NTD database, now in place in almost all USAID-assisted countries, facilitates the ordering of medicines and auto-generation of reports, as well as the tracking of disease trends and adverse events, while also providing data storage. Further, the projections possible through improved data management make medication requests to the pharmaceutical donation programs more accurate and allow better estimates of production needs by the donation programs.

There have been problems with data quality and completeness in some countries. These have been addressed through multiple tools and training programs, which has resulted in generally improved data quality. Some areas now have the capacity to collect much of the MDA coverage data electronically in the field for rapid transmission to websites. Where web-based national programs for uploading HIS data exist, the USAID implementing partners can develop a compatable web-based system for uploading NTD data. These systems could allow programs to monitor distribution data in almost real time, and allow data difficulties to be spotted early (when correction of any problems would be easier). Data for STH, and to a lesser extent, schistosomiasis MDA, still remain a problem in some countries, and data regarding treatments given as part of other programs do not always reach the MOH in a consistent manner. However, these data gaps had been steadily decreasing in USAID countries visited during the evaluation, and in other countries as well.

Although the USAID NTD Program has provided training in the management of the national NTD database to partner countries, some countries with previously developed disease-specific databases have had some difficulty with data integration into a common database (the Philippines being an example).

Building capacity for transmission assessments and epidemiological surveillance has been supported, although more work is needed for surveillance. There was also a concern expressed that, without strong monitoring and updated district mapping, an oversupply of medicines may be occuring. The USAID NTD Program IPs have provided strong support for use of the WHO joint reporting forms, PCT epidemiological forms, and joint application requests. In the countries visited where databases were fully functional, there were no difficulties reported. The use of various program-developed tools has assisted in the collection of accurate data, and improved the forecasting of needs for medicines and the reporting of treatments distributed.

Program management tools and activities. Although there continues to be a substantial resource gap at the country level between the financial and human resources available and those needed to eliminate or control the five PCT diseases, perhaps one of the USAID NTD Program's major contributions has been the development of NTD program management tools, such as the Tool for Integrated Planning and Costing (TIPAC), which documents and projects costs and identifies available resources and quantify resource gaps. These tools, developed primarily by RTI International, have involved many areas, from planning and budgeting to data management, and have been used in other health programs as well, creating a wider impact. In addition, a series of NTD management activities labeled as Best Practices has been collated and disseminated. Some practices are regular program activities, but others may be one-time national program-building activities representing specific steps, such as a situational analysis or appointing an NTD focal person.

Some of these tools and activities include: creating a national plan of action; currently using the TIPAC for annual planning; having a NTD focal person in place; the establishment of a central coordinating committee; developing a national monitoring and evaluation (M&E) plan; and creating a national NTD database. Not all countries have implemented all the Best Practices; the establishment of the national database is the slowest (29%), followed by use of the TIPAC in the current year and development of a national M&E plan (46% each). However, further progress has been made since the time of these FY 2014 data in USAID-assisted countries. This is a pattern that is similar across NTD country programs, where awareness and use of NTD tools, including the WHO Joint Application Package, has been increasing.

A significant achievement has been country adoption, adaptation, and use of the NTD tools. That being said, instances were observed during the evaluation in which national programs had found the tools to be burdensome and in competition with existing national data and planning tools; however, the role of the IP at the country level in guiding the respective NTD programs was essential in countries accepting and learning to use the new NTD tools.

The NTD program has also used simplified financial instruments, FOGs (described on p. 5), very effectively to support MDA implementation at the district level, particularly with local governments. This process has helped to build the capacity of local government health teams, as well as local governance. Additional details on the use of FOGs follow in subsequent sections.

Coverage, Control, and Outcomes

DISEASE MAPPING OUTCOMES

The district serves as the unit of measurement for estimating treatment coverage. For some diseases (LF, trachoma, and onchocerciasis), the number or proportion of districts that have stopped treatment is an important indicator. A key to estimating program results is having adequate mapping in place to show the distribution of disease among districts.[20]

At the beginning of the USAID NTD Program, disease mapping was incomplete or unsatisfactory in a number of countries. This missing information had been a major and widely recognized deficit. The USAID program supported the completion of mapping for the five program diseases. With completed

[20] For example, for onchocerciasis, for which the goal is now elimination, newly included areas that were previously classified as hypo- and meso-endemic may now need to be revisited.

disease prevalence mapping, it was possible to target MDA more effectively, and to measure the outcomes.

Nonetheless, mapping results are not entirely straightforward. For STHs, there are four species of parasites targeted, and treatment may produce reductions of some but not all of the parasites. For schistosomiasis, selected sentinel sites along water courses may represent better measurement units than the random district sampling method commonly used for other types of parasites. Even existing maps may not capture population movements or the impact of MDA that now differ from the time they were originally created. For onchocerciasis, hypoendemic areas have not been mapped, but they now are important as the focus shifts toward the elimination of disease transmission.

INTEGRATION LEVELS AND APPROACHES

The issue of integration is complex, and there is a need to consider several levels and approaches when assessing achievements. At one level are formerly separate disease control programs being integrated into a national program or at least into coordinated efforts. Noted below are some efforts related mostly to this level. At another level, there is integrated delivery, for which there are two platforms: community MDA and school-based MDA, which are each logistically and managerially different. The most difficult issue is that of integration into public health/primary health care programming, generally including integration within national, subnational, and local procurement, and data collection systems. Aspects of these latter two are noted elsewhere in this report.

Some research suggests that an integrated treatment approach showed some initial savings in Burkina Faso, Mali, and Uganda, allowing more funding to support expanded geographic coverage and increased numbers of persons treated. It was not clear, however, if this approach was sustainable in the longer term. Stakeholders have been very strongly supportive of the program-level integration process; during this evaluation, stakeholders affirmed the importance of integration and USAID's role in achieving it. Some respondents felt that that without USAID's resources, support, and clear vision, integration would not have been achieved. Some senior country-level health managers had advocated for the integration of programming for some time before the USAID NTD control project was implemented, and expressed happiness with the USAID encouragement of the process. In reality, the integration process seemed to favor diseases that already had a strong programmatic presence. Other conditions, such as schistosomiasis control, seemed to get less attention; this situation was perhaps due to the focal nature of the disease and difficulties in achieving high coverage, and was perhaps related to the unpleasant nature of the treatment that was expressed by patients.

TREATMENT AND COVERAGE

As noted earlier, by 2016, USAID-assisted NTD programs had provided a total of more than 2 billion treatments in their respective countries, representing 935 million persons treated. Medicines were provided by the established pharmaceutical donation programs through the WHO-supported joint application process. The largest numbers of medicines were provided for LF and STH, while the numbers for onchocerciasis, trachoma, and schistosomiasis were each about a third as great.

Through the country partners, the USAID NTD Program has supported a substantial reduction in disease burden for the target NTDs. The reduction was achieved by promoting the high treatment coverage rates necessary to meet control and elimination goals for individual NTDs. In fiscal year (FY) 2012, 67% of districts under treatment were achieving their designated disease coverage goals; this figure had increased to 80% by FY 2016.

The completion of mapping, and improvements in MDA coverage and data quality, helped to more accurately measure MDA results. Coupled with this were improved capacities of countries to conduct Transmission Assessment Surveys (TASs). Around 40% of persons are living in districts that are now free of LF and trachoma; Togo is celebrating being free of LF. It is likely that a number of USAID-partner countries will be stopping treatment for LF and trachoma in many districts in the near future. Transmission of disease has ceased in a number of onchocerciasis transmission zones in several African countries. The development of the verification of elimination of disease dossiers is underway in several African countries.

Programs commonly report MDA as treatments given rather than tablets distributed, as the number of tablets per person may vary by size. In 2008, there was a substantial increase in treatments given for LF and STH (e.g., see Figure 7, 2nd page below), representing new commitments from the donation programs and expanded school-based MDA. In subsequent years, there has been a continuing rise in treatments given for the PCT NTDs. In some places, where four or all five NTD medicines are given, it has been necessary to break up distributions into "packages" that are distributed at two-week intervals, due to patient complaints of unpleasant reactions when all the medicines are taken at the same time.

As seen in Figure 5, the number of countries implementing MDA varies by year and disease. Increases in the bar graph reflect countries (and districts therein) added, while decreases sometimes followed assessments indicating that MDA had stopped.

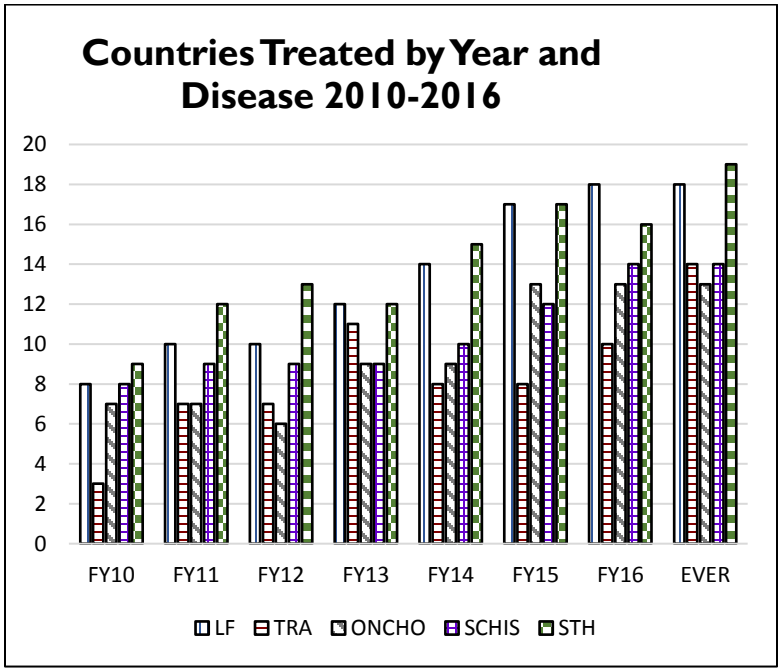


Figure 5. Number of Countries Providing Treatments for Five PCT Diseases, by Fiscal Year *(Source: USAID)*

NTDs are present in only specific areas in most countries. Data are collected about the number of districts (the specified treatment unit) treated annually for each disease. In USAID-assisted countries, achieving geographic and population coverage have been key objectives; coverage data are measured and reported regularly. Figure 6 shows the number of districts treated annually by fiscal year for the five PCT NTDs as of May 2017. At last count (October 2017), 1,156 districts were being treated for LF, 669 for trachoma, 639 for onchocerciasis,1,000 for schistosomiasis, and 1,502 for soil-transmitted

helminths[21]. The general trend is that an increasing number of districts are being treated for all parasites each year, with STH and LF treatments being distributed in the largest number of districts.

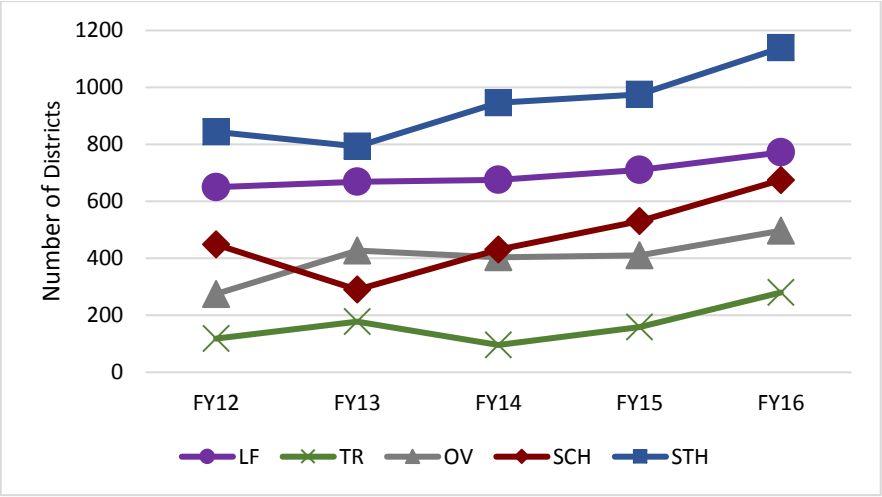


Figure 6. USAID-assisted Districts Treated Annually with MDA, by Disease, FYs 2012-16 *(Source: ENVISION Semi-Annual Report 1, FY 2017, May 2017)*

Coverage for some conditions remains challenging. Praziquantel for schistosomiasis is unpopular in some locations. During the country visits for this evaluation, it was noted that treatment for STH was patchy, as treatment is mostly given to children attending primary schools. Out-of-school children, children in middle and high school, and those attending non-government schools are often missed. Sometimes, treatment is offered to adults in areas adjacent to schools. In some countries, STH treatments are given to women of childbearing age and to children along with vitamin A dosing, but the data may not be captured by a central NTD database (although this data gap is improving). Further, STH mapping is incomplete in some locations, and out of date in others. With the cessation of LF treatment in some districts, the impact of treatment on STH among school-age children will diminish.

Figure 7 shows the annual number of NTD treatments given by each disease in USAID-supported districts. The big growth is in treatment for LF and for STH, reflecting the numbers of persons living in areas where there is risk of infection. For the other PCT

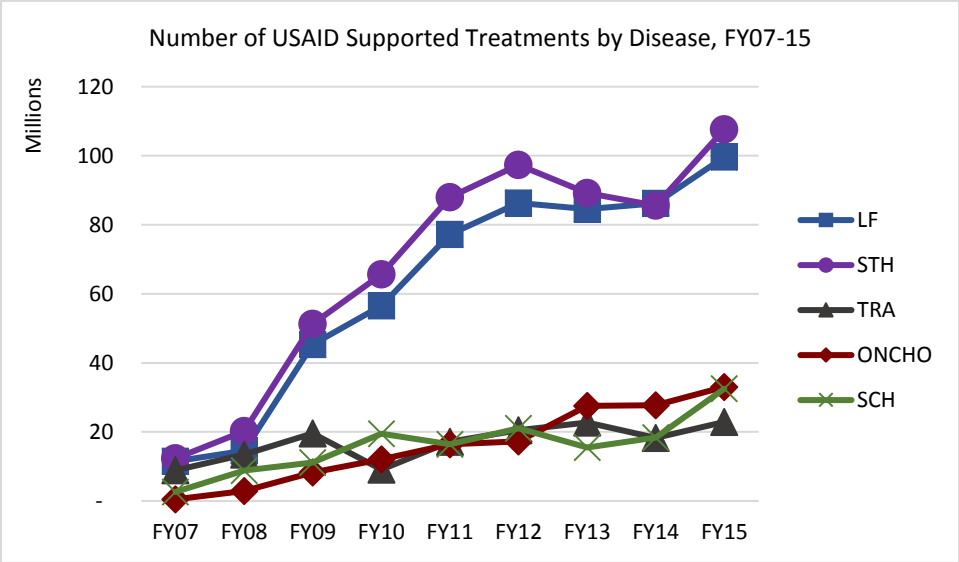


Figure 7. Number of USAID–Supported Treatments by Disease, FY 2007–2015 *(Source: USAID)*

[21] Current data were provided by USAID after the main evaluation analysis was completed.

NTDs, onchocerciasis, trachoma and schistosomiasis, infections are relatively confined in terms of geography. (It should be noted that at the time of the evaluation, LF MDA had the benefit of also treating STH at the community level; thus there are implications for population coverage when LF MDA stops and deworming is confined to school-aged children. Countries were aware of this and were discussing how they might maintain community-level albendazole treatments.)

A strong measure of program results is the number of people living in districts, or the districts themselves, where treatment has stopped because there is no longer transmission or because the infection level has reached very low levels. At a certain level of infection for some PCT NTDs, even if some infection remains, a break point has been achieved at which person-to-person transmission cannot be sustained. In Table 2 below are the numbers of persons living in districts where MDA has been stopped for three diseases in USAID-supported countries.

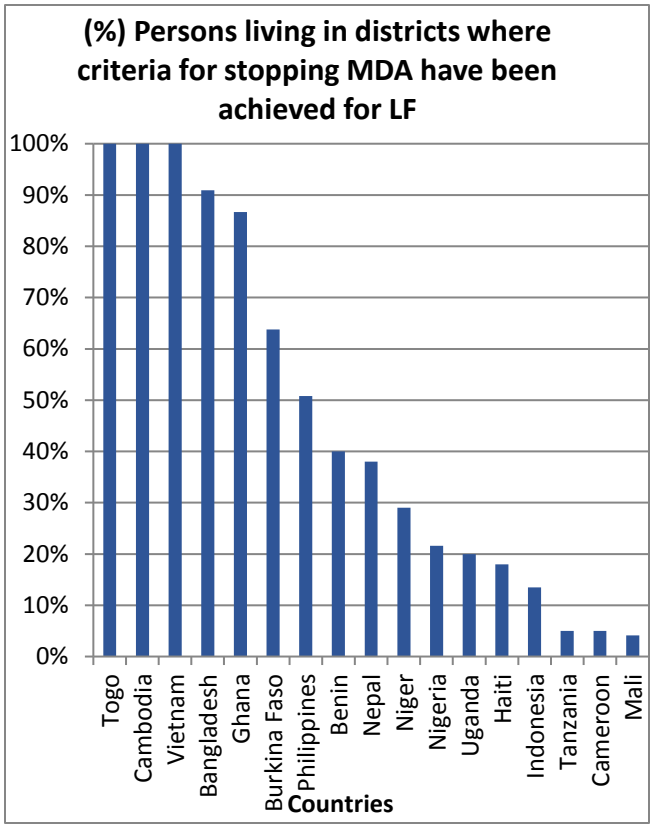
Table 2. Persons Living in Districts Where Criteria for Stopping MDA have been Achieved (millions)

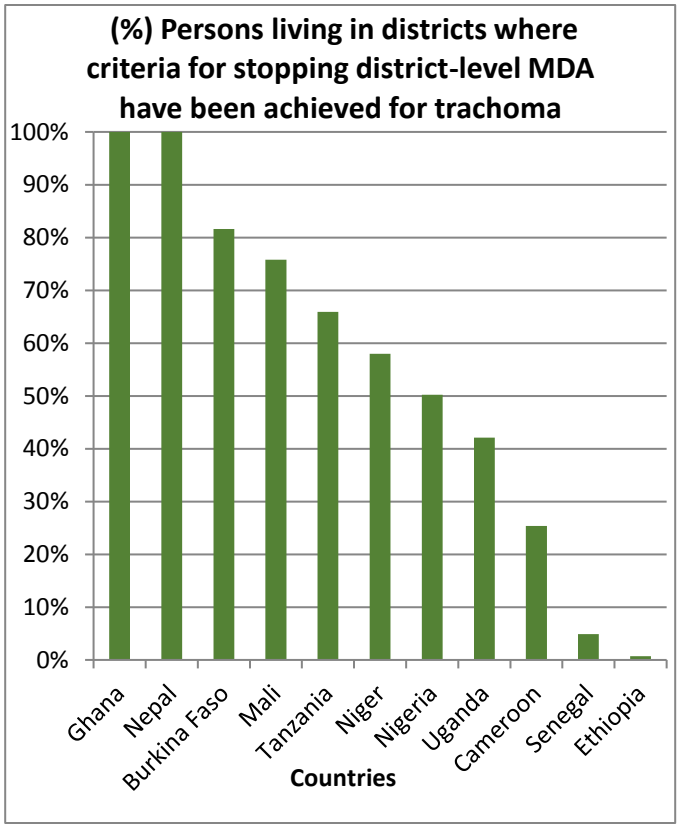
	2013	2014	2015	2016
Lymphatic filariasis	42.4	92.5	140.5	198.4
Trachoma	35.8	45.5	65.6	83.7
Onchocerciasis (Africa)			2.4	2.5

Source: USAID Progress Toward 2020 Goals

As Table 2 shows, an increasing number of persons are living in areas where MDA treatment has stopped. This number is expected to continue to rise, increasing rapidly in the next several years as MDA will likely stop treatment for trachoma and LF in a number of districts in various countries. Figure 8 below, which is based on the results of Transmission Assessment Surveys (TASs) and Trachoma Impact Surveys (TISs), shows the proportion of the population living in districts of 17 countries where MDA has been stopped for LF, and also districts in 10 countries where MDA for trachoma has stopped.

Figure 8. Percentage of Persons Living in Districts Where MDA for LF and Trachoma, Respectively, Have Stopped *(Source: USAID 2016 Portfolio Review)*





The Future

During the 10 years of the current USAID NTD Program, the treatment focus has moved from the control of disease to the pursuit of elimination of the public health burden from LF and trachoma by 2020, and the transmission of onchocerciasis by 2025. MDA has ceased in a number of locations for LF and trachoma. For LF, by the end of FY 2017, it was projected that MDA will be stopped in Bangladesh, Cambodia, Vietnam, Mali, and Laos; post-MDA surveillance will remain ongoing. Togo has become the first African country where all LF treatment has stopped. For trachoma, by 2017 MDA was projected to be stopped in Nepal, Mali, and Cameroon, with post-MDA surveillance being in place. Onchocerciasis transmission has stopped in all but a few foci areas in the Americas, and is now absent in many African foci. Persisting morbidity from LF, trachoma, and schistosomiasis remains a problem in some areas.

In many areas, worm burdens have been substantially reduced for STHs, and the transmission of schistosomiasis has been minimized through the treatment of schoolchildren. Creative strategies are needed to expand the control efforts for school-age children, and to address the transmission complexities for schistosomiasis. The LF treatment cessation in many communities will likely affect their STH control levels as well.

Moving forward, there will be decreases in the number of treatments given for LF and trachoma as MDA is stopped, because the prevalence of the diseases drop below the established WHO threshold. Onchocerciasis treatments will not substantially diminish, although more individual foci in Africa will stop treatment as transmission is eliminated. It is worth noting that with the end of APOC, despite some dire predictions, there was no fall-off in requests for ivermectin or, it appears, in the actual number of treatments given.

The new IDA (a combination of ivermectin, diethylcarbamazine citrate, and albendazole) approach to treatment of LF will provide an increased demand for ivermectin largely outside of Africa, but its impact on the demand for albendazole is yet to be seen. An ongoing issue is the fact that no single donor covers all countries for any one NTD. Thus, depending on the thoroughness of efforts, the risk of cross-border recontamination persists in some areas.

Below are status summaries for each PCT disease at the time of the evaluation, with future projections, when applicable.

Trachoma. At the time of the evaluation, the USAID NTD Program supported trachoma treatment in 18 countries, all but two of which (Benin and DRC) had started treatment by 2016. Five countries had areas that stopped treatment in 2015, which includes the Nigerian states that USAID supports. In 2016, an additional three countries were expected to stop treatment. Four countries were expected to stop treatment by 2020, and a remaining six were expected to stop sometime after that date.

Lymphatic filariasis. USAID was supporting 25 countries for the mass treatment of lymphatic filariasis. By 2016, all countries except Côte d'Ivoire had started MDA. Three had already stopped MDA treatment in 2015: Togo, Cambodia, and Vietnam. Four additional countries were expected to stop MDA in 2017, and 10 more countries by 2020. There were eight countries where the date for stopping treatment was anticipated beyond 2020. All countries except Indonesia and DRC had completed mapping, and for these two countries, mapping was over 90% complete.

Onchocerciasis. MDA administration was supported in 16 countries, excluding the Americas. No USAID-supported African country had stopped treatment, though MDA had ceased in a number of Ugandan foci. Cessation of treatment in Senegal and Mali was still expected at the time of the report. All USAID-assisted countries were expected to meet their goals of stopping MDA by 2020 with the exception of DRC, based on earlier APOC projections. Is it worth noting that in the southwest corner of Burkina Faso there was recrudescence of onchocerciasis a few years ago, possibly originating from Côte d'Ivoire or Ghana. This highlights the importance of cross-border collaboration, as well as the importance of expanding onchocerciasis into formerly low endemicity areas and the extra steps needed to eliminate the disease.

Schistosomiasis. MDA supported by USAID reached 14 countries during the current program phase, but it took until 2016 for all endemic countries to distribute treatments. Only three countries distributed praziquantel every year throughout the period: Cameroon, Uganda, and Burkina Faso. In some endemic areas with lighter infections, alternate-year treatment schemes have adopted the focal distribution of praziquantel, per WHO guidelines. However, USAID-supported MDA is confined to schools in most of the endemic districts, and their locations may not correspond to the endemic areas (which are close to water bodies). Discussions continue at country and global levels about the potential for wider targeting and possible elimination of schistosomiasis, although there is not yet a clear mandate.

Soil-Transmitted Helminths. The USAID NTD Program has supported activities against STH in 19 countries. All but two of these countries have been completely mapped for STH. In 13 of the 19 countries, MDA for STH had started in all endemic districts at the time of the evaluation. For the remaining six countries, MDA distribution had started in all countries, although this varied from 30% to 96% of the endemic districts.

IV. FINDINGS

Question 1. Global Leadership

The first evaluation question was on global leadership: How have the USAID NTD Program and the implementing partners influenced global policy, best practices?

While this first section addresses the global perspective, the authors recognize that global perceptions are also based on program performance at regional and country levels.

1.1 Global Perspectives

The USAID NTD Program was the first large-scale program to support control and to focus on the elimination of NTDs, particularly LF, trachoma, and onchocerciasis. Because of the size and flexibility of programming, the commitment to many of the worst-affected endemic countries, and its close collaboration with WHO and with other donors, the USAID NTD Program was able to play an extraordinarily strong leadership role for addressing NTDs. This leadership position has been further enforced by the strong partnerships it has had across organizations and among donors. Most substantive has been the donation of medicines by the pharmaceutical manufacturers, which has underpinned the entire control and elimination effort. USAID's achievements have created the authority, leadership, and convening capacities that other organizations may not have had. It had a major influence on the creation of the 2012 London Declaration on Neglected Tropical Diseases, and its continued support.

When the USAID NTD Program began in 2006, the focus of NTD treatment was on the control of disease and elimination of the public health consequences of diseases. The USAID NTD Program started with the ambitious objective of the integration of disease-specific programming for control of the five PCT diseases. This step was begun with little precedent on how large-scale control could be approached. From the beginning, the NTD program worked closely to support the WHO Department of Control of Neglected Tropical Diseases, and the subsequent WHO roadmap it created to help control and eliminate NTDs.

A few years later in 2010, the NTD community focus shifted toward elimination of transmission and infection (during the expansion phase of the USAID NTD Program), which posed programmatic choices. Initially, the elimination of the public health burden, and later the elimination of disease for onchocerciasis, lymphatic filariasis, and blinding trachoma, were identified as achievable goals by 2020 for some countries. For these three PCT diseases, a direction-setting activity—which could be more fully explored—is helping some countries to set a pathway toward disease elimination and dossier development, where elimination criteria are clear. A generic framework for the criteria for control, elimination, and eradication of NTDs has been set out. A validation framework for LF and trachoma exists; for onchocerciasis, only the specific verification requirements have been finalized.[22,23] It is important to note that this process for elimination was clearly understood by ministry NTD program senior personnel; however, for some health workers, it was only vaguely understood. It might be

[22] WHO. Guidelines for stopping mass drug administration and verifying elimination of human onchocerciasis. Geneva: WHO, 2016.
[23] WHO. Generic framework for control, elimination and eradication of neglected tropical diseases. Geneva: WHO, 2015.

valuable to request that countries regularly update and share their stop treatment plans with all staff, so that all will fully understand the various timelines.

Schistosomiasis and STH have largely remained control objectives; although they are part of the elimination-focused MDA agenda, and are supported by generous medicine donation programs, elimination of these diseases will not be achieved with the current tools. The school deworming programs have benefited from LF programs for albendazole, although much of the treatment of schoolchildren is often done through ministries of education. The phase-out of LF MDA programs, after LF treatment has been completed, poses a considerable risk to coverage for these STH programs. In April 2016, USAID convened groups involved in STH to consider the transition of treatment in a post-LF status. This step helped to clarify several issues around goals, data on prevalence, the need for monitoring and evaluation, and the nature of programming for the STH community. It was an example of the convening capacity that the USAID NTD Program has earned through its capacity building work and leadership experience.

Data collection. A central component of the WHO and USAID NTD programs has been the emphasis on data, which is discussed in more detail below. While existing disease-specific programs did have some data elements, the USAID NTD Program played an important global leadership role in helping to support the use of WHO reporting forms, which standardized disease program information. Other important areas of emphasis included completion or updating of disease mapping, consolidating geographic and therapeutic coverage data, supporting Transmission Assessment Surveys and Trachoma Impact Surveys, and helping to build national NTD databases (designed by WHO). As some of these activities had been lagging before, their completion was seen as a major contribution.

Online survey. Within the context of direction-setting, goals, and plans, one must weigh the perceptions of online survey respondents of the Global/WHO NTD goals as a guiding principle. Most respondents thought that the Global/WHO NTD goals align adequately (53%) or fully (35%) with their own national priorities. This situation is accepted as a given by most respondents, as exemplified by one respondent who said, "The country follows the WHO guidelines for any activity." Another explained that, "My country changed priorities to align with WHO NTD goals." One national NTD Program staff member explained, "The national priorities are guided by the WHO Roadmap for NTD control, Uniting to Combat NTDs, and the WHO AFRO NTD Strategy. (Our) country priorities and NTD Master Plan were developed based on (WHO) documents."

1.1.1 Interaction with the WHO NTD Program

The opinion of WHO NTD program leadership is that the USAID NTD Program has been a consistently strong supporter of methods and activities set out in WHO's vision for NTD control and elimination (which was subsequently set out in its implementation roadmap.)[24] Making program resources available has helped countries realize the WHO recommended goal of an integrated approach toward a national NTD platform, and incorporating the platforms into national health planning. This emphasis on integration has involved various innovative approaches through USAID implementing partners, and would not have been possible without USAID assistance. A further WHO recommendation, for which USAID has provided strong assistance, is the development of country ownership. An additional WHO objective seeks the building of district-level NTD management

[24] WHO. Accelerating work to overcome the global impact of neglected tropical diseases. A roadmap for implementation. Geneva: WHO, 2012.

capacities; the use of FOGs by district authorities has been a major capacity-building activity in many locations. At the start of USAID NTD programming, there was an intention to document the economies-of-scale that will be realized from the integration of programs. Some work, but not much, has been done on this documentation.

In the countries visited, there was a WHO National Professional Officer (NPO) with a primary responsibility for NTDs. All NPOs interviewed for this evaluation seemed very knowledgeable about national plans, and, usually, the activities of the IPs. In most cases, they had been extensively involved in establishing the national plan for the current year. In one country, the NPO complained that the IPs had not involved the WHO country office fully in communications concerning planning, but this seemed an isolated finding.

1.1.2 Interaction with Other Donors

Donor interaction has been very successful and is in fulfillment of the U.S. Congressional specification for project funding. The donors for the integrated programming are different than those for individual disease-specific programming, and mobilizing/leveraging additional donor support has been an area in which USAID has played an important role. An example has been the developing NTD partnership with DFID, in which there has been an effort to complement other NTD activities, both geographically and in focus areas (such as with the morbidity control activities). A solid benefit of the close donor collaboration with DFID and the END projects has been ensuring that disease mapping and MDA are provided in as many countries as possible. This collaboration has allowed complementary activities to be carried out across 42 countries globally. In other donor-supported sectors, such as water, sanitation, and hygiene (WASH) and education, collaboration is more complex. During the country visits, persons interviewed reported that collaboration was easier where WASH activities were part of an established intervention, such as the WHO surgery, antibiotics, facial cleanliness, and environmental improvement (SAFE) strategy for trachoma, where there are specific actions to be taken.

In some locations, various donor-supported programs not specifically connected to NTDs, such as school health and malaria control, have been working with NGOs and IPs. The NTD program has interacted closely with the Bill & Melinda Gates Foundation (BMGF) to support operational and other research initiatives that complemented the MDA approach. Research activities supported by the USAID NTD Program were not included in this evaluation; however, several donors commended the research support provided. An example of operational research contributions is the identification of high microfilaria counts of *Loa loa,* which precluded ivermectin treatment for onchocerciasis and LF.[25] Recent BMGF-supported research suggests that MDA (for all persons over two years) with albendazole in *Loa loa* areas for three years has a dramatic impact on both LF and STH levels in areas where ivermectin cannot be administered.[26]

Major donors to NTD control efforts have been the pharmaceutical manufacturers, with whom the NTD program has maintained close relationships. Their contributions have been both in pharmaceutical products as well as direct financial grants. Many of these donations have been long-standing, functioning

[25] D'Ambrosio M.V., Bakalar M., Bennuru S., Reber C.1., et al. Point-of-care quantification of blood-borne filarial parasites with a mobile phone microscope. Science Translational Medicine. 2015, May 6:7(286):286 re4. doi: 10.1126/scitranslmed.aaa3480.
[26] Pion, S.D.P., Chesnais, C.B., Weil, G.J., Fischer, P.U., Missamou, F., and Boussinesq, M. Effect of 3 years of biannual mass drug administration with albendazole on lymphatic filariasis and soil-transmitted helminth infections: a community-based study in Republic of the Congo. Lancet Infectious Diseases. 2017, March 31. pii: S1473-3099(17)30175-5. doi: 10.1016/S1473-3099(17)30175-5.

through intermediary organizations such as the Mectizan Donation Program (MDP), the International Trachoma Initiative (ITI), and various deworming programs, such as Children Without Worms.

Overall, major donors speak highly of the collaboration with the USAID NTD Program, and acknowledge that USAID support was the catalyst for moving the NTD agenda from a peripheral to a central component of global health programming. Donors reflected that USAID learned rapidly during program implementation and in relationships with countries and IPs, realigning implementation as required.

1.1.3 Interaction with Other USAID Programs

The USAID NTD Program does not have a direct presence in USAID Missions where programs are implemented. In general, Mission staff expressed the desire to know more about NTD efforts, due to the importance of sharing with the U.S. ambassador any success stories and enabling him/her to communicate these successes more broadly.

Another issue that arose in discussions was learning from the experiences of other USAID programs, such as the President's Emergency Plan for AIDS Relief (PEPFAR), the President's Malaria Initiative (PMI), and various bilateral and global reproductive, maternal, newborn, and child health (RMNCH) efforts. Lessons learned ranged from the need to strengthen health information systems to staff development activities. These programs also focus on regularly updating national strategies and guidelines in collaboration with WHO. Lessons could also be shared across programs using community health workers/volunteers for home-based HIV care, and community case management of malaria.

1.2 Regional Perspective

The USAID NTD Program continues to play a major role in direction setting for current and future activities with the APOC follow-on, the Expanded Special Project for Elimination of Neglected Tropical Diseases (ESPEN) program of the WHO Regional Office for Africa (AFRO). WHO leadership continues to look to USAID for support for existing programs and innovative ideas to take the NTD agenda forward. The ESPEN program is now taking an increasingly active role in setting the agenda following the closure of APOC and in building bilateral relationships within USAID-supported countries. This evolving ESPEN activity is recognized and appreciated by countries in the AFRO region with an awareness of USAID support.

The efficient and structured support approach by USAID, and the use of NGOs and IPs to provide technical support, is a somewhat different approach than the WHO-to-government approach of APOC (which provided considerable support that was sometimes less focused on immediate results). The WHO type of support is an approach that many African countries know, although countries have appreciated NGO-to-country approaches (such as by the Carter Center and Sightsavers). USAID has supported ESPEN through financial and staff support; increasing support to ESPEN, particularly in technical areas, could help build the agenda to provide regional support to the WHO AFRO office.

At the time of the evaluation, ESPEN was still an unknown entity to most country programs, and was lacking the hands-on approach that countries saw from APOC for onchocerciasis and LF. Helping to get ESPEN more involved with countries and in providing technical assistance would be an important step toward building more regional interaction and mutual support.

A common theme of in-depth interviews and country visits was that, since the demise of APOC, there is a lack of regional mechanisms to bring countries together for joint epidemiological review and planning.

While NTD stakeholders definitely recognized a global leadership role for USAID in advocating and promoting the NTD agenda (and thus stimulating other partners to step up and move forward in concert), there was concern that a similar process was not happening within regions and sub-regions.

Nonetheless, the USAID NTD Program was able to create an environment where some spontaneous, supportive regional activities arose, and regional training activities were successfully organized and appreciated. An example was the supply chain training in Ethiopia in 2015, run by the USAID-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) and attended by staff from Ethiopia, Uganda, and Tanzania.

During evaluation site visits, MOH program officers expressed a desire for more regional and sub-regional collaboration among NTD programs. They felt more collaboration could help share national capacities and promote regional sharing of laboratory resources (where appropriate).

Further, it was expressed that building an NTD regional structure would encourage the development of local leadership. The cross-fertilization of ideas and experiences among NTD programs in the region can most certainly enrich individual countries. These experiences also would allow the development of "collaboratives," an emerging idea in quality improvement circles; these consist of several quality improvement teams across sites (and countries) working together on a common problem to determine approaches that have common applicability. Regional learning approaches have worked well in low-income as well as high-income countries.

The END and ENVISION projects have an opportunity to play a role in working with the developing WHO ESPEN program to maintain a regional perspective. Such a collaboration could have immediate utility in examining regional issues and cross-border transmission problems, which are a persisting dilemma. The Roll Back Malaria Partnership with sub-regional networks (SRNs) might be a useful model. These bring the ministries of health and partners together in West Africa (WARN), East Africa (EARN), Central Africa (CARN), and Southern Africa (SARN). There are SRN focal persons to facilitate communication and meetings (most are supported by the United Nations Children's Fund [UNICEF]).

Local collaborations in some places do exist around specific regional disease foci. The ecological and epidemiological onchocerciasis transmission area that comprises southwest Burkina Faso, northwest Ghana, and northeast Côte d'Ivoire has created cooperation. Initial discussions among countries are a small-scale but important step and are reminiscent of cross-border malaria partnerships, such as the Trans-Cunene with Angola and Namibia. The health secretariat of the Manu River Union (Guinea, Liberia, Sierra Leone, and Côte d'Ivoire) had been a forum for addressing onchocerciasis initially, but subsequently moved to include all five PCT NTDs.[27]

Regional coordinators for RTI International and FHI 360 are located in Tanzania and Ghana, respectively. At present, they seem to play little role in coordinating or convening regional or sub-regional conferences or dialogs. Some regional laboratory capacities and epidemiological/entomological resources are present in Uganda, Nigeria, and Cameroon, and could be utilized for both training and technical support. Building this type of network could help deal with cross-border issues. Already, regional capacities have helped develop elimination plans for onchocerciasis.

[27] Gustavsen, K., Sodahlon, Y., and Bush, S. Cross-border collaboration for neglected tropical disease efforts—Lessons learned from onchocerciasis control and elimination in the Mano River Union (West Africa). Globalization and Health, 2016, 12:44. doi: 10.1186/s12992-016-0185-5.

USAID has regional offices in Accra and Nairobi. The funding and program focus on the NTD effort does not enable a country-based technical representation in the USAID Missions. An NTD focal person at the regional level could be an asset in enabling sub-regional communication and interaction and to help pull together both ENVISION and END program personnel and IPs across countries to build program partnerships. Building regional collaboration was an APOC goal, but it was only sometimes realized. It is uncertain how much collaboration and sharing can be achieved by the much smaller, but now growing, ESPEN.

1.3 Country Perspective

Leadership. The primary USAID country partners are countries whose programs are supported by the ENVISION or the END program implementers. A key program assumption is that countries will take an increasingly larger responsibility for national NTD management. This step has been achieved through the increased professionalism among MOH NTD program staff, but also through a sense of security that countries had in knowing that multi-year funding was available. These two elements provided the basis for short- and medium-term planning and built leadership at the national and sub-national levels. In several countries, this process also built leadership and program capacity among national NGOs involved in program implementation. A good example of this is how the funding from ENVISION expanded the work of the NGO, Nepal Netra Jyoti Sangh (NNJS), enabling it to move decisively toward the elimination of trachoma in Nepal.

National NTD leadership perceives, to varying degrees, the advantages of being a USAID partner, which means being part of a larger group of countries pursuing NTD management. Even if there were no collaboration among countries, this partnership provided many persons interviewed with a sense of being a partner in a large activity addressing common problems. The initial focus of USAID program support was the integration of services. Key MOH leaders in several countries, such as Uganda and Tanzania, quickly saw the advantages in this, and strongly supported the integrations. The general response of national NTD program staff interviewed was that the USAID support had enabled substantial NTD achievements in their countries, and had brought to the national NTD programs the capacity to plan nationally with a sense of support continuity.

Online survey: communications. From the perspective of online survey respondents, 58.9% said that the USAID NTD Program had been effective in communicating its goals and accomplishments among partners at the national level in their countries. A few (12.5%) said communication had been very effective. Sixteen percent were uncertain whether this communication had been effective, and 12.5% felt that it had been only somewhat effective.

While most respondents perceived that much effort had been put into the USAID NTD initiatives, they felt that the communication about the program goals and results was not regular, nor adequate enough. One person thought that annual review meetings were a good opportunity to communicate among partners, but more national-level meetings would help. The following comments were made in the online survey about communication within the program:

- Documentation and dissemination of success stories remain a weak area.
- More transparency and timeliness in communication about their contributions would be valuable.
- Although the partners are all very aware of ENVISION it was not clear that partners were always aware of the accomplishments.

- The MOH cadres should be more aware of the status of the program, the successes, the challenges.
- The media should be more strategically involved, not only once there is MDA.
- NTD programs are not as visible as the MOH's other disease control programs.

1.3.1 Facilitating Integrated Planning and Management

The access to extensive support from USAID made the difficult transition to an integrated national program possible for many countries, although the level of integration of national NTD planning and management is more complete in some countries than in others. The support from USAID was widely welcomed by ministries, which were able to see early on the improved efficiency and effectiveness enabled by integration. Integrated planning helped to clearly reveal resources on hand, those required, and any gaps. This access proved especially useful in estimating potential needs for medications and personnel, and potential shortfalls.

The IPs facilitated the integration process with the goal of improving planning and management. The resulting structure varied by country; in some cases, offices are in the vector-borne disease division, communicable diseases sections, or in disease control divisions. The disease patterns also governed the integrated structures. For example, where LF was the predominant disease, LF programming received the greatest emphasis. Facilitation by IPs helped establish steering committees, technical committees, and disease-specific working groups. In most countries, these committees are functional.

While the NTD programs were well understood by senior MOH personnel, and USAID support was appreciated, it seemed that awareness of NTDs has not always translated into an open incorporation of NTD programming into MOH mainstream policy and practices. In some countries, such as Tanzania, the location of all program focal persons in a single office with an integrated management structure has worked well. In other situations, such as in Nepal, the same level of integration was not achievable within the existing organizational structure. For yet another example, in Uganda, there is a co-location of all programs and an overarching management structure, but some long-standing programs, such as the onchocerciasis program sponsored by the Carter Center, have their own resources and operate with limited direct management input from the national NTD program.

In Ghana, the USAID NTD implementing partner seconded staff into the NTD program unit of the MOH. This arrangement was seen positively and enabled direct support, communication, and planning. In Burkina Faso, the IP, though not located within the MOH, was considered always available and reliable. In addition, because USAID was the county's major NTD donor, the IP was a valuable resource in convening annual planning among partners (a process that was seen as efficient and inclusive in most countries visited). As one online survey respondent explained, "We always receive technical support for our work plan from the USAID program." The involvement of sub-national staff and partners was mentioned as a benefit. In Uganda, involvement of district team members in the planning process gave them a strong sense of ownership.

In Nepal, however, the two NTD programs were located in different locations within the MOH compound, and the trachoma program was some distance away in the offices of the NGO implementing agency. In Cameroon, the IP "invited" the national NTD Coordination Unit to attend its planning meetings. This was challenging because the unit management staff is small, it is located far from the IP office, and it did not have experience working on a planning schedule that started several months prior to the usual ministry planning period.

Note: In many locations, the USAID planning cycle does not correspond to the country planning cycle, which requires adjustment. In countries with other U.S. Government programs, like RMNCH, PMI and PEPFAR, the ministries were used to the planning timetable and adjusted accordingly.

Online survey. Because of differences in planning cycles and approaches, online survey respondents were asked about the extent to which USAID NTD Program efforts supported national planning processes. Respondents were asked first how useful USAID support has been for promoting effective, inclusive, and comprehensive annual planning processes for NTD programs in their countries. Most thought it was either useful (36%) or very useful (40%). Some (8%) were uncertain, while 16% said it was somewhat or not useful.

Some concerns were expressed through the survey. One person worried that, "Contributions of other partners is still something desired but not yet achieved." This is because USAID-supported planning focuses "mainly on the USAID-funded plan" and not the overall national plan. This contrasts with the aims of HIV and malaria programming, in which partners stress the development of one national strategy and plan. Another commented that the planning process "has been very effective for individual NTDs, but has not been more effective for integration."

More specifically, respondents were asked how well coordinated and harmonized the USAID NTD Program support was for their annual planning process. Most thought it was well coordinated and harmonized (44%) or very well coordinated and harmonized (27%). Others (16.1%) were either uncertain or did not see adequate coordination and harmonization.

Regarding the annual planning process, one respondent observed that "USAID gives an orientation on the tools to use, shares the guidelines to follow up, and [provides] comments for clarifications." However, another pointed out the planning cycle challenges (as noted above). More specifically, "The USAID financial year runs from October to September while that of [our] Government … and other program partners runs from January to December; however, there have been efforts to successfully coordinate these processes."

A practical implementation problem was pointed out, even though planning went smoothly. "It is well coordinated, except the approval process takes a long time and delays our implementing process. The FOG contracts aren't available until December-January for a fiscal year that starts in October."

1.3.2 Country Relationships with Implementing Partners and National Programs

At least three types of NGO/IP collaborations were evident, with overlap within some countries. Ghana exemplified one approach by actually embedding staff within the NTD program for planning and operational purposes. A similar pattern was present in Tanzania. A second approach was seen in Burkina Faso, where the IP provided routine support to the NTD program and hosted all partners at annual planning meetings. This approach was also seen in Uganda and Nepal.

A third approach was noted in Cameroon. It appeared that the IP worked at a distance from the NTD Coordination Unit, where it (and its other three subcontractors) contracted directly with regions for operations. While WHO had encouraged Cameroon, Ghana, and Burkina Faso to have master plans to which all partners were expected to subscribe, it appeared that the IP in Cameroon focused more on its own annual work plans. Their NTD Coordination Unit participated in this process to some extent, but not as fully as in Burkina Faso. Since USAID funds were the main program support in both countries, the differences in approach seemed to derive from differences in capacity and attitudes between the NGO/IP and the program. In Cameroon, there was evidence of communication bottlenecks in the

collaboration between the MOH and the IP, and clear lines defining roles were lacking. In Nepal, the IP supported a FOG with a large Nepalese eye NGO to manage trachoma activities, as the MOH had little primary eye-care capacity, and traditionally "outsourced" eye services.

The FOG mechanism is used to support public-sector activities and some NGO activities. Commonly, this mechanism is used to support advocacy, mapping, training, information, education and communication materials, social mobilization, drug delivery, registration, drug distribution, supportive supervision, and M&E. FOGs were also used to implement disease-specific assessments.

Some national program staff felt that the IP program was taking too active a role, tending toward implementation rather than just providing support. This may have been true in situations where national programs were slow in implementation. However, some national programs resented the IP signing FOG agreements with the district authorities directly and not routing the funds through the national programs. Of course, this was a major reason for establishing FOGs: to circumvent delays and the lack of accountability of funds dispersed to the districts through the central program. In some countries, the perceived concern was simply that the IP was not involving the national NTD program in developing sub-national agreements with other levels of governance, which would ultimately still need to coordinate with and report to the national program. The FOG mechanism is working well in countries visited, and complaints of circumventing the national program may have been related to other underlying issues.

There are understandable reasons why FOGs would have been negotiated with the districts themselves. This approach is not only practical in the decentralized health systems of many countries, but it builds district capacities, which is a WHO intent. This approach also expedited the movement of funds to districts, avoiding the delays that can cause resources to move slowly from the central ministry level. Including district civil authorities, rather than just the health team, in agreeing to the FOGs encourages a wider responsibility for achieving health outcomes. Countries with weak peripheral health services may still fail to deliver NTD services with additional funding, and better results may come from strengthening central government services. In some countries, such as Nepal, responsibilities for the funding of FOGs were divided between the government and the USAID NTD Program.

There were some complaints about the extensive reporting processes required by FOGs from at least one of the IPs and some of the national programs. To address this, additional training was given to accountants in grants management, particularly at the district level, to facilitate the completion of local grant reports. There were difficulties at times with dispersal of fund to the IPs, although this does not seem to have been a common issue.

1.3.3 Coordinating Implementation

A concern for all flexible and multifaceted programs is how well the various components are coordinated. In general, the evaluators found that the stronger national programs were effective in keeping their efforts well-coordinated. This was not surprising, as coordination and communication are key management components. A particular example was Tanzania, where all disease focal persons were in the same office, including the monitoring and evaluation person seconded by the subcontractor, IMA World Health. A common theme that emerged when each of the focal persons was interviewed was that, having a common office, each focal person could overhear the activities of the others from other disease activities. They felt this gave them a common understanding of the disease activities and allowed them to fill in for their colleagues when they were in the field.

The NTD national professional officers at the WHO offices also contributed. Those who were visited by the evaluators were playing an important role in the coordination process among the national NTD programs, the implementing partners, and other stakeholders.

The coordinating process for delivery of STH MDA varied widely among countries visited, and provides an illustration of how coordination implementation can differ among programs. In some countries, coordinating the distribution was done entirely through the ministry or department of education, with medicines supplied to the ministries and reports going to the ministry of education. In other countries, activities were coordinated between education and NTD focal persons at the district level, who would ensure that schools received medicines. In at least one country, there was some confusion about how medicine distribution information was routed to the central MOH for inclusion in national records.

Online survey. Respondents were asked about ways to improve coordination and communication. Those surveyed were asked how USAID NTD Program planning and national NTD programming could be better coordinated. The responses are shown in Figure 9 below, with the largest number of respondents calling for more openness in budgeting. Additional survey comments suggest the need for better continuity between the different project fiscal years, and a desire for improved communication between USAID IPs and national program leadership and staff.

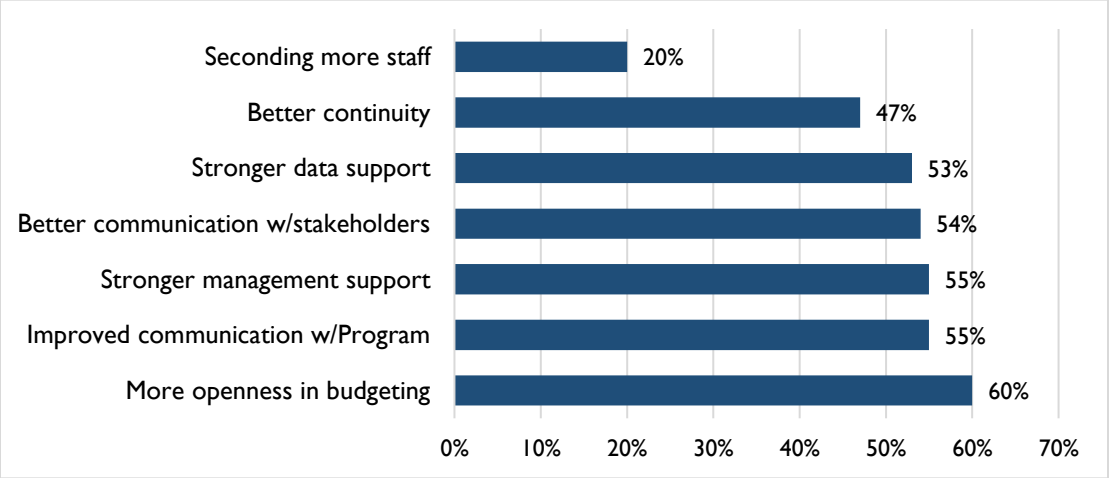


Figure 9. Suggestions by Survey Respondents for Improvement of Coordination and Other Support Elements Between USAID NTD Program Planning and National NTD Programming *(Source: Online Survey Responses)*

1.3.4 Relationships among USAID Missions, Implementing Partners, and MOHs

There is a lack of a direct, monitoring role of the local USAID Missions for the NTD interventions. This situation is unlike most USAID health and disease control programs, including PMI and PEPFAR, in which local Mission management is a major program component. This arrangement arose from the direction of the U.S. Congress; it was seen as time-limited, and with a need for a strong, uniformed focus with limited resources. The result was the development of three centralized mechanisms, ENVISION, END in Africa, and END in Asia, whose contracted partners (RTI International and FHI 360, respectively) would be the on-the-ground implementers, either directly or through subcontractors. Thus, USAID relied on these implementing partners not only to establish and run programs in designated countries, but also to serve as the main conduit of information—both program data and other communication from the field, since there is no funding for USAID Country Mission staff to interact with NTD efforts on the ground.

The perceived effect of this arrangement varied among countries and between Missions and ministries. Several countries expressed concern that there was no direct communication between the national NTD program and the ultimate donor, USAID. USAID Missions often have the most effective communication with ministries of health, which could be advantageous in large programs like those addressing NTDs. Nationally, ministry of health experiences with other USAID-supported programs, such as PEPFAR and PMI, led some MOH staff to expect that there would be a program focal person within the country's USAID Mission. While the rationale for a leaner approach and standard methods is well understood in Washington, D.C., it was not appreciated in some countries.

The concern regarding an NTD focal person was expressed in settings where the relationship with the IP was good and also in settings where it was a bit more strained. MOH staff had experience with the discursive or intermediary role that the Mission had played between the MOH and the IP in other program areas, such as malaria control. This potential mediatory role was seen as most valuable in situations where there was a strong, well-established IP and a newly formed and weak NTD program. At the same time, involving the country Missions would raise the potential for modifications to a standardized program approach, which could result in variations in implementation. In one instance, for example, movement of money for NTD activities was attempted through the USAID/Senegal Mission, and reportedly this step did not go smoothly.

Based on the foregoing, three general communication scenarios were observed. In one example, the national NTD program worked confidently with the IP and saw no need to communicate with USAID. USAID officials were occasionally invited to NTD program events, and the regional IP office shared reports with the Missions, but as far as day-to-day functioning, the national program was satisfied. (In one instance, it had not occurred to either the IP or the NTD program to contact the Mission, and they did not know how best to do so.) In another country, the NTD partners indicated that they sent reports to the Mission, but never had any feedback. The USAID Mission in another country visited was aware of the NTD IP, and requested that the team provide them NTD program information so they could supply it to the national government when asked.

In a second example, the working relationship between the IP and the national program functioned well. At the same time, the national program felt the need to see the actual donor face-to-face as a kind of reassurance. The local USAID Mission itself was more than willing to interact with the NTD program, but since no staff funding level for such an interaction was allocated, the Mission had only occasional contact with the program. At another Mission, there was a feeling that there was much to be shared among the various USAID-supported programs, and they regretted that the NTD partners were not accessible for discussions.

The third example arose from poor communication between the IP and the national program. The national program did not understand the concepts of the fixed obligation grants and USAID planning cycles; they complained of a lack of transparency on the part of the IP when it came to funding and even data management. Similar situations have arisen with malaria programs, where designated PMI/Mission staff play a crucial role in bridging communication and working gaps between IPs and national partners.

Although many MDA-related activities are time-bound and would not warrant a full-time USAID Mission liaison, it might be helpful on a case-by-case basis to support a percentage of a Mission health person's time/salary, in order to occasionally meet with both parties and receive direct reports. Alternatively, or in addition, there should be routine and direct sharing of reports from the NTD projects with the Mission Director or Health Officer, and a face-to-face presentation.

1.3.5 Relations with Other Health and Development Programs

In country visits, the evaluation team found examples of cross-sectoral collaboration, but these were predominantly at the operational levels.

The nature of trachoma interventions using the SAFE strategy lent itself to collaboration with WASH activities that were ongoing at the district and community levels. There were clearly commonalities in messages for personal hygiene and environmental improvement, particularly with sanitation. In several countries, the evaluators found that NTD trachoma programs were working with district-level WASH initiatives, funded by various donors. However, in no cases did the evaluators find national-level collaboration between NTD-trachoma activities and national WASH programs.

For the STH programs in schools, there was collaboration with the district education officers in most countries visited for estimations of drug needs and reporting of treatments. This connection also was important for the selection and training of teachers to oversee school distribution. At the national level, however, not much inter-sectoral collaboration was seen. Ministries of health often had organized school health departments, and ministries of education had strong school health curricula; however, these did not seem to interact with national NTD programs. As observed earlier, interactions of USAID-funded programs at the country level does offer an alternative option, in some cases, to share tools and lessons and to potentially collaborate in areas of mutual concern.

Online survey. Respondents to the online survey were asked about the integration of NTDs with other health and development programs, such as WASH, primary health care (PHC), and maternal, child, and newborn health (MCNH). Nineteen percent were either uncertain or felt that such efforts did not enhance NTD programming. Another 38% said this type of integration enhanced programming somewhat, while less than half (43%) thought there was much enhancement. As noted previously, the current NTD program focused on MDAs and not on other control activities like WASH (USAID funds WASH activities through a separate funding streams provided through the Bureau for Economic Growth, Education and Environment and the Bureau for Global Health), except as part of trachoma SAFE strategies. Some national program personnel reported that it was difficult to make such connections.

In their comments, respondents clearly recognized that the environment, including water and sanitation, plays a major role in transmission of NTDs. They mentioned the importance of bringing all stakeholders together to find solutions. The potential for recrudescence was a concern if environmental aspects were not integrated into overall NTD control.

Respondents also recognized that existing programs relied heavily on collaboration with the educational system, since, for example, children are particularly vulnerable to STHs. Mentioned repeatedly was the need to expand such programming to all ages of children, whether in school or not.

Overall, respondents felt that a multi-sectoral approach would move programs more quickly toward elimination of these diseases, and the gains could be sustained through behavior change focusing on environmental improvement.

1.4 Scope of the USAID NTD Approach

It is worth reiterating that the contributions of the USAID NTD Program "on the ground" are what gave it legitimacy and enhanced its leadership role in the global community. Successes notwithstanding,

there remain areas of work on NTDs that will need strengthening and new capacities supported as countries move toward stopping treatment and beyond to maintenance of transmission interruption.

1.4.1 Support to National Programs

During this evaluation, those interviewed discussed frequently the wide scope of activities undertaken by USAID IPs to support the national program, and the flexibility of adapting this support to where it was needed.

Developing leadership. In some countries, there was a wish expressed that the USAID NTD Program expand efforts to enhance national NTD program leadership through targeted training. However, in other countries, the building of leadership capacity was less of a concern. Such comments from country visits and from the online survey may represent specific leadership issues or technical areas.

Online survey. Online survey respondents gave their opinions on how well the USAID NTD efforts strengthened national NTD leadership. Forty-two percent said USAID strongly encouraged national leadership, and 39% agreed that USAID did encourage the development of the national leadership. Eleven percent saw little encouragement from the USAID program and 8% were uncertain. These results suggest that the perception was generally positive, but there may be room to strengthen this effort.

While few comments were given about leadership capacity building, those that did comment gave a more nuanced view. For example, "Although there is effort to encourage national leadership, implementing partners still take on a lot of the leadership. More needs to be done to ensure full MOH leadership." Others said, for example, "USAID needs to improve on this, [and] Government ownership [is] still weak, as partners tend to implement rather than support."

Mapping. A critical area of USAID NTD assistance cited by national NTD management staff was the USAID commitment to the completion of disease mapping in a number of countries. Reliable epidemiologic data and geographical disease distribution information were critical for planning and resource allocation. In some cases, additional areas were added to MDA areas on the basis of the mapping, and in other situations, districts dropped MDA based on the disappearance of disease that had been previous documented as present.

Certain countries had incomplete or out-of-date disease mapping. In Tanzania, for example, remapping for LF enabled a number of districts to be dropped from MDA. The continual reshaping of political boundaries in some countries poses mapping headaches. Some areas, such as areas treated for STH, require more detailed remapping to measure changes in the force of infection, which could alter treatment strategies. It may be that treatment of schoolchildren has not altered the overall burden of infection, and strategies to include a wider sector of the population are required. Likewise, some very early mapping many no longer be relevant for conditions as schistosomiasis and onchocerciasis, as ecological changes and population migration may have changed the disease pattern and force of infection.

Human capacity building was pursued with various approaches. Emphasis has been on supporting MDA through training distributors, supervisors, and first-line health workers. This process was generally recognized as being well done. There was some disappointment reported by national NTD program managers that capacity building did not follow the pattern of APOC. While both the USAID NTD Program and APOC carried out extensive training, APOC provided vehicles, equipment and in some

cases, graduate public health education to country program staff, which is very much remembered by many program staff. Vehicles have often been important in building and sustaining the capacity for MDA, particularly in difficult-to-reach areas where bicycles and motorcycles were particularly appreciated.

One particularly effective USAID NTD Program capacity-building approach, noted in several countries, was the seconding of qualified personnel by the IPs to positions in the national NTD program. This approach helped build skills of NTD programs staff "from the inside." Providing sound technical staff from outside the civil services supplied a fresh outlook on technical and management problems facing NTD programs. Overall, national NTD programs recognized that training and capacity building of any staff would have a long-term benefit to the ministries of health in areas such as data management, communication, and coordination, even when the elimination of NTDs succeeds.

The ***development of advocacy materials***, which were particularly useful to provincial and district public sector leaders, was also cited by a number of NTD managers as an important area of support received by programs. These materials helped build support for district-level activities with local governments, and were also important when used with setting up the FOG provisions.

1.4.2 Development of Tools

The USAID NTD Program is probably best known for its very directed and successful promotion of the integration of national NTD programs. When the NTD program began in 2006, there were few, if any, standardized tools to help national NTD programs to plan and manage NTD programs effectively. Tool development by ENVISION was an early priority to meet pressing needs. Some tools were developed on the specific request of WHO. For some tools, the development was a long and arduous process and, in some cases, stakeholders expressed frustration about the length of time required. (Annex 5 highlights the tools and resources recognized as preferred practice in the global NTD community.) While ENVISION has focused on introducing and implementing the tools in USAID portfolio countries, the project has supported the implementation and dissemination of various tools and resources in 72 countries. Table 3 shows the number and type of such tools provided by the program to the evaluation team.

Table 3. Tool/Job Aid and Quantity

Tool or aid	Number
Planning NTD programs	6
Managing MDAs	11
Impact assessments and surveillance	7
Data management and M&E	14

Source: Materials developed by RTI International

The USAID NTD-assisted programs now have at their disposal an array of tools that were specifically developed to help plan and manage national NTD programs effectively. It was probably the first time that many districts, through these tools, had access to information about disease burden, medications, human resources, and costs and costing gaps estimates, as well as having all these included in an annual treatment plan. In only one country visited did the NTD program staff feel that the USAID/ENVISION tools were not easy to use and were not always compatible with MOH approaches and methods.

Data quality tools were developed, which helped strengthen data management at the country level, a major objective. ENVISION recently launched the NTD toolbox, which is an online repository for all tools relevant to NTD programs. These tools have been presented at the NTD NGO Network (NNN)

meeting and the Coalition for Operational Research on Neglected Tropical Diseases (COR-NTD) annual meeting. Some of the tools were developed with WHO, or were commissioned by WHO and carry their endorsement. ENVISION is currently in the process of finalizing the format of the toolbox and reintroducing it to ENVISION country teams, ministries of health, and partners. As well, these tools have found applicability well beyond the NTD community, and have been widely appreciated.

1.4.3 Operational or Implementation Research

A number of operational research (OR) questions arose during country visits. Examples of these questions were: What can be done about reaching out-of-school children (and adults) for schistosomiasis MDAs? Why do disease "hot spots" persist and what interventions are needed in those? Why is acceptance of praziquantel good in some communities, and poor in others, when the communities otherwise seem very similar? How should areas where onchocerciasis is newly reported (e.g., Uganda) be investigated?

The USAID NTD Program has provided or enabled the availability of multiple OR resources to country programs. A principal research resource that is directly supported by the USAID NTD project is the NTD Support Center in Atlanta, GA (not part of this evaluation), which has conducted a number of research studies in countries that are part of the NTD program.[28,29] The African Research Network for Neglected Tropical Diseases (ARNTD) also supports country-level grants through the Coalition for Operational Research on Neglected Tropical Diseases. Other research activities were supported through collaboration with the Bill & Melinda Gates Foundation. The NTD support center in Atlanta supports operational research with funding from the Bill & Melinda Gates Foundation and USAID, in cooperation with more than 100 partners. The center provides assistance to researchers addressing operational challenges arising as national programs strive to reach WHO targets for NTD control and elimination. Some research came from the IPs.[30,31,32] Other OR activities were carried out in collaboration with the Liverpool School of Tropical Medicine.

These resources have encouraged and enabled country NTD programs and local academic centers to undertake many operational studies, frequently with USAID NTD Program support. [33] A number of papers and symposia represent outcomes from OR partnerships based in USAID-supported programs.

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[28] Flueckiger, R.M., Nikolay, B., Gelderblom, H.C., Smith, J.L., Haddad, D., Tack, W., et al. Integrating data and resources on neglected tropical diseases for better planning: the NTD mapping tool (NTDmap.org). PLoS Neglected Tropical Diseases. 2015, February 5;9(2):e0003400.

[29] Turner, H.C., Bettis, A.A., Chu, B.K., McFarland, D.A., Hooper, P.J., et al. The health and economic benefits of the global programme to eliminate lymphatic filariasis (2000-2014). Infectious Diseases of Poverty. 2016, May 24, 5(1):54.

[30] Wouters, O.J., Downs, P.W., Zoerhoff, K.L., Crowley, K.R., Frawley, H., Einberg, J., et al. Resource planning for neglected tropical disease (NTD) control programs: feasibility study of the Tool for Integrated Planning and Costing (TIPAC). PLoS Neglected Tropical Diseases. 2014, February 27, 8(2):e2619.

[31] Lemoine, J.F., Desormeaux, A.M., Monestime, F., Fayette, C.R., Desir, L., Direny, A.N., et al. Controlling neglected tropical diseases (NTDs) in Haiti: Implementation strategies and evidence of their success. , PLoS Neglected Tropical Diseases. 2016, October 5, 10(10):e0004954.

[32] Kabore, A., Ibikounle, M., Tougoue, J.J., Mupoyi, S., Ndombe, M., Shannon, S., et al. Initiating NTD programs targeting schistosomiasis and soil-transmitted helminthiasis in two provinces of the Democratic Republic of the Congo: Establishment of baseline prevalence for mass drug administration. Acta Tropica. 2017, February, 166:177-185.

[33] de Souza, D.K., Yirenkyi, E., Otchere, J., Biritwum, N.K., Ameme, D.K., Sackey, S., et al. Assessing lymphatic filariasis data quality in endemic communities in Ghana, using the neglected tropical diseases Data Quality Assessment Tool for Preventive Chemotherapy. PLoS Neglected Tropical Diseases. 2016, March 30, 10(3):e0004590.

Among the many countries and partners, there are needs arising that could be addressed by various types of research, including operational research. In some countries, there was not always a clear idea on the research capacities available to programs.

Conclusions – Question 1

GLOBAL LEADERSHIP

The USAID NTD Program has been very successful in helping to move the awareness of NTDs into a prominent position in global health, playing an important leadership role. The achievements of this program have been widely recognized by individual countries and the international public health community. Strong partnerships and collaborations have developed among stakeholders around the NTD goals, leading to great progress toward elimination.[34,35]

The global shift from a control strategy to an elimination strategy for three of the five NTDs was strongly supported by the USAID NTD Program. However, only lymphatic filariasis and trachoma have any immediate promise of elimination as a public health concern, and for onchocerciasis, only the elimination for the transmission of disease. For these three diseases, elimination goals must be pursued. Schistosomiasis and STH have less chance of being eliminated with the current strategy, requiring consideration of a separate control strategy.

Convening and Direction Setting

The USAID NTD Program globally has played and continues to play a major direction-setting role. WHO looks to USAID for contributions to new and innovative ideas to move the NTD agenda ahead. The USAID NTD Program played an active role in setting the agenda for ESPEN and provided some support for its start up. The USAID program has played a forward-thinking role in encouraging consideration of alternative approaches for STH control efforts.

Development of Tools

Tools developed by the project have been very helpful for national NTD program staff in assessing, planning, and implementing their programs. The creation of a wide variety of tools from national and district planning, monitoring, and reporting to data quality checks were widely appreciated in NTD programs visited, and helped ensure efficient and effective programs. The TIPAC and data quality tools have been widely used. Some of the tools developed have been used in NTD programs outside of USAID countries and in other types of health programs.

Operational or Implementation Research

The USAID NTD Program has made extensive research resources available to country programs. The programs themselves have undertaken operational research activities, and have published and presented from this work. However, at least one country had expressed frustration at not having sufficient funds to pursue operational research activities directly, as the IP had overruled their request; this left them dissatisfied. Some IPs had funding to conduct operational research independently.

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[34] Balakrishnan, V.S. Ending neglected tropical diseases. Lancet Infectious Diseases. 2017, June;17(6):584-585. doi: 10.1016/S1473-3099(17)30253-0.

[35] WHO. Integrating neglected tropical diseases into global health and development. Fourth report on neglected tropical diseases. Geneva: WHO, 2017.

Interaction with the WHO NTD Program

In its project design and implementation, the program has worked closely with WHO, and supported the WHO NTD roadmap without exception. WHO has very much appreciated the strong support of USAID. At the country level, the WHO NTD officers have been knowledgeable and generally have played an important role. In some locations, the NPO for NTDs was technically the most knowledgeable person and a great resource for the evaluators. However, not all of them felt well integrated in the planning and decision-making process facilitated by the IPs.

Interaction with Other Donors

The USAID NTD Program has maintained close working relationships with the pharmaceutical companies that are donating NTD medications, the principal in-kind and financial donors to NTD control. Working with other donors such as DFID, substantial additional funds have been leveraged for NTD control, with a strong interest in morbidity control. The program has interacted extensively with the Bill & Melinda Gates Foundation to support various research activities.

Interaction with Other USAID Programs

In the countries visited, there was little interaction between IPs and the USAID Missions or other USAID-funded health programs, even where there were mutually beneficial lessons to be shared among programs. In these countries, the USAID Missions had little understanding of the USAID NTD Program activities in their countries. There was interest from several Missions in having more information, as ministries asked USAID Missions for updates on the USAID NTD program budget and activities in-country.

REGIONAL COORDINATION/COLLABORATION

Country NTD leadership in the countries visited expressed a desire for regional and sub-regional consultation and collaboration on NTD issues, as has been done with other disease control programs. This approach could address quality improvement issues among regional NTD programs as well manage the chronic problems of cross-border transmission. Some regional workshops have been held and appreciated; these workshops could also build a sense of common purpose among program leadership across borders.

SUPPORT TO COUNTRIES

IPs have helped to build strong country NTD management and capacities in the countries visited. Contributions to building leadership capacity are well recognized and appreciated. The integrated national programs that have resulted from the USAID NTD Program have given ministries of health a sense of ownership, although all recognize that continued donor funding is required.

Facilitating Integrated Planning and Management

The USAID NTD Program's early efforts were focused on the integration of individual and disparate disease control programs into a single, national NTD program. Improving management and planning was a major focus of the IP activities. The results of these efforts have been the increased capacity to plan and manage programs as a single unit. National NTD programs are now functional in countries visited, which allows treatment as well as data collection and analysis to be coordinated. National MOH planning cycles may not coincide with USAID financial cycles, which causes some difficult in places. Nevertheless, it made programming with a high degree of efficiency and transparency possible, something remarked on by many persons interviewed.

Host Government Relationships with Implementing Partners

The nature of IP relationships varied considerably across countries visited. In some countries, IP staff were embedded within the national program offices, and were directly involved in planning and implementation activities in some locations. In others, they worked closely alongside the national NTD program, supporting technical and planning activities. In a third situation, the IP was not as directly engaged. These various approaches generally worked well in the respective countries, and were mostly viewed positively by ministries. The relationships between IPs and the national NTD program were varied. In one country, close involvement by the IP seemed to communicate to the national NTD program a perception that the IP was actually trying to implement programs directly. In other countries, IPs and national programs evolved a solid working relationship. As noted above in section 3.1, the movement of funds through FOGs to support district-level activities created tensions in some locations. Coordination has many elements; most went well, but communication among stakeholders at the country level was sometimes problematic, and was identified in several places as an area needing improvement. Some national NTD programs felt that, at times, their implementation was hostage to delays and last-minute changes in USAID timelines. There was a perceived lack of openness in communicating budgetary issues with partners in some places.

Communication between USAID and Host Governments

As a USAID centrally funded program, there was no direct link to country Missions. In some instances, the Missions were unaware of the USAID NTD activities, and one asked the evaluator for a program overview. In other instances, Missions felt they had support to offer as local Mission-funded programs were addressing similar health promotion and other disease issues; they felt their programs could help inform the NTD programs (with which there were no interactions).

Cross- and Inter-sector Collaboration with Other Health and Development Programs

Inter-sectoral collaboration has benefits for multiple programs. For NTDs, for example, beneficial links between WASH projects, malaria mosquito net programs, and school health curricula were established, generally at the district level. At the district level in several countries, morbidity control activities could be quite easily arranged through district hospitals. In general, there was limited collaboration at the national ministerial level, though there was more success with the ministry of education in some countries visited.

Financial Support to National Programs

As noted previously, an approach commonly employed was the use of FOGs, which were mainly conducted with local governments, and occasionally national governments. This mechanism provided for transferring funds to the implementation level for specific activities. Agreements were commonly signed with local governments, and occasionally with NGOs. The evaluation team saw this step as an excellent mechanism for building implementation-level capacity, as well as communicating the responsibility of local government for the health of its population. This building of district capacity to implement NTD control is a goal of the WHO NTD department.

Recommendations – Question 1

SUPPORT ELIMINATION

USAID must continue to support an elimination goal. At the same time, the nature of programming is changing, and promoting this change in USAID NTD participating countries requires continued leadership with a strong vision.

COLLABORATION WITH WHO

Moving forward, WHO was anticipating further new and innovative initiatives from the USAID NTD Program, and USAID should continue strengthening an already robust relationship with the WHO NTD department. Such strengthening is important to achieve goals. At the country level, WHO NPOs for NTDs need to be kept well informed about IP activities and integrated with the decision-making process, which has not always happened.

DONOR ENGAGEMENT AND CULTIVATION

Although some pharmaceutical donation programs will remain, others may change in their terms or drug amounts available, thus requiring continuing active USAID NTD engagement. Engagement with other donors will help address important areas sometimes outside of the USAID NTD mandate, such as morbidity control, vector control, and additional operational research. Encouraging new donors is an important leadership role, especially for complementary program support roles.

REGIONAL COORDINATION AND LEARNING

Further training and planning activities for national programs should be developed for the regions and sub-regions. This process can improve communication, which is seen by many as weak. It will also help share knowledge, approaches, and resources developed among the programs. The regional African NTD unit, ESPEN, will need support and encouragement for some time before it is a powerful voice for addressing NTDs in the Africa region. The regional/sub-regional approach can also strengthen planning and monitoring. In addition, a regional approach can help address persisting issues of control in cross-border disease foci, which are common among participating countries. A NTD technical focal person located at a USAID regional office in Accra or Nairobi could assist in sub-regional communication.

CONVENING AND DIRECTION SETTING

Changes in programmatic directions are inevitable; this change is likely to be true for STH and schistosomiasis. Although USAID is only part of the NTD community, it is important that its leadership position be used to support WHO directions and to encourage innovation among programs. As some countries wind down their NTD programs for the five PCT diseases, the USAID NTD Program can help with mapping next steps for national programs. If there are new diseases to be incorporated into national NTD programing, then a country disease selection process is needed, along with the search for national program support.

MAINSTREAMING NTDs INTO MOHs

Work remains to mainstream national NTD programs into the core MOH planning and resource allocation. Although there is considerable country NTD program ownership now, increasing this ownership remains important. Addressing mainstreaming through stronger advocacy and communication may be one approach. Building awareness of the program accomplishments in many places needs greater attention. Countries need help to consider "what's next" as some of the major NTD burdens are being reduced. This process would also be a chance to consider planning for post-MDA and sentinel surveillance.

ALIGN PLANNING CYCLES

Efforts to align IP and USAID planning cycles with national planning cycles, while difficult, would be very much appreciated.

STRENGTHEN IP AND NATIONAL NTD PROGRAM RELATIONSHIPS

Although relationships are going generally well, closer collaboration and better communication between some IPs and national NTD programs should be promoted. Improved openness about budgetary processes and good communication about budgets could lessen unnecessary tensions.

STRENGTHEN COMMUNICATION WITH ALL PARTNERS

Open communication among the various partners, IPs, and stakeholders is strongly recommended. Lack of information sharing has given rise to poor knowledge about country program achievements, as well as suspicion and uncertainty.

STRENGTHEN RELATIONSHIP BETWEEN USAID/WASHINGTON AND MISSIONS

Although the USAID NTD Program will likely remain a central program, efforts should be made to strengthen communication ties with USAID country Missions. Some of this situation can be met by encouraging better communication with country Missions by the IPs, but there is a central communication component required as well.

FACILIATE CROSS-SECTOR PROGRAMMING

Cross- and inter-sectoral collaboration, although difficult at the ministerial level, should be enhanced. There are good examples of collaboration in joint programming at the district level. A specific planning emphasis for improving existing collaboration with education and WASH, as well as clinical services addressing morbidity and encouraging new district-level collaboration, should be considered.

CONTINUE TO SUPPORT NATIONAL PROGRAMS THROUGH LOCAL FOGS

Support is central to the USAID NTD Program, and has been done well. There is an opportunity for an increased focus on helping to build the capacities of local government units to take responsibility for MDA. The FOG has been a good instrument for strengthen local government. It would coincide with WHO goals, and be a further step in building country ownership, not just at the central levels. There are other areas of support needed, such as improving communication and longer term planning, and better communicating of these items to staff.

DEVELOPMENT OF TOOLS

The NTD management and data tools developed during the program have been done well, and there is little in the way of additional recommendations, except to suggest refresher courses from time to time, especially for those who have not used the tools for some time and have lost familiarity. Tools that can help national NTD programs to mainstream data and their implications would be a welcome addition. The tools developed could have a wider application; many of the programmatic issues that led to their development are present in other public health programming, and could benefit from their adaptation.

INCREASE AWARENESS OF OPERATIONAL RESEARCH OPPORTUNITIES

Although resources exist, making countries more aware of operational or implementation research resources and how to access them would address some of the complaints about the perceived restrictions on resources to conduct resources.

Question 2. Program Implementation Strategy

The second evaluation question asked if the USAID NTD Program's current strategy is the best approach for achieving the 2020 goals at the country level.

2.1 Appropriateness of Strategy and Approach

The strategy toward elimination is clearly a sound strategy, is widely recognized, and should be continued. While some partner countries are on track toward elimination of the NTD disease burden, others lack the full capacities needed. The nature of the USAID NTD Program has exceptional flexibility, providing some latitude to shore up weak capacities through training, secondment of staff, and technical support. Nevertheless, some countries receiving USAID assistance may lack the resources or will, or both, to be effective partners in reaching the 2020 goals of decreasing morbidity and halting recurrence of the five diseases. Of concern to the evaluation team were doubts about the capacities of some countries to sustain disease elimination, putting at risk the NTD investment.

As part of the present strategy, an important area for contingency planning is the continuing risk of interruption of control efforts by civil unrest, and possible lapses in control efforts. Many of the partnership countries are classified as fragile states. While this situation poses risks to the programs, it also underscores the successes that have been achieved in these fragile environments. Perhaps the greatest asset of the NTD program is its community base. Planning on how to maintain this base through implementing partners, civil society organizations (CSOs), and other non-traditional methods in areas of potential instability should continue to be considered.

2.2 Roles of the Implementing Partners

The USAID NTD Program implementation has been dependent on implementing partners that have enabled the success of the program. Principal ENVISION partners were RTI International, Hellen Keller International, IMA World Health, Sightsavers, and the Carter Center. Partners as part of END in Africa included FHI 360, Deloitte, Helen Keller International, Health and Development International (HDI), and, previously, John Snow, Inc. (JSI), Liverpool School of Tropical Medicine, and Catholic Relief Services.

These implementing partners, many with extensive experience with NTDs, have been responsible for? the many successes of the projects. The USAID NTD Program is seen as an example of a project that has created a disciplined and well-managed program. While credit lies with USAID and the NGOs selected as implementers for the program's success, the selection of in-country personnel and the careful management of programs made it all possible. IP personnel in Washington, D.C., have an extensive and up-to-date knowledge of specific country issues, and it is clear they have maintained very close communication with in-country issues. Much of the planning and management rigor has been achieved through the extensive set of tools developed for the NTD project by RTI International.

A central objective is to build country ownership, which is a difficult topic to objectively assess. However, the country NTD programs are proud of their achievements. While representatives of the ministries of health with whom the evaluation team spoke sometimes did not fully understand the depth of their national NTD program achievements, they all had a positive opinion of the achievements of their NTD programs and appreciated the USAID support. Further efforts to mainstream NTD achievements could strengthen the sense of ownership. Evidence of a sense of ownership was seen in one country, where the national NTD program felt that the IP was doing activities that the NTD program should be doing. In other countries, the evaluators found a solid working relationship between supporting IPs and the national NTD programs, without tensions over perceived overlap in areas of responsibility.

In all discussions, there was an awareness that the national NTD program success depended on the USAID resources. This realization seemed to sometimes limit the sense of ownership by NTD program managers.

Many of the NGOs involved with in-country implementation were active in NTD control for some years before the USAID NTD Program. Their roles vary from responsibility for all program support to national NTD programs, to geographic or disease-specific components. In Uganda, onchocerciasis support for the NTD program rests with the Carter Center. In Burkina Faso and Cameroon, multiple partners were active, including Sightsavers, the International Trachoma Initiative (ITI), World Vision, and the Liverpool School of Tropical Medicine. Helen Keller International coordinates END activities in Burkina Faso, Niger, and Sierra Leone, and HDI coordinates in Togo. Until 2014, Catholic Relief Services managed END activities in Ghana. In Nepal, the government has allocated virtually all eye care to the Nepali NGO NNJS, including trachoma MDA and morbidity control. The majority of fixed obligation grants were signed with various units of the host governments, and only a small number with NGOs.

The U.S. Centers for Disease Control and Prevention (CDC) was originally positioned to have a wider leadership role in the program, particularly in the area of monitoring and evaluation. Their role in the program has expanded over the past five years.

2.3 Functions as a Centrally Managed Program

The NTD program represents one of the largest USAID health programs to be centrally funded with no in-country USAID-focal health support. As most activities are conducted by the implementing partners, this approach is understandable. Connections between the IP activities and USAID country Missions were noted to be variable. In some instances, NTD reports were regularly shared with country Missions, but in other cases there seemed few, if any, contacts. Some of the USAID Missions indicated a desire for more updates, and one felt that some of the Mission-based activities had findings and resources that would benefit the NTD program in that country. As the program moves forward, the need for inter-sectoral collaboration becomes greater both at the USAID level and at the country level. This collaboration is often best achieved closer to the implementation site, which would argue for closer in-country contacts at the Mission level and among Mission partners.

A potential advantage of a centrally managed program is building regional collaboration through its convening power. For onchocerciasis, the demise of APOC left a vacuum, which ESPEN has not filled and may not be able to fill. A regional approach would make sense, as certain zones have ecological and epidemiological similarities, such as Burkina Faso, Ghana, and Côte d'Ivoire. There are linguistic and political groupings where useful regional approaches could be developed. A strong country-ownership strategy may miss the strength obtainable from regional capacities, both in human capacities as well as laboratory technical capacities. Some of the vexing cross-border transmission issues could perhaps be addressed more effectively in this manner, where USAID is supporting countries programs on both sides of a border, rather than through other mechanisms.

2.4 Functioning within the Overall Country Health System

The integrated NTD programs have built a stronger representation for NTDs within health services than individual disease-specific programs had. The overall strength of programs still varies among countries. Bringing together the ordering of NTD medications as a joint process has built awareness of supply chain issues at national medical stores as well as at the district level. Seconding staff to medical stores and the efforts of IPs, working with the districts in supply chain management, have achieved good

results. Most countries with MDA programs utilize some form of community health workers, who are often paid for part-time work for various programs. During MDA treatment times, the program has helped sustain and strengthen this important community element of the health system.

Completion of an integrated NTD database in all countries will help to create awareness of the scope of NTD programming in-country. In many cases, NTDs still lie outside the core of MOH activities, with key leadership only somewhat aware of NTD activities.

Further, NTD program offices are often physically separate from MOH central offices. In a number of countries, the STH program remains within the school health department of the MOH, or is a part of the ministry of education. The impact is perhaps further diminished in some countries where there are separate health sections for different regions or provinces.

2.5 Integration of NTD Programming

One of the early objectives of NTD interventions through MDAs was to provide integrated program management to foster synergies and efficiencies. As a result of these efforts, a variety of actual models emerged, shaped by local practice and local context. Even if program units and elements are not centrally managed, components could still work to develop a unified NTD master plan, per WHO guidance. This process had been implemented in the countries visited, but often to varying degrees, depending on local contextual issues. In some countries, entirely new NTD entities have been developed, and in others, a closer coordination between pre-existing programs was fostered. Examples from several countries help illustrate the various integration strategies.

In Burkina Faso, a comprehensive NTD unit was created by national decree, and all MDA disease programs were brought together, both administratively and in terms of physical space. Although there were still heads of specific disease control efforts, they met together and were all familiar with each other's programming; if asked, any one member of the team could represent and speak about the work of the others. The M&E/Health Information System (HIS) elements were coordinated, as were procurement processes.

In Ghana, all diseases but trachoma were pulled together into one functional unit. Trachoma remained with the eye program, but staff do participate in joint planning.

A coordination unit was created to serve the needs of four distinct program units in Cameroon. These included three for MDA activities—the onchocerciasis/filariasis unit, the trachoma unit, the schistosomiasis/STH unit—and a fourth a unit that focused on all remaining NTDs. The coordination unit exerted strong management control/coordination over the separate disease units, but was supposed to help the units with M&E/HIS and strategic planning.

Haiti does not have a central NTD unit, but Haiti was endemic only for LF and STH. LF was integrated into a vector-borne disease control unit, which focused strongly on malaria and the Global Fund Grant. The STH program was not supported by USAID, but did have strong NGO support and integration between the Family Health Division of the MOH and the Ministry of Education. STH control focused only on public sector schools, which are minority of the educational institutions in the country. Even with this separate management, there was an NTD coordination committee that met once or twice a year, bringing these two efforts together to share experience and to plan.

In Tanzania, the integration was enhanced by having all the focal persons in one office, and being party to various discussions related to specific diseases. Staff felt they always knew what was happening in other disease programs, so, for example, when the focal person for a particular disease was away, they could answer questions and handle simple matters relating to diseases other than their own specific responsibilities. An M&E focal person had been seconded by the IP to the Tanzania NTD office, and his services were greatly appreciated by the NTD program staff.

Online survey. Among survey respondents, the idea of program integration was strongly supported. Among all respondents, 34% thought the integration of individual, disease-specific programs into one unit was important, and 54% thought it was very important. Over half of respondents provided more detailed comments that help clarify the numbers. Coordination, especially of scarce resources, was a common theme. For example, one respondent said, "It enhances coordinated, integrated planning and implementation, and encourages more effective use of resources to reach the endemic villages for NTDs in the country." Related to this issue was the concept of more efficient use of resources for MDA and cost savings.

Other respondents stressed that integration means "the staff can work as a team," and that integration fostered better communication among staff in the unit, as well as between national and sub-national levels. One respondent felt that integration promoted better and timely training and deployment of human resources and supervision, while another explained that integration "guarantees efficiency, experience, and learning sharing."

Program integration is seen as helping with data issues. "This is important because integration allows for better overall monitoring of NTDs in addition to the financial benefits of integration. It makes it possible to have the data available in one place and accessible." Another positive perspective: "[It] is important to improve government ownership, effective implementation of strategies and resources, and program monitoring and have synergistic effect."

Some potential challenges were mentioned. These included the need to bring along all individual disease management activities to make integration work. One respondent specifically noted that individual units now under an integrated program were missing their former independence. Another noted that unless management is efficient, disease interventions could be delayed if integration creates another level of bureaucracy.

2.6 MDA Community Delivery Mechanisms

MDA has been delivered using two broad approaches: a community-based process for onchocerciasis, lymphatic filariasis, and trachoma, and a school-based activity for schistosomiasis and soil-transmitted helminths. The school-based delivery usually involves teachers, but community volunteers may help in mobilizing to improve school participation and help deliver the medicines at schools. In some cases, the community volunteers, not teachers, deliver medicines in the schools, and they reach out to out-of-school children. The actual delivery mechanism for any of the MDAs depends on the country's previous history with MDA programs.

Countries with a history of working within the APOC framework, including Ghana, Tanzania, Cameroon, and Uganda, build on community-directed treatment with Ivermectin (CDTI) for onchocerciasis and lymphatic filariasis. CDTI is technically different from basic MDA in that the community as a whole is expected to take charge of the planning and delivery of the medicines, with

assistance from the health service; MDA can be more of an outreach from the health system that uses some form of community volunteer. CDTI involves community-selected and monitored volunteers, known as community-directed distributors (CDDs), and has a strong record-keeping system based on community-maintained registers. These registers, which are maintained by CDDs and community leaders, make it easy to calculate coverage and can trace people who default. Of note, CDDs and CDTI have been organized directly by the specific disease control programs themselves.

Another approach is the national community health worker (CHW) systems as they exist in Burkina Faso, where there is little or no CDTI history. These CHWs may or may not receive some form of remuneration. They often have broader training in areas such as community case management (malaria, pneumonia, and diarrhea), family planning, nutrition, and other health issues affecting the community. CHWs are mobilized for MDA at the appropriate time of the year. Their record-keeping systems are often rudimentary tally sheets, which may distinguish those treated by age and sex. Comparing village summaries from tally sheets with coverage surveys in Burkina Faso found that the numbers are generally accurate. Where there are coverage gaps, tally sheets do not permit tracing of defaulters. In Nepal, health extension workers serve at various times in a variety of programs, and are paid for their services in turn by the various health programs.

Importantly, CHWs are usually trained and supervised within the MOH by a different unit than the NTD programs. This process requires a high level of collaboration. The challenges were seen recently in Burkina Faso, where the Directorate of Health Promotion, which oversees CHW programs, laid off "old" CHWs who did not have a primary school certificate. New trainees had not been officially deployed. The LF MDA was thus short-staffed because not enough qualified CHWs were still in service; those who had been retired had either left the area or refused to assist because of the manner in which they were let go.

Conflicts can occur where national CHW systems co-exist with CDTI/CDD efforts, as in the case of Cameroon. CHWs get some form of remuneration while CDDs are volunteers. Ultimately, the MOH wants to use only CHWs for MDAs and other community-delivered services, but the transition may prove difficult until funding can be guaranteed for the CHWs. Of course, there is the potential that some CDDs could become CHWs in the future, but the negotiations between programs have not begun. Increasingly, countries in Africa are establishing full- or part-time cadres for community health staffing under a variety of names. In Nepal, these play a role in the supervision of community distributors.

2.7 Monitoring

The USAID NTD Program had a very heavy emphasis on building national monitoring activities. These are captured in the first three intermediate results of the USAID NTD ENVISION results framework.

IR 1. Increased MDA coverage among at-risk populations in endemic communities.

IR 2. Improved evidence base for action to control/eliminate targeted NTDs.

IR 3. Strengthen the environment for implementation of national integrated NTD control and elimination programs.

These IRs are, in general, a refinement and restatement of the 2007 IRs, which stressed somewhat more the efficiencies and effectiveness of the integrated NTD control approach. Much of the information used to assess achievements comes from the effective use of the WHO NTD indicators for program

management. A well-functioning monitoring component of a national NTD collects and analyzes data as a basis for evaluation and program planning. The monitoring process also includes completion of disease mapping where indicated, and the production of guidelines and tools. Further, the IP annual plan collects program performance indicators to assess the USAID NTD implementation process, and collects estimates of goals/activities and related indicators. Illustrative of these were indicators such as percentage of the target population no longer at risk of blinding trachoma, and the numbers of districts completing TASs.

Programmatic indicators focus on areas such as donor mobilization, scholarly papers published, implementation of work plans, and use of resources. Some are necessary for national NTD program function, while others are required by USAID for program management. Program data have generated an extensive database of process indicators, output indicators and outcome indicators, which have helped guide USAID NTD Program management, made information readily available across countries, and strengthened coordination with partners. An assumption was that these data would help demonstrate that reducing the disease burden associated with the five PCT diseases would make a major contribution to global health.

Data flow into the monitoring framework starts with information from the community level, using standard WHO reporting forms (although tally sheets continue to be used in places). For the evaluation, some sites reported difficulties with community workers being able to complete the forms, but in other locations, personnel managed these well. For sites that used regular community agents who worked in turn for several programs (and were remunerated at a standard rate), the ability to manage the data recording and reporting process was not difficult. Data then move up through the sub-district (or equivalent) to the district, and then to the national level. At the national level, results are aggregated from all districts, and entered into the national records.

Country ownership of data was emphasized as part of building overall program ownership by the respective countries, particularly with the establishment of national M&E plans supporting national databases (a WHO recommendation), and with strong USAID NTD Program support. These databases are critically important, as they generate data to support annual work plans, joint medicine requests, and the NTD joint reports. As noted elsewhere, moving these data into the MOH as a part of understanding a country's burden of disease and health requirements remains a challenge in some locations.

The USAID program has invested heavily in building the monitoring capacity and using data for planning for the national NTD programs. This process has been greatly assisted by a variety of procedures and tools developed by RTI International, which closely followed WHO guidelines. These procedures and tools feature activities to implement WHO situational analysis, conduct data quality assessments, utilize data collected for planning and monitoring of coverage, assess data quality, and support disease-specific assessments. Training has been provided to country NTD staff in areas such as TAS, data management, post-MDA surveillance, STH and schistosomiasis sentinel site surveys, and trachoma impact assessments.

This strong emphasis on data and effective monitoring systems has been one of the major achievements of the USAID NTD Program. This achievement underlies the observation that it has instilled in the countries a sense of the importance of operating transparent, efficient, and well managed programs. While countries have taken ownership of this process, the evaluators remain concerned about overall sustainability without strong ongoing support from the IPs.

Conclusions – Question 2

APPROPRIATENESS OF STRATEGY AND APPROACH

The current strategy is a sound, productive approach for the five PCT diseases, and it is being implemented well. The focus on the 2020 elimination goals should continue for trachoma, LF and onchocerciasis. For schistosomiasis and STH, which are unlikely to be eliminated with the current USAID-supported strategy, alternative goals and strategies should be considered in conjunction with countries and the WHO partner.

ROLES OF THE IMPLEMENTING PARTNERS

The IPs all have excellent programmatic capacities. They have shown flexibility and creativity in supporting national NTD programs. The successes in achieving the USAID NTD Program's intermediate results and building national ownership were achieved through the work of the IPs. In countries visited, the IPs generally maintained cordial relationships with the national NTD programs, but sometimes there were communication difficulties. There was also a feeling that program successes did not often receive the media attention that they warranted, and merits further focus.

FUNCTIONS AS A CENTRALLY MANAGED PROGRAM

The centrally managed nature of the USAID NTD Program allowed for a standard approach to be used in all partner countries, but with some flexibility for local contexts. The centralized management also allowed interaction with other centrally managed programs, such as the WHO NTD department, other bilateral donors, and the pharmaceutical donors. However, many ministries expected some direct interactions from donor programs. In many but not all cases, they did not see that communication with the IP was a substitute. As noted, an element the evaluators felt was lacking was the ability to establish regional or sub-regional coordinating capacity. ESPEN may eventually contribute to meeting this need. The centralized structure also prevented close contact with the ministries and USAID country Missions, as previously noted.

FUNCTIONING WITHIN THE OVERALL COUNTRY HEALTH SYSTEM

The evaluators believe the integrated nature of these NTD activities has given NTDs programs a stronger position within ministries of health to advocate for neglected diseases. Strengthening of the supply chain for MDA medicines, in some countries, did seem to have an effect on other parts of the national medical supply chain. While there is increased recognition of national NTD activities at the MOH level, NTD programming has yet to be fully mainstreamed into MOH programming, nor is data being used as part of the health information system or burden of disease projections in some countries. Building a fuller awareness of national NTD program achievements could be substantially improved in places.

INTEGRATION OF NTD PROGRAMMING

Integration of NTD programs was an early objective, and has been very well achieved (with variations among countries); indeed, it may be the biggest programmatic achievement of the USAID NTD Program. This integration provided a team-based platform for high coverage of MDA programs by coordinating scarce resources. Success in the areas of the PCT diseases has raised the question in several countries visited about the mechanism for incorporating additional NTDs into the mandate of the national programs. Lessons learned from the integration of disease-specific programs into a national NTD program can be applied to improving the efficiencies of other national programs such as leprosy, tuberculosis, malaria, or trypanosomiasis control.

MDA COMMUNITY DELIVERY MECHANISMS

MDA community delivery mechanisms have enabled good coverage rates, but they consist of several different methods. The community volunteer mechanism builds community participation, but the paid community distributor strengthens the health system beyond the facility level (especially where health systems are weak). In having both community systems in a country, conflict may be created. School-based distribution for schistosomiasis and STH often achieves large numbers, but can also be patchy, and miss many who need treatment. Individuals can be outside of the primary school-based distribution system, or attend private schools or high schools. In fishing communities, persons needing schistosomiasis treatment are likely to be not attending primary schools, or are already beyond school age.

MONITORING

The three IRs of the current USAID NTD project all depended heavily on data. Emphasis on data was present throughout the programs visited by the evaluation teams, although data management varied. All sites had completed or were in the process of completing the national NTD databases, and all sites were using data collected for reports and for the joint application form. Various data tools developed for the NTD program ensured completeness and controlled for quality. Moving these data into the national disease surveillance systems and the health information systems still remains a challenge in places.

Recommendations – Question 2

APPROPRIATENESS OF STRATEGY AND APPROACH

For onchocerciasis, lymphatic filariasis, and trachoma, the current programmatic approach is appropriate. As the numbers of people with these diseases diminish, there will be a need to reprogram MDA and post-MDA surveillance. At the same time, an alternative strategy for the control of schistosomiasis and STH is needed in some locations, in which elimination is unlikely under current strategies. The current strategies have focused mostly through the end of MDA; in countries where post-MDA and sentinel surveillance plans are not present, they should be developed and initiated in order to protect the extensive investment in achieving elimination.

ROLES OF THE IMPLEMENTING PARTNERS

Moving forward, improved communication merits attention. This sometimes would involve enhanced IP communication with stakeholders, but sometimes would mean better IP communication with the national NTD programs. Communicating any program successes to the relevant populations is something with which the IPs can assist.

USAID SUPPORT THROUGH A CENTRALLY MANAGED PROGRAM

As noted, better communication with ministries of health by the USAID NTD Program would help meet the usual government expectations for bilateral programs. A recommendation is for active support of a regional NTD technical entity, which could be ESPEN or another body for countries participating with the USAID NTD Program. The presence of sub-regional programs, which would bring neighboring country programs together over more local issues, could be beneficial.

NTD FUNCTIONING WITHIN THE OVERALL COUNTRY HEALTH SYSTEM

Work is needed in countries to help mainstream NTD programs into the core of health programming. Ensuring that NTDs are counted in the burden of disease is one action that would be made more accurate if the prevalence of morbidity was known. Determining the illness costs for NTDs would rank

them with other conditions. Exploring ways to full integrate NTD data into national information systems would be another step.

INTEGRATION OF DISEASE SPECIFIC PROGRAMS

Although several of the five PCT diseases are integrated into national programs, plans should be made for next steps. Although the eventual inclusion of additional diseases requires WHO guidelines and the determining of national priorities, the question of integration was frequently raised during country visits. USAID should consider how its NTD program can best address the potential integration of other NTDs.

MDA COMMUNITY DELIVERY MECHANISMS

Where established and functional, community-selected drug distributors are a very effective and low-cost approach that can build community cohesion. It is important to reinforce these mechanisms where they are in place. The paid community distributor mechanism reinforces the health system, and needs to be supported. However, many eligible persons, especially with school-based distribution, are missed. Efforts need to be strengthened to reach these eligible populations, and to accurately record any services provided to them.

MONITORING

Data are at the heart of the USAID NTD project, but getting data into the national health data system still represents a gap in many countries. Moving district MDA data from paper forms to a web-based system, and thence to the national NTD database, is an important goal. Sharing coverage and TAS data among countries in regional fora can be a good stimulus for sharing approaches and encouraging lagging programs.

Question 3. Country Ownership and Capacity Building

The third evaluation question concerned capacity building/country ownership: Has the USAID NTD Program built country capacity and country ownership of the program?

3.1 Context of Ownership and Capacity

The terms "country ownership" and "country capacity" are central concepts in global health and development programming. People often assume that there is a common understanding of these concepts, but in order to avoid confusion, it is important to state here some simple definitions. The first three relate to ownership; these are followed by two perspectives on capacity.

Casey Dunning and Claire McGillem of the Center for Global Development (CDG) suggest that country ownership is based on three pillars: [36]

1. Ownership of priorities (*what* development activities take place),
2. Ownership of implementation (*who* is accountable for a set of results), and
3. Ownership of resources (*how* development activities are funded).

[36] Dunning, C., and McGillem, C. Country ownership: rhetoric or reality? Let's find out. Center for Global Development. 3/11/16. Accessed at: https://www.cgdev.org/blog/country-ownership-rhetoric-or-reality-lets-find-out.

In another perspective, the InterAction Aid Effectiveness Working Group explains that, "At the simplest level, participation of both citizens and government in development efforts is at the heart of country ownership, allowing for better targeting of resources, strengthened accountability among the various stakeholders, and ultimately increased sustainability and success."[37]

Finally, a literature review published by the MEASURE Evaluation project identified four major themes when describing what constitutes country ownership, including: 1) power and legitimacy, 2) commitment and responsibility, 3) capacity, and 4) accountability. The implication is that countries need capacity to take full ownership of health and development programs, which shows the link between ownership and capacity.[38]

For capacity, country capacity to carry out health and development programs rests on "the institutional and legal structures, human resources, management, supervision and working environment as well as the operational aspects of … finance."[39]

Although developed for their noncommunicable diseases program, WHO has suggested a set of capacity aspects that any health program would want to build and strengthen. These include:

1. Institutional infrastructure, including organizational structure and financial and material resources,
2. Development of plans, policies and strategies,
3. Monitoring, evaluation, and surveillance of interventions, and
4. Management and delivery of health services.[40]

A blending of these descriptions of ownership and capacity will provide a basis for presenting findings related to Question 3. Although subsection 3.2 below will be aligned somewhat with the CDG framework noted above, no one framework will be applied. Rather, common themes were derived from the above, including accountability (including monitoring); resources (including finances); priorities, policies, and strategies; and management capacity.

3.2 Country Ownership for NTD Programming

3.2.1 Ownership of Priorities, Plans, and Strategies

As noted previously, the USAID NTD Program has strongly supported the WHO focus on developing a national NTD plan and the integration of the five PCT diseases. However, these national NTD programs often lie outside the main planning and implementation axes of ministries. At the district level, the IPs have supported annual work plan development, using some very effective tools developed by RTI International (and used by END in Africa and others). In most cases, the districts seem able to make realistic plans and to follow them. In most countries, the majority of funding to support these plans generally comes from USAID.

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[37] InterAction Aid Effectiveness Working Group. Country ownership: moving from rhetoric to action. Accessed at https://www.interaction.org/sites/default/files/Country%20ownership%20paper.pdf.
[38] Watson-Grant, S., Xiong, K., and Thomas, J.C. Country ownership in international development: toward a working definition. MEASURE Evaluation, 2016. Accessed at https://www.measureevaluation.org/resources/publications/wp-16-164.
[39] Development Finance International. Assessing country capacity. Accessed 23 October 2017 at https://www.development-finance.org/en/services/capacity-building/assessing-country-capacity.html.
[40] WHO. Assessing national capacity for the prevention and control of non-communicable diseases: report of the 2015 global survey. 2016, Geneva: WHO Press.

Beyond this situation, there is a feeling of "what next?" among some country NTD programs when the PCT diseases are brought under control. It is not clear to some country leaders whether support to the NTD program by USAID will be only for the five PCT diseases, or if other diseases will be considered when these five are under control. If so, what would be the process for the new disease selection? Guidelines or disease selection criteria for including other diseases have not been developed by the WHO NTD department, although USAID could encourage this process.

3.2.2 Ownership of Implementation and Accountability

Country ownership of these programs is clear, although it is recognized that the function of these programs is heavily dependent on donor funding. In addition, country leadership is stronger in some locations than others, and the national level often uses seconded staff. In describing country ownership, it is important to recognize that MOHs and their NTD units or divisions typically did not have a direct relationship with the USAID NTD program nor the local USAID Mission. Thus, communications about the NTD efforts, for example, were channeled through the respective IPs and NGOs, either directly or via subcontractors. In terms of ownership, this created a natural dichotomy wherein the countries and partners like WHO expected that the other partners such as the USAID IPs would support the country's NTD programs, plans, and strategies, whereas the IPs are also held accountable to USAID for achieving their intermediate results.

In the end, partnerships had to be created in each country such that the IP respected the national NTD program's integrity and plans, and the NTD program in turn trusted the IP to communicate the USAID perspective. In some cases, the IPs have pulled back from highly visible involvement with the national programs to encourage local leadership. Some tensions were seen over the extent of IP involvement at lower levels in health systems, and a belief by national NTD programs that funding should flow through the national programs to the districts. On the other hand, the IPs maintain that funds paid into national programs for district activities are unlikely to reach the districts in a timely manner to support distribution.

Looking forward, existing strengthening efforts for district-level health services and district authorities could be further strengthened. These efforts would be consistent with the WHO planning for stronger PHC-level program management. The FOGs are excellent mechanisms to build this capacity, which is also an important sustainability approach; FOGs hold districts responsible to deliver specific milestones or achievements. Although these activities are implemented by district health services, the agreements are signed by the local governments. This responsibility for FOGs helps to strengthen the links between local government and health services (which otherwise can frequently run quite separately). In doing so, it draws the local government into concerns about the health of the district population. In many countries, district governments remain weak, and this type of agreement can help to build district responsibilities for health, a goal of WHO.

3.2.3 Ownership of Resources and Financing

While much of the financial and material resources for running national NTD programs still come from outside the endemic countries, the countries have committed human resources and operational/office space to run the programs. In most cases, the USAID IPs have worked to achieve a strong planning, oversight, and management role for the national programs in deciding how and where external resources will be allocated. When external funding delays occurred, the lack of strong national financing for program activities (beyond personnel and office space) meant that there was no back up, and activities could be delayed. The highlighted box (following page) offers observations on domestic funding.

The example of APOC is instructive, since it set a foundation for much of the later NTD intervention. With its goal of national sustainability in maintaining programs, APOC, in its final evaluation report (2015) observed that, "Generally this was done, with varied amounts of committed government funds actually allocated."[41] The report ultimately concluded that, "The failure of some endemic countries to allocate funds that had been committed and budgeted was a major disappointment."

Local private or parastatal funding was documented in a few cases. In Ghana, the Volta River Authority provided funds for the purchase of two vehicles. The APOC Final Report (2015) noted that, "In Malawi[42], the Tea Association of Malawi is a regular financial supporter, and there have been some promises of assistance in Nigeria from private sources," which would have carried over into current MDA activities for onchocerciasis.

As suggested previously, while the FOGs do empower lower levels of governance, such as regions and districts, with financial resources, these mechanisms can bypass the national NTD program if not carefully planned.

Devex reported on the NTDs Summit held in Geneva, Switzerland in 2017. Some highlights of their coverage on domestic funding for NTDs:

The WHO report stresses the importance of increased domestic investment. "Because the amounts invested in NTDs by domestic government are so small, modest increases can have a big impact, allowing even low-income countries to take ownership of an important global health programme," the report says, pointing to Congo, Sudan, Egypt and Tanzania as among those that have made moves to increase domestic financing.

Dr Osagie E Ehanire, a minister of health for Nigeria, told his audience at the NTD Summit that "ministries of health must take ownership of these programs and decide on how funding must flow, in order to avoid duplication of efforts and ensure equitable distribution of resources within a country."

Dr Anarfi Asamoa-Baah, deputy director-general of the WHO and former director of medical services for Ghana, agreed: "Endemic countries should be central in this fight and must own this," he said, adding that there is a limit to the impact that external funders can have.

Mainstreaming NTDs "will help to ensure that the domestic share of funding for NTDs is no less than that for the interventions of the health sector as a whole," it says. That, in turn, could help endemic countries to take ownership of the fight.

URL: https://www.devex.com/news/neglected-tropical-diseases-funding-the-next-stage-of-the-fight-90176

As part of the planning process using the TIPAC, funding gaps are determined (these are usually sub-national). Although there is an appropriate emphasis on building the national NTD database, how these data enter the national health information system is not clear. Achievements and data do reach the MOH, but it is not always clear that, once there, data enter the planning and decision-making process. In some countries, getting NTD data into the system for the decision-making process has not fully occurred, and ways to more fully encourage this data management are needed.

3.3 Country Capacity for NTD Programming

To better understand country capacity perspectives, online survey respondents were asked whether they thought that USAID NTD support contributed to overall program management capacity at the national level. Most felt that USAID's contribution was either good (45.9%) or great (40.9%). Some (13.2%) were uncertain if the USAID contribution was valuable, or felt it did not contribute much.

[41] WHO/APOC Final Evaluation Report, October 2015. WHO/APOC, BP 549 Ouagadougou, Burkina Faso.
[42] Malawi is not supported by USAID for NTD programming; it is noted here because examples of private funding are few.

When asked to indicate which areas USAID contributed the most to capacity building, the areas most often mentioned were monitoring and evaluation, program planning, and financial planning, as seen in Figure 10 (next page).

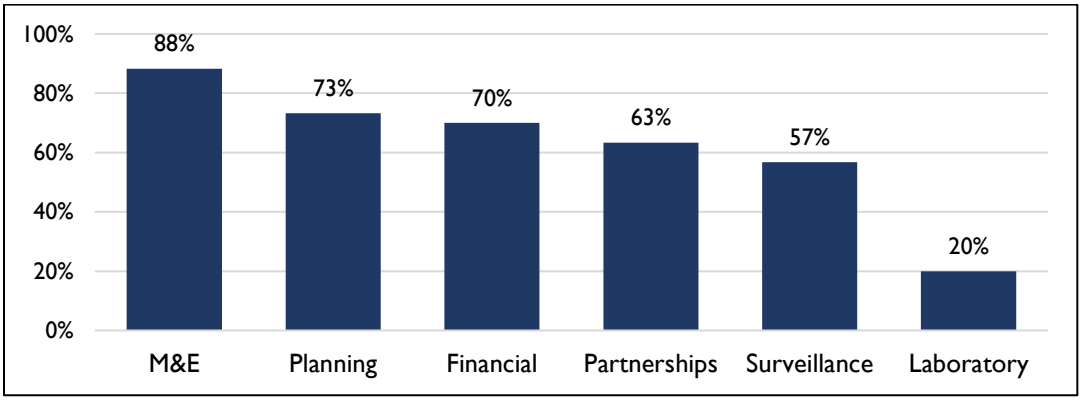

Figure 10. Areas of Perceived Capacity Building *(Source: Evaluation Online Survey Responses)*

Country capacity building enhances country ownership, and provides a foundation for sustainability. Sustainability needs to address post-elimination and sustaining country interest in NTDs.

3.3.1 Establishment of Institutional Infrastructure Capacity

In nearly all countries visited, there was evidence of the creation of NTD program management units. Official government documents that created these NTD program units were observed in Burkina Faso and Cameroon. The structure in Cameroon appeared to be the most comprehensive, where non-PCT diseases are included under the NTD coordination umbrella. In Ghana, four of the five MDA programs were coordinated in one unit, while trachoma remained in eye care; other NTDs were handled as called for with case management in basic health service delivery systems.

Sustainability means a country's MOH has capacity to address NTDs through the Health Management Information System (HMIS), planning, and other means. Even if a centralized NTD unit disappears, the MOH will retain skills and capacities, because any staff deployed to NTD programs are full-time MOH employees, who can be redeployed and continue to use their skills within the MOH. Thus, since USAID did not fund NTD units directly but rather enhanced the capacity of existing staff, the capacity can be better sustained in the MOH.

This contrasts with Global Fund grants, in that countries often used their Global Fund grant to hire staff for program units in the MOH; when the grant is finished, those staff are often lost because the MOH typically cannot absorb extra personnel.

3.3.2 Capacity to Develop Plans, Policies, and Strategies

USAID efforts at the sub-national level, where FOGs were often in play, were judged as good by 44.2% of online survey respondents, and as a great contribution by 34.4%. Still, 21.3% were either uncertain if the USAID contribution was helpful, or did not feel it offered much help. It should be noted that most of the survey respondents were based at the national level.

A few concerns were raised as well. As one respondent said, "There are still huge capacity gaps at all levels of operation." Another looked particularly at sub-national levels: "More needs to be done in terms of strategy in order to empower countries at their lower levels." One respondent also observed that there was strengthening of "local stakeholders and NGOs, but [this] had the disadvantage of causing

poor national coordination overall," meaning that less attention had been paid to the national program. These comments imply that, moving forward, there needs to be a better balance of assistance to all levels, as well as better vertical integration of efforts.

3.3.3 Capacity to Conduct Monitoring, Evaluation, and Surveillance

An additional, specific contribution of the USAID program was building "capacity in communications, data management, and planning and activity monitoring and evaluation." Respondents also said they appreciated the introduction of tools such as the TIPAC, the Supervision Coverage Tool (SCT), and the Data Quality Assessment (DQA) Tool.

Collection and use of data has been a priority for the NTD program. The country programs have promoted use of the standard WHO reporting form. In some countries, first-line health workers had difficulties in completing these. Tally sheets are still used in some locations with lower-level field personnel, and there were problems with accuracy in some cases. The regular turnover of community personnel and, in some countries, first-line health workers, intensifies this problem, as organizational memory is lost. Tools were developed to assess data quality and to do post-MDA coverage surveys. In the countries visited, the TAS surveys were done on time and in a consistent manner. From the beginning, the USAID NTD Program has kept detailed information on various treatment indicators. This emphasis on data brought a new level of program monitoring, backed by the necessary resources to do it adequately.

In the countries visited, data were generally available to the national NTD programs, and the latest data were readily referenced. The project data were widely used for national NTD project planning. In recent years, the USAID NTD Program emphasis on monitoring and evaluation has increased substantially.

Creation of the WHO national NTD integrated database has been a major achievement. An advantage is that data entered electronically from the field can be monitored in almost real time and problems with data quality and coverage can be spotted early. RTI International is working with the Bill & Melinda Gates Foundation to develop a standard approach to upload data from MDA distribution at sub-national levels. Still, as noted previously, while the standard WHO national NTD database can be useful in planning treatment and assessing coverage, its wider use by ministries of health is not always achieved.

Access and use of composite NTD data varied in national programs. In more integrated NTD programs, all data for each disease/MDA activity were coordinated into one database, with which all staff were familiar. In other cases, where NTDs were handled by a coordination unit and disease programs were semi-autonomous, the challenge of getting composite data in one place was more difficult. This challenge was heightened if the USAID implementing partner worked more closely with provinces/regions under FOGs, rather than focusing on strengthening a national NTD information system. (As noted elsewhere, FOGs are valuable but should be used with due care and sensitivity.) For example, in one country where the MOH NTD program was weak, the IP set the agenda itself and expect the national program to come along; they also worked around the national program through subcontracting with other NGOs and working with regions directly via FOGs.

At the national level, there continues to be problems integrating conventional, disease-specific databases, which can produce conflicting and incomplete reports. The ENVISION project had been working with national programs to install and train staff in the use of the integrated WHO NTD database (WHO commissioned ENVISION to develop and begin dissemination of the database, but in the future WHO

plans to assume responsibility for the guidance and future development of the database). When operational, the database can auto-generate the WHO Joint Reporting form (implementation data) and the WHO Epidemiological Report form (for diseases targeted with preventive chemotherapy), as well as the Joint Application form. Where the Joint Application form has been used for medicine, requisitions have been more accurate and timely. This database also has the flexibility to add additional diseases beyond the five PCT diseases. There is still a question of which variables will be compatible with the widely used District Health Information Systems 2 (DHIS 2) database, commonly used for district and national health information systems.

Data quality and completeness have been a problem in some countries. Data problems have been addressed through the development of multiple tools and training programs, which have generally improved data quality. In some places, there is now the capacity to collect much of the MDA coverage data electronically in the field for rapid transmission to websites. Where there is a web-based national HIS system in place, as for example with the DHIS, it is easier for the USAID IP working in that country to develop an NTD online data system (as district health worker are already familiar with online statistical entry).This system would allow programs to monitor the distribution data in almost real time, and data difficulties could be spotted early, when correcting any problems would be easier.

Below the national level, while information generally follows the established health information system, there are still district capacity and coordinating issues to address; for example, data from school-based distributions for the Schistosomiasis Control Initiative (SCI) and STH may follow different data pathways, depending on the country and the components of the distribution programs. Some information is only passed on to the MOH at the national level.

STH coverage data specifically still remain a problem in some countries, and treatments given as part of other programs do not always reach the MOH in a consistent manner. There is also a concern that without stronger monitoring and updated district mapping, overtreatment may be occuring.

There has been strong support for the WHO joint reporting forms and the primary care epidemiological forms, which are part of the package with the joint request. The use of the TIPAC and other tools assisted in the collection of information, the forecasting of needs for medicines, and the reporting of treatments distributed.

As noted, a national NTD database is now being used in most countries, following WHO tools and guidelines. These databases will further facilitate reporting and ordering of medicines. Further, the projections possible through the improved data management made medication requests to the pharmaceutical companies more accurate, and allowed for better estimates of production needs by the donation programs. Building capacity for transmission assessments and epidemiological surveillance has been supported, although more work is needed for surveillance.

A clear, strategic differentiation is needed between diseases targeted for elimination and those slated for continued control. With USAID support, countries should begin thinking strategically about the separation of diseases for which there are realistic elimination prospects, either elimination of transmission or as a public health burden (i.e., LF, trachoma, and onchocerciasis), from those diseases for which long-term control will be required (i.e., schistosomiasis and STH). For diseases with prospects for elimination, the continued application of post-MDA surveillance through TISs/TASs for trachoma and LF with USAID support is needed; where specific planning for the post-MDA/surveillance might not exist, it should be formulated. (The TISs and TASs are good mechanisms for monitoring, as they serve

both pre-stoppage and post-MDA surveillance roles.) An appropriate surveillance strategy should be designed for schistosomiasis and STH as well. These steps could involve the development of regional cooperation for entomology and epidemiology for monitoring and surveillance and leading, where appropriate, to dossier preparation. At the same time, an agreed-upon strategy is needed for containing hotspots and managing cross-border reintroduction of disease. This topic is critically important, and seems to not have been fully addressed, although it comes up regularly.

With the current emphasis on the United Nations Sustainability Development Goals, the USAID NTD Program has an opportunity to help countries develop their national NTD programs around these strategies. It is important to note that individual countries have expressed a desire to eliminate schistosomiasis and STH, but these are not current targets for the larger USAID and global community support.

Countries have used the support from USAID NTD implementers and other partners to plan and carry out various levels and types of surveillance activities. Case studies of surveillance in Burkina Faso and Haiti are included below as examples.

In **Burkina Faso**, the national NTD program set up a surveillance system (third stage of the program) in response to the question, "What do we do post-MDA" for LF? These activities were being implemented in collaboration with the Directorate of Regional Health, and were focused on the districts of Hauts Bassins, Cascades, and the North Districts. At the time of the evaluation, the Central Plateau and part of the Sahel districts were also to be included. This process will contribute to the validation of program success and submission of a dossier to the NTD Regional Programme Review Group (RPRG) of the WHO Regional Office in Africa[43]. Burkina Faso is also advocating with partners for significant increased support for LF entomological surveillance.

Active surveillance in Burkina Faso focuses on implementing TASs; these surveys are repeated twice, usually two to three years apart. Passive surveillance takes the form of ongoing surveillance in districts where MDA has stopped in order to: detect new foci of transmission; collect data on trends in infection in the general population; and confirm the interruption of transmission.

The role of surveillance in the context of USAID NTD support in Burkina Faso enabled the national NTD program to continue, expand, and improve both the delivery of MDAs for the five NTDs targeted through preventive chemotherapy, and monitoring and evaluation (impact assessments, pre-TAS, TAS, and post-MDA surveillance). It also helped to assess progress and build the capacity of actors at all levels to better address surveillance through training and technical assistance. The latter has included the review of the schistosomiasis strategy, review of the LF strategy, an action plan for trachoma elimination, logistical management, and use of the TIPAC tool.

In addition, surveillance is strengthened by the integrated NTD database developed by WHO and the USAID NTD partners. Starting in 2016, the integrated NTD database was active at the national and Directorate of Regional Health levels. The plan to deploy the integrated NTD database (called the IDB) in Burkina Faso included training on using the integrated NTD database for the national actors and statistics and epidemiological surveillance managers from 13 regions. Taking into account WHO guidelines, the NTD program was in the process of identifying priority research themes for the coming

[43] WHO RPRG, http://www.wpro.who.int/mvp/ntd/rprg/en/.

years, and was planning to integrate surveillance of schistosomiasis (sentinel sites and controls) and LF (Transmission Assessment Survey).

Haiti is different from other countries visited in that the USAID NTD support focuses mainly on one disease, lymphatic filariasis, which is integrated into a vector-borne diseases program within the Ministry of Health. The Family Health Directorate in the MOH has organized mapping of STH and some MDAs in public sector schools, but public schools are only a fraction of the school-attending population in the country.

Even with the major focus on one disease, surveillance is a major component of capacity building; it also provides opportunities for innovation. The IP supports the national NTD programs by providing strategic technical and financial assistance for a comprehensive package of NTD interventions. The interventions include building data management capacity for M&E, disease-specific assessments (DSA), and surveillance.

Five of six priority areas within the national program involve some form of surveillance, including coverage surveys, pre-TAS through sentinel sites, TAS 1, TAS 2, and surveillance as it relates to morbidity management. The sixth main priority is the MDA. Guidance is being provided on "integrated TAS" since TASs provide an innovative platform for the surveillance of several diseases (including LF, STH, and malaria). In the current project year, capacity building is focused on increasing the number of NTD staff at the national level to manage M&E and surveillance activities.

According to a recent annual report[44], the USAID NTD Program built local surveillance capacity by:

> (working with) the Haiti National NTD Program (HNTDCP) to train 25 lab technicians across 10 departments in the diagnostics used for pre-TAS and TAS surveys, resolving a shortage of lab personal trained to conduct these surveys. As a consequence, HNTDCP conducted pre-TAS in 21 sentinel sites and spot checks, with the majority of sites becoming eligible for TAS. In addition, with assistance from ENVISION and CDC, the Program conducted 14 TAS, again with the majority of EUs (evaluation units) passing TAS and as consequence, stopping TAS and moving into a surveillance phase. The HNTDCP is planning to conduct further surveys, such as mini TAS and coverage survey to determine the reasons for not passing TAS in three EUs. Of note, 12 of 14 TAS used integrated LF TAS/malaria surveys.

In addition, another TAS actually integrated three diseases, "marking the first time an LF/STH/malaria integrated TAS has ever been implemented."

3.3.3.1 Cross-Border Monitoring

An important role for surveillance is to monitor cross-border transmission. Because countries started their NTD efforts at different times, a strong sentinel surveillance system is needed to monitor cross-border threats. In just one cross-border example to consider, Côte d'Ivoire was just beginning MDA at the time of the evaluation, while neighboring Ghana and Burkina Faso were already conducting TAS in many districts. (This situation is similar to the Terai region of southern Nepal.) Also, population and vector movements pose a threat. Conflict in the Lake Chad basin is another example where disease control efforts vary across borders, and some border communities may still harbor disease.

Cross-border issues continue to plague NTD programs, despite many meetings and agreements. In moving from control to elimination, these issues are all the more important. It is now clear that

[44] RTI International and Partners. ENVISION FY2015 Annual Report HAITI. USAID under cooperative agreement No. AID-OAA-A-11-00048, 2016.

managing cross-border foci will be an on-the-ground process, with joint planning by teams from both sides of national boarders that are acting on central government commitment and support. Regional commitments have been effective for other diseases, but do not seem to have been fully employed for NTDs. Although these issues are mentioned in passing at most meetings and discussions, there is now a need for country leadership to take them seriously. Addressing such potential threats to the post-MDA status of several countries requires a well-thought-out approach.

The epidemiological capacity to design and manage the sentinel surveillance system does not appear strong in countries such as Nepal, where infection with LF and trachoma in neighboring India pose considerable treats. While treatment programs are ongoing in India, these are reported as a low priority, and there is little if any cross-border program coordination.

3.3.4 Capacity to Manage and Deliver Health Service

a. Human Resource Management

Human resource capacity building specifically addressed the adequacy of skilled personnel overall, support to build skills and capacity, and supervision to ensure good performance and the proper application of skills.

In all cases, the national ministries of health tried to ensure adequate personnel for NTD programs. The most robust example may be Burkina Faso, where over three dozen staff were placed in the NTD program unit; staff included personnel with disease-specific experience as well as those with supportive skills such as information management and behavior change. Another model was seen in Ghana, where the USAID implementing partner actually placed its staff within the NTD program, not in a separate office, so as to strengthen the unit and pass on skills in a direct, daily basis.

Commitment to a more robust staffing plan had several benefits. Staff learned from each other and were better able to participate in field supervision, regardless of the disease activity. Also, with adequate staff, activities were more easily covered when some members attended workshops or training programs.

Problems existed, for example, when an NTD coordination unit existed in name, but the actual staff comprised just a few people based in different disease-specific sub-units; in some cases, these sub-units might not be located in any reasonable proximity to each other.

An upcoming challenge recognized by respondents will be to find persons with the epidemiological, entomological, and statistical skills to manage the post-MDA phase for diseases such as trachoma, onchocerciasis, and LF; treatment is already stopping in a number of areas within countries. There was concern that the elimination of some of the MDA disease activities may also eliminate staff positions that are needed to carry on in the post-elimination context. The USAID program has attracted capable people and these individuals need to be retained, if not in NTD programs, then at least in disease control departments of ministries of health.

Mass drug administration requires trained personnel, and training occurs at many levels. At one end are the community distributors, who are generally community-selected (with the exception of primary school teachers, who are selected by school authorities). At the next level are first-line health workers, who are either community based or facility based. Then comes the level of supervisors, district managers, and national program personnel. All levels are engaged in regular training or refresher training. Keeping this process going requires many partners, including central and local government and NGOs, both national and international. The USAID program supported much of the training, having

supported training for some 3.7 million persons from 2007 to 2015. (About 408,600 participants are trained annually.) It is recognized that many of the same people will be trained annually as part of refresher courses. In addition, USAID supported the development of training curricula, including use of program tools. These curricula have contributed to widely perceived increases in the professionalism of NTD programs.

Many persons interviewed observed that, over time, a strong sense of professionalism developed among staff working in national programs. As noted, the USAID program has invested substantially in additional training for NTD country staff. Some training was formal, while some was through mentoring or through technical resources. The general level of national NTD leadership across countries was very good, as judged by the evaluation team in the countries visited. Further training has been provided to first-line health workers, supervisors, community volunteers, and school distributors.

Critical to programs are good supervision and data management skills. Over time, most national programs have built these skills. There was mention of the potential for integrated supervision with other disease-specific programs, such as malaria, dengue, guinea worm, community education, and tuberculosis/leprosy, in which staff with similar program skills could potentially expand the human resource base for NTDs. The dissemination of program tools and best management practices could help bridge gaps between programmatic approaches and build program capacities.

Synergies between national CHW programs and NTD MDA activities have had an effect in providing essential primary care services at the community level. At times, national CHW programs have grown from the use of community distributors used for MDA; in other cases, existing CHWs have been involved in annual MDA activities.

Online survey respondent comments were generally positive about human resources capacity. For example, "We are receiving excellent support from ENVISION to enhance the capacity building at the national level." Another respondent noted that, "Training, supervision, and planning significantly help to build the capacity to manage the NTD program." Another important observation was that, "USAID's support has allowed us to focus our energies."

More specifically, and also most typically, survey comments were positive regarding contributions to the capacity of staff at sub-national levels, including district team members, first-line health facility staff, and community members. The USAID NTD Program, by "working with and participating in training/orientation of staff at the district level has developed confidence in managers and health workers at those levels."

This is an important and positive result, as human resources capacity building is especially important at the district level; first-line health workers and established community volunteers are generally used to ensure medicines reach community distributors, who continue to be responsible for the bulk of distribution.

b. Commodities Management

While USAID did not generally provide commodities, it assisted in enhancing the capacity to manage drugs and supplies. The USAID NTD Program has been strongly focused on strengthening health systems. At the national level, the NTD program is variously a part of the disease control division, the community health department, or the vector control department of the MOH. Medicines can flow through national medical/pharmacy stores but more often are managed through parallel NTD-specific

systems. Experiences using established national pharmaceutical distribution systems were mixed. Further training was provided in a number of countries to medical store personnel in supply chain management.

Inter-sectoral work has been strengthened through collaboration between health services and schools in the delivery to children of MDA commodities for schistosomiasis and intestinal worms.

Most medicines distributed were donated through the WHO joint request for selected PCT medicines. In a few situations, some medicines were purchased by the USAID IP, such as diethylcarbamazine (DEC) in Nepal and praziquantel for countries with schistosomiasis. The NTD database, in countries where it is functional, is helping the forecasting and management of medicines. Donated medicines were generally consigned to central medical stores after clearing customs.

Forecasting drug requirements is a challenge when the implementation unit population is not clear. Multiple sources, from village registers to estimates based on the national census, can produce substantially different estimates. One result is the oversupply of medicines—which happens frequently. Additionally, distribution is often done on the basis of old mapping, which was created before various population and environmental changes occurred.

The joint application form has improved the ordering of treatment, and various measures facilitated the customs entry of medicines. When medicines are requested through the joint application form, ministries must sign the forms to indicate that the medicines can enter the country without additional charges. At importation, things usually progress well, although sometimes the MOH is not very aggressive in pursuing a waiver of charges. Ethiopia has been requiring increasingly more complex entry documentation, so much so that a recent shipment, halted at customs over arcane requirements, was eventually sent back to the shipper and redirected. However, when problems occur, they usually occur after medicines reach central medical stores (for those countries where the national programs use medical stores). The general approach has been to use central medical stores, since they usually have an extensive distribution capacity. However, problems with medical stores can be extensive, causing some programs to manage distribution for some or all of the medicines required. Azithromycin is often managed separately as a high-value antibiotic. Medicines for schistosomiasis and STH in Cameroon were kept in program offices rather than in medical stores.

While these problems do not occur at all times in all countries, they occur frequently. They commonly include failure to rotate stock, and the low priority given to the dispatch of NTD medicines. Delays in dispatch have had a major impact on distribution schedules, especially those involving multiple types of medications. Methods to address these have included sending vehicles to specifically transport NTD medicines, and the secondment of supply chain personnel by the IP to medical stores. In Tanzania, in areas where district NTD programs were well developed, the supply managers communicated among themselves to move excess supplies among districts to alleviate shortages as they developed. Moving unused medicines back from field sites to medical stores remains a challenge. In Nepal, for example, the medicines from isolated areas (which were usually small amounts) were destroyed as the logistics of returning them to medical stores were too complex.

Online survey. When participants were asked about the effectiveness and efficiency of the current application process for donated medicines, 69% thought it was effective and efficient, while 18% thought it was very effective and efficient; 13% of respondents were uncertain. While it is recognized that USAID is not directly involved in the application process, NTD support does extend to processes such as data

collection and analysis, as well as capacities in commodity need forecasting. Ultimately, if products are not ready at the time needed, USAID-supported MDAs will suffer.

In a related area, 48.3% of respondents thought the USAID NTD Program played a useful role in the capacity development of national programs in developing their requests for commodities in a timely and accurate manner. Some 38.3% felt this role was "very useful," although 13.4% were uncertain or thought the efforts were not useful in developing their capacity in the procurement process.

Respondents commented that the USAID NTD Program played an important role in training at all levels in commodity management and distribution, from the national medical stores to the district teams. It was noted that USAID sometimes helps with clearance of commodities at the ports, and USAID support for the transportation of commodities to the various levels was also mentioned. As one respondent explained, "Resources have been made available to improve drug distribution down to the last kilometer." Another commented that, with the closure of APOC, their program would have suffered "a staggering blow so close to the finish line," without USAID assistance. This situation does lead one to wonder about the capacity of national NTD programs to manage logistics into the future.

While the drug procurement process uses the online WHO request form, USAID has supported development of the forecasting tools and built capacity for countries to manage the ordering capacity effectively. Once arriving in-country, the USAID NTD Program helped support the distribution process in various ways. The online survey respondents were asked about their perception of this support. A nearly equal proportion felt that the USAID program played a useful (38%) or a very useful (40%) role in improving capacity to get the drugs out. Almost 22% were uncertain if a useful role was played, or thought USAID efforts were not useful in this regard.

For conditions such as STH and schistosomiasis, where long-term control is required, strategies creating an efficient drug distribution program must be developed. Much transmission of STH and the development of schistosomiasis pathology occur outside of the current populations targeted for treatment. Certain populations, such as fishermen, are at particular risk of schistosomiasis, and do not benefit from the school-based distribution of praziquantel. Adolescents, both in and out of schools, are often not included in STH MDA, and continue to support transmission. A strong, new approach is needed to determine the risks of transmission, perhaps involving remapping of districts or focal mapping, and deciding the variable treatment frequencies of these population areas. Recent analyses suggest that school-based deworming programs may have limited impact on overall community transmission. Further, modelling suggests that community-based treatment could be highly cost effective, and could have a greater impact on transmission.[45,46]

As mentioned earlier, a strategic differentiation is needed between diseases targeted for elimination and those slated for continued control. While donated medicines for diseases that can be eliminated have a potentially finite donation period, those for control do not. For these diseases, a separate strategy should be developed. For example, it is understandable that some countries may independently decide to continue albendazole MDA for STH purposes after LF is eliminated. Should donations for that purpose be limited, and if countries choose to do so, albendazole and mebendazole could be locally

[45] Lo, N.C., Bogoch, I.I., Blackburn, B.G, et al. Comparison of community-wide, integrated mass drug administration strategies for schistosomiasis and soil-transmitted helminthiasis: a cost-effectiveness modelling study. Lancet Global Health, 2015, 3, pp. e629–e638.

[46] Clarke N.E., et al. Differential effect of mass deworming and targeted deworming for soil-transmitted helminth control in children: a systematic review and meta-analysis. Lancet, 2017;389:287–297.

manufactured in some countries for less than the cost of international transport. Such a step would encourage local industry, and government purchases would demonstrate commitment.

In some cases, NTD medicines are purchased instead of utilizing donations. In the case of very cheap diethylcarbamazine, used for LF in Asia, the costs are small and are sometimes paid by governments. The costs for praziquantel have been greater and have been assumed by USAID in the past, although this step was to cease in 2017 (with donation programs expanding to pick up any slack). The manufacturer has pledged to donate 200,000 tablets. However, it is not certain how soon this donation will be realized, and some national managers expressed concern Assuming praziquantel donations are guaranteed and expand for the current efforts for school-age children, additional procurements by countries could be focused on high-risk adult populations.

c. Planning, Management, and Budgeting

The USAID NTD Program has put in place many enduring structural and operational components, which have been well integrated into the ministries of health. The program has helped to build human capacities to manage these components. While it was recognized that the NTD program was not a permanent commitment of external assistance, the program has promoted the development and maturity of national capacities. The training and management capacity-building activities are probably one of the most important contributions to sustainability.

A major contribution has been the development of NTD tools, primarily by RTI International. These tools have involved many areas, from planning to budgeting to data management. The tools have been used in other programs as well, creating a wider impact. Along with the tools have been the collation and dissemination of a series of NTD management activities labeled as "Best Practices," many of which represent specific steps in the program building. These practices include: conducting a situation analysis; creating a national plan of action; using the TIPAC for annual planning; having a NTD focal person in place; establishing a central coordinating committee; developing a national M&E plan; and creating a national database.

A notable NTD program achievement was improved program management; this achievement was widely recognized by program personnel as well as stakeholders. The program brought a substantial amount of discipline and transparency to program management, and was particularly important in planning and management, the estimation of costs and required medicines, and the programmatic funding gap. RTI International's TIPAC tool helped national programs assist individual districts to plan their annual distribution and to cost these efforts. This tool also estimates funding gaps that help the NTD programs identify additional funds needed. The annual process was conducted by national programs with assistance from the IP. It helped keep the distribution process functioning smoothly and develop management capacities at national and district levels of the health systems for NTD delivery.

While there were annual national planning meetings, districts also planned their own programs with support from the IP, which included an extensive budgeting exercise. During the evaluation field visit in Uganda, for example, the Mukono District team was interviewed about the process. They were proud of how they had carried out the planning themselves with ENVISION assistance, including cost estimates. They used data from their previous rounds of MDA to estimate requirements for upcoming MDA rounds; they had understood disease mapping in their district and could discuss it knowledgeably; and they noted how they had adapted distribution methods to address the needs of the migrant fisher folk community, who were continuously exposed to schistosomiasis.

The tools and best practices have been widely used, although some senior staff admitted that they had assigned their use to junior staff, and they themselves had forgotten how to use them. As noted above, further integration or at least cooperation with other MOH public health programs could benefit these other programs by helping them to understand the importance of forecasting medicine needs, monitoring treatments and outcomes, and coverage data.

Countries are not yet contributing the substantial funding needed to search for ways to decrease reliance on donor funding, even though, in general, NTD programs, with donated medicines, are relatively inexpensive to manage compared with other population-based programs. And although disease elimination and stopping MDA may suggest savings, these will be offset by the costs of post-MDA monitoring and surveillance, especially in countries where cross-border transmission continues to pose threats.

For planning purposes going forward, many in the ministries of health see the NTD program as eventually addressing NTDs beyond the five PCT diseases. Some guidance is needed for ministries to strategically consider these issues. The options could be closing out NTD secretariats—after diseases than can be eliminated have been eliminated—and folding the remaining NTDs that require long-term control into other parts of the ministries. This situation runs the risk of recreating the disease-specific programs for which the NTD programs were formed originally. The other option is to help develop a decision-making tool for selecting other potential NTDs to be included in national programs, weighting potentials for control, human capacity requirements, and the financial support required (and that is potentially accessible). As current disability-adjusted burden of disease data become increasingly available at the national and even sub-national level, they could be helpful in decision-making.

d. Community Education, Communication, and Mobilization

Information, education, and communication (IEC) materials were developed for community mobilization, working with political leadership, and for health workers; these are an important project component The materials were generally done well and appreciated by partners. In some situations, IEC was directed through the community distributors; however, extensive advocacy materials were developed for the sensitization of governmental and traditional leadership. Materials also were developed for STH programs in schools. In some cases, IEC was carried out through the ministry of education, and in others through school health sections in the ministry of health. Some examples are listed below.

Burkina Faso provides a practical example. The Ministry of Health in Burkina Faso has a section on Social Mobilization and IEC in its "Integrated Guidelines for the Implementation of Mass Treatment Campaigns against Neglected Tropical Diseases in Burkina Faso (edition 2016)." This section outlines activities at regional, district, health center, and community health agent levels, and includes outreach through mass media, such as the development of radio spots and programs in French and local languages, as well as community-level mobilization through community-based organizations. These activities, including the production of IEC materials, were supported by the USAID NTD Program through FOGs at national as well as regional levels. Materials included 7,000 posters, 6,500 brochures, and other grassroots communication materials; these materials were used in implementing schistosomiasis, trachoma, onchocerciasis, and lymphatic filariasis campaigns, and were disseminated at the health-facility level.

In Ghana, cascade training was organized to enable regional and district staff from both the Ghana Health Service and the Ghana Education Service to use IEC materials, and to conduct community mobilization. As in Burkina Faso, Ghana IEC activities ranged from mass media to the local and interpersonal. Large billboards have been developed to increase awareness of the PCT NTDs (Figure 11). Radio announcements, talk shows, and prerecorded jingles were also part of the mass media approach. The project reported that schoolchildren were an effective mode of disseminating information to parents, guardians, and communities, using 2 million IEC fliers. Also, at the community level, the beating of gongs was used to make people aware and call them to small group meetings at churches, mosques, and other venues.

Figure 11. Billboard in Ghana encouraging MDA for LF
(Source: Ghana National NTD Program)

The 2015 annual report of Cameroon's National NTD Coordination Unit highlighted the roles of the IP and the subcontracted NGOs in designing and implementing IEC materials. The overall ENVISION IP produced T-shirts with NTD MDA messages, and developed traditional posters, pamphlets, brochures, banners, and leaflets to be used for advocacy and social mobilization campaigns for MDAs. Subcontractors like PerSpective also produced additional materials for their project area. The NTD Coordination Unit did express concern, however, about a gradual decrease in the resources devoted to social mobilization.

In Haiti, although lymphatic filariasis is the only USAID-sponsored NTD control activity, the project has actively included IEC materials and activities in their efforts. Social mobilization activities using community leaders (CLs), community promoters (CPs), and community drug distributors were held before and during MDA. Radio and television spots were developed, and approximately 20 radio and four television spots were disseminated per department. Over 300 posters and over 200 banners were produced to replace other lost or damaged materials. The project also distributed 340 WHO lymphatic filariasis DVDs to communal leads, health centers, and community leaders (replacement copies) and produced 3,600 brochures for the West Department.

Evaluation of IEC activities was not documented in the reports reviewed or through interviews. IEC can reinforce mobilization efforts, but can rarely stand on its own. Community leaders and distributors especially can feel more confident in relaying key messages when they have materials in hand and receive training to use those materials.

Conclusions – Question 3

COUNTRY OWNERSHIP AND CAPACITY

A variety of capacity-building tools and training has been applied successfully by USAID in NTD-endemic countries. These products have enabled countries to carry out the PCT/MDA components of their WHO-supported NTD master plans. Monitoring and evaluation systems and planning skills were the two capacity-building activities most often mentioned by survey respondents.

Country ownership of NTD programs is high, with a few exceptions. FOGs aid in sub-national ownership by regions and districts of NTD interventions. At times, however, the focus on the sub-national by implementing partners may detract from the sense of ownership and coordination by national NTD programs.

SUPPORT TO THE NATIONAL HEALTH SYSTEM

The USAID NTD Program demonstrates a vertically integrated effort to strengthen the health systems of program countries from the national through to the regional and district levels. That is, not only did the program help to bring about integrated national NTD programs, create country-specific NTD masterplans, and support disease mapping and advocacy, it also provided an opportunity to strengthen community health worker delivery of essential primary health care. In addition, work on NTDs has brought the health and education sectors together to tackle health problems.

The USAID NTD Program has had the effect of encouraging ministries of health to bring together under one roof (in most cases) a variety of staff with clinical, epidemiological, entomological, behavior change, and statistical skills. In addition to traditional training, on-the-job learning among NTD staff has been fostered by implementing partners, who in some cases have actually seconded staff to work side-by-side with national NTD staff.

HUMAN RESOURCES

Interview respondents observed the growth of professionalism and leadership in the field of NTDs. They noted that such attributes are not exclusive and that, as NTD efforts are successful in eliminating some of the PCT diseases, the skills of staff currently in NTD programs will benefit the ministries as a whole.

Respondents have also observed the value of focused annual planning that is both goal- and target-based. Although USAID and MOH planning cycles (and fiscal years) do not overlap, the fact that the USAID year starts earlier than some ministry planning years helps NTD programs get a head start.

PLANNING, MANAGEMENT AND BUDGETING

Extending the planning processes to sub-national levels was seen as important. Achieving a balance between planning with the national NTD program and with the regions and districts was a challenge in some countries. This area can be problematic in countries where sub-national units function more autonomously, in that assistance to regions and districts in those cases does not always translate into a well-coordinated national effort.

Generally, the IPs have fostered a planning process that brings many partners together to determine activities and coordinate resources. The TIPAC tool has been seen as most helpful in this process. Concerning budgeting, the coordination of technical and logistical support from USAID, personnel support for national governments, and drug donation programs have been working. Countries are aware of the gaps that may arise as the diseases targeted for elimination are dropped from the program and efforts to maintain control of schistosomiasis and STH remain.

COMMUNITY EDUCATION, COMMUNICATION, AND MOBILIZATION

With USAID support, national NTD programs have engaged in a variety of behavior change communication (BCC) activities. Ideally, countries have guidelines that spell out BCC approaches and activities from national to community levels. There are advocacy materials for policymakers and communication aids for CHWs in support of MDAs. Mass media, ranging from billboards to radio spots, are employed.

Local efforts include community meetings and spreading the word about NTDs through opinion leaders and civil society organizers. Brochures and leaflets are distributed locally. The major challenge with these activities is a good evaluation protocol to determine their effect.

DATA COLLECTION AND USE

Standard data forms are in use starting from the community distribution processes, and are aggregated at the health facility, sub-district, district, regional, and national levels. It is often at the district level that data become electronic. The challenge was acknowledged of verifying data accuracy and completeness prior to computer entry at the district level. Some cases of community registers still exist, as developed for onchocerciasis under the Community Directed Treatment with Ivermectin approach. The general trend for MDA data collection is the use of tally sheets, which do not allow for validation at household and individual levels. Most countries feel comfortable with the tally sheets, where coverage surveys have shown similar results.

There have been instances where data sharing is difficult among national programs, implementing partners, and regions, but it is more common to find national-level data sets that combine information from all PCT disease control activities. Personnel in the field raised the issue of compatibility between NTD databases and the widely used DHIS 2 databases at district levels.

NATIONAL SURVEILLANCE CAPACITY

Surveillance remains a central component of all NTD programs and USAID support, regardless of stage. The movement from control to elimination with onchocerciasis has brought mapping back into prominence in endemic countries. Concern about transmission hotspots for LF and schistosomiasis is another reason that countries are stressing surveillance activities. USAID support for TASs and laboratory strengthening is addressing these surveillance needs.

PROCUREMENT AND SUPPLY CHAIN MANAGEMENT FOR NTDS

At the time of evaluation analysis (early 2017), USAID was not responsible for MDA drug procurement. WHO serves as the conduit for requests from countries to the donation programs. Nonetheless, USAID has played a crucial role in building capacity of countries to estimate and forecast needs and to submit requests in a timely manner. Advocacy is provided to improve the importation process.

Technical assistance is also provided to enhance the safe delivery and storage of drugs to all levels, once the drugs are in the country. Most survey respondents found the USAID role in strengthening the supply chain useful, although a third of respondents indicated the need for improvements.

Some concern was raised about the future of procurement for schistosomiasis and STH MDAs after the other three PCT diseases are eliminated. Some countries are discussing the value of wider population coverage, even elimination, for these two diseases. These are discussions that all recognize as urgent across the full scope of national and international stakeholders, donors, and partners.

CROSS-BORDER ISSUES

Because of population movements due to normal commerce or ongoing conflicts, countries voiced concerns about cross-border transmission. These concerns are heightened when neighboring countries are at different stages of NTD control and elimination implementation. People in onchocerciasis-endemic countries recall efforts by APOC to encourage cross-border planning and cooperation. They wonder about the role of the new WHO AFRO ESPEN program. When implementing partners work in neighboring countries, they recognize the possibility of coordinating among those countries in which

they are based. Overall, concern was expressed about the potential for reintroduction of disease from neighbors in a post-elimination phase.

Recommendations – Question 3

Based on the foregoing conclusions and observations, several recommendations are offered to USAID and its NTD IPs.

Annual Planning and Implementation within countries should practice an integrated and collaborative NTD approach, linking all implementation from national to community levels, and involving all stakeholders and partners. Subsequently, the implementation of NTD plans should continue to support integrated platforms for delivery of MDAs in the context of participatory primary health care. In addition, annual NTD program planning should be goal focused, involving all donors and stakeholders, and should mobilize local resources.

Human resource departments in endemic country ministries of health and partner organizations should be made aware of the skills imparted to employees through USAID NTD efforts. This step should help them to value these employees and recognize the role they will have in strengthening the quality of epidemiological, informational, and educational services within the broader organizations.

Social and behavioral change interventions need to continue through all phases of NTD interventions. USAID and partners should ensure the appropriateness of channels and messages, and evaluate and document actual community responses.

Data quality validation and completeness should be a continuous effort of USAID and partners. All parties should work to guarantee quality from community through national levels, examine potential integration with HMIS and DHIS as appropriate, and promote data sharing among all partners. USAID and partners should encourage, where feasible, neighboring countries to establish communication about epidemiology, interventions, and planning along their borders through regional data sharing.

Continued mapping is needed for onchocerciasis and other PCT disease hotspots. These activities should build national capacity for long-term monitoring and surveillance of PCT diseases to verify elimination, and catch any areas of resurgence or recrudescence.

Drug forecasting and supply chain management must be continually reinforced to ensure accurate forecasting, ordering, safe supply management, and timely delivery of products to distribution points.

Question 4. Progress Toward Achieving Elimination and Control

The fourth evaluation question concerned progress toward achieving elimination/control: Are USAID-supported countries on track to achieve the WHO NTD 2020 elimination and control goals for the diseases supported in the program?

The USAID NTD Program was created before the concept of elimination of disease was entirely defined for several NTDs. The earliest concepts were of control, and were later modified to elimination of the

public health consequences of disease. Only after 2012 and the London Declaration on Neglected Tropical Diseases, regarding control and elimination, was the elimination of disease transmission more widely entertained. WHO's 2012 *Roadmap for Implementation* of NTD efforts builds on many WHO declarations and the use of preventative chemotherapy. Building upon the roadmap, WHO has set both elimination and control targets globally; some targets were adopted with modifications by the USAID NTD Program in its partner countries, as follows:

- Trachoma: Eliminate as a public health problem
- Lymphatic filariasis: Eliminate as a public health problem
- Onchocerciasis: Eliminate in the Americas and select countries in Africa
- Schistosomiasis: Reach 75% coverage in 100% of supported countries
- Soil-transmitted helminthiasis: Reach 75% coverage in 100% of supported countries

In 2015 and 2016, in an attempt to clarify issues of elimination further, WHO created documents to more clearly identify the elimination of transmission (that is, no incidence of new infections), as well as the elimination of the public health consequences, now termed *validation*.[47] Specific guidelines have been created for trachoma, LF, and, in great detail, for onchocerciasis.[48]

This section will examine the progress made for each of the five PCT diseases. Several countries are expecting that their national NTD programs should have an active plan for the development of an elimination dossier for candidate diseases.

Citing the most recent data, as of October 26, 2017, a total of 1,951 districts had been treated for at least one NTD from FYs 2007 to 2016. Figure 12 below shows the distribution for each disease.

[47] http://www.who.int/neglected_diseases/resources/NTD_Generic_Framework_2015.pdf.
[48] http://apps.who.int/iris/bitstream/10665/208901/1/WHO-HTM-NTD-2016.8-eng.pdf; http://apps.who.int/iris/bitstream/10665/254377/1/9789241511957-eng.pdf; http://apps.who.int/iris/bitstream/10665/204180/1/9789241510011_eng.pdf.

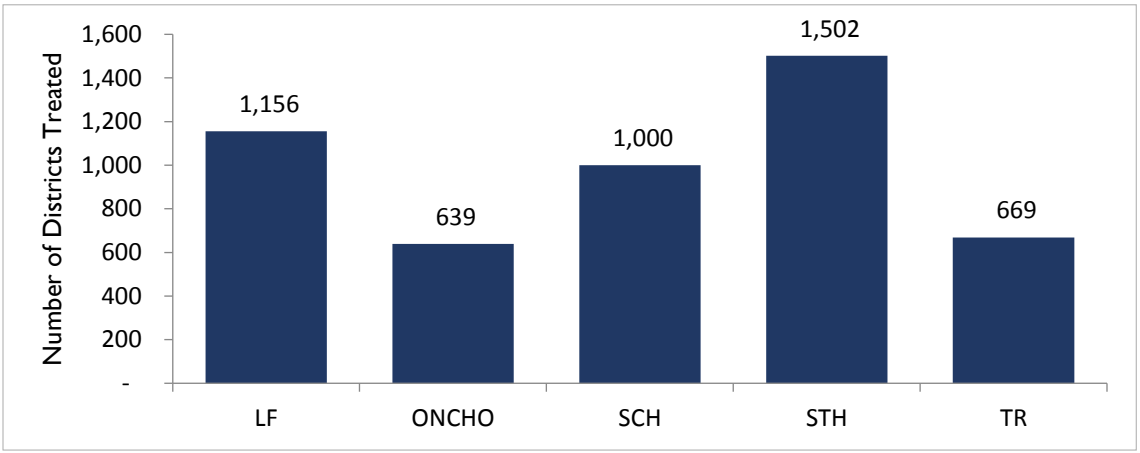

Figure 12. Number of Districts[49] Treated with USAID Support by NTD, FY 2007-2016. *(Source: USAID NTD database)*

4.1 Trachoma

The primary focus of USAID support is on the scale-up of mass drug administration with antibiotics (the "A" component of the SAFE strategy) in communities at risk. Fortunately, there is progress toward stopping treatment for trachoma. The predominant trachoma goals focus on preventing blinding trachoma, and these goals were achieved in many places. Some challenges persist, such as among nomadic pastoralist populations. Similar problems were seen in Uganda and Tanzania, and various strategies have been developed to address the challenges.

Table 4 (following page) notes the number of districts across several countries where MDA for trachoma was implemented and where the criteria for stopping were reached. Countries are listed in order of their start dates. In four countries (Ghana, Mali, Vietnam, and Nepal) 89% to 100% of the populations that live in USAID-supported districts have met the criteria for stopping MDA. Uganda, Nigeria, and Tanzania are moving in this direction with 72% to 86% of targeted districts achieving the MDA stopping criteria. Having additional time may be an important factor in helping countries to achieve their goals. On average, in those countries starting the program between 2007 and 2011, 77% of targeted districts have reached the stopping criteria (upper half of Table 4). Of those coming on board since 2012, on average, only 20% of districts reached stoppage (lower half of Table 4).

[49] Based on current country geography in USAID NTD database as of October 26, 2017.

Table 4. Starting and Stopping MDA for Trachoma, by District

Country (ENVISION and four END countries)	**Year started**	**No. of districts ever endemic**	**No. of endemic districts, end of FY 2016***	**No. of districts where MDA ever was implemented with USAID support**	**No. of districts where criteria for stopping achieved****	**% of districts where criteria for stopping achieved****
Ghana (END)	2007	37	0	37	37	100%
Mali	2007	58	4	45	54	93%
Burkina Faso (END)	2007	48	19	47	29	60%
Niger*** (END)	2007	35	12	36	23	66%
Uganda	2008	44	10	38	34	77%
Vietnam***	2009	9	1		8	89%
Nepal	2011	20	0	4	20	100%
Tanzania	2011	65	18	47	47	72%
Cameroon	2011	21	14	21	7	33%
Nigeria****	2013	35	5	7	30	86%
Mozambique	2013	65	50	42	15	23%
Ethiopia	2013	678	669	273	19	1%
Guinea	2013	18	18	9	0	0%
Senegal	2016	27	14	8	13	48%
Benin	2016	8	8	4	0	0%
DRC	2016	31	31		0	0%
Côte d'Ivoire (END)	2016	10	10	4	0	0%
Totals		1,209	883	622	336	27%

**Endemic defined as TF>=5% at baseline. Districts may also require TT surgery interventions.*
***Defined as TF<5% at district-level at impact.*
****Contains district(s) classified as 'endemic' that have achieved the criteria for stopping MDA in a portion of the district.*
*****Only in USAID-supported states.*
Note: While Cambodia and Laos are on the WHO list of trachoma endemic countries, mapping in 2014 and 2015 found TF prevalence below the threshold to implement MDA.
Source: ENVISION Semi-Annual Report 1 FY 2017, May 2017 (Data may include FY 2016 Semi-Annual Report 2 Workbooks); other data provided to NTD evaluation team

Most countries are on track to reach WHO 2020 elimination goals for trachoma. As shown in Table 5 below, nearly all countries shown anticipate reaching post-MDA surveillance by FY 2021.

Table 5. Projected Percentage of Trachoma-endemic Districts Under Post-MDA Surveillance *

Country	By end of FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022+
ENVISION							
Cambodia+	100%	100%	100%	100%	100%	100%	100%
Laos+	100%	100%	100%	100%	100%	100%	100%
Nepal	100%	100%	100%	100%	100%	100%	100%
Mali	92%	100%	100%	100%	100%	100%	100%
Cameroon	33%	100%	100%	100%	100%	100%	100%
Senegal	48%	63%	100%	100%	100%	100%	100%
Mozambique	23%	40%	100%	100%	100%	100%	100%
Uganda	77%	95%	95%	100%	100%	100%	100%
Vietnam	89%	89%	89%	100%	100%	100%	100%
Benin	0%	0%	50%	100%	100%	100%	100%
Nigeria**	23%	38%	74%	99%	100%	100%	100%
Tanzania	71%	88%	95%	95%	100%	100%	100%
Guinea	0%	22%	72%	94%	100%	100%	100%
Ethiopia**	1%	16%	65%	75%	94%	100%	100%
DRC**	0%	0%	37%	40%	97%	97%	100%
END in Africa							
Ghana	100%	100%	100%	100%	100%	100%	100%
Burkina Faso	60%	100%	100%	100%	100%	100%	100%
Côte d'Ivoire	0%	10%	80%	100%	100%	100%	100%
Niger	66%	83%	97%	97%	100%	100%	100%

**Assumes all districts achieve the minimum number of rounds required of sufficient epidemiological coverage in remaining years, and pass the Trachoma Impact Survey (TIS).*
***Reflects data received by ENVISION as of April 4, 2017. Includes data from non-USAID supported areas and might not be complete.*
+While Cambodia and Laos are on the WHO list of trachoma-endemic countries, mapping in 2014 and 2015 found TF prevalence below the threshold to implement MDA. Therefore, they will not implement MDA, but were to submit dossiers to validate elimination as a public health problem to WHO in FY 2017.
Source: ENVISION Semi-Annual Report 1 FY 2017, May 2017 (Data may include FY 2016 Semi-Annual Report 2 Workbooks).

4.2 Lymphatic Filariasis

LF has been a major focus of the USAID NTD Program, with highly successful results. The approach toward eliminating disease from an individual district is straightforward. USAID has supported the development of tools that make progress assessment and the potential for the validation of disease burden elimination well within the capacities of national programs. The synergy with STH treatment in schools has been an added benefit. In addition, the recognition of the disease within communities has facilitated community compliance toward treatment.

Large areas are free of LF transmission and are moving toward validation. In locations where multiple rounds of LF treatment have been carried out, several programs reported that the development of new morbid conditions in now minimal. According to WHO, Togo is the first country in sub-Saharan Africa

to eliminate lymphatic filariasis.[50] The country has introduced a national surveillance system of clinics and hospitals to assess any disease reappearance as it moves toward verification.[51]

Along with Togo, by the end of FY 2016, five other countries in Africa had reached the point at which at least half of their districts achieved the criteria for stopping MDA for LF (Table 6, following page). In Asia, all districts in Cambodia and Vietnam had achieved stopping criteria, with Bangladesh not far behind. Similar to Table 4 above, additional time may be an important factor in helping countries to achieve their goals for LF. Roughly half the countries started between 2006 and 2009, and, as a group, 65% of their districts have reached stopping criteria. The remaining countries, from 2010 to 2015, have achieved stoppage as a group for only 18% of their districts. Using the same measure of Table 4 above (those starting since 2012), only about 9% of districts have achieved stoppage.

Table 6. District MDA Implementation for LF by Country

Country (ENVISION and six END countries)	**Year started**	**No. of districts ever endemic**	**No. of endemic districts at end of FY 2016**	**No. of districts where MDA was ever implemented with USAID support, FYs 2006-2016**	**No. of districts where criteria for stopping MDA achieved**	**% of districts where criteria for stopping MDA achieved (FY 2016)**
Togo (END)	2006	8	0	0	8	100%
Ghana (END)	2007	98	17	92	81	83%
Mali	2007	65	16	65	49	75%
Niger (END)	2007	31	20	31	11	35%
Bangladesh	2007	19	1		18	95%
Uganda	2008	57	14	57	43	75%
Vietnam	2009	4	0		4	100%
Haiti	2009	140	39	123	101	72%
Burkina Faso** (END)	2009	70	25	92	45	64%
Sierra Leone (END)	2009	14	14	14	0	0%
Cambodia	2009	4	0		4	100%
Philippines	2009	44	22		22	50%
Cameroon	2010	137	99	154	38	28%
Tanzania	2011	121	47	114	74	61%
Nepal**	2011	61	36	56	25	41%
Indonesia	2011	236	196	59	40	17%
Laos	2012	1	1		0	0%
Benin	2013	48	25	25	23	48%
Senegal	2013	50	50	50	0	0%
Nigeria*	2014	151	121	121	30	20%
Guinea	2014	24	24	18	0	0%
DRC	2015	242	242	6	0	0%

[50] WHO. Togo: first country in sub-Saharan Africa to eliminate lymphatic filariasis. http://www.who.int/neglected_diseases/news/Togo_saying_goodbye_lymphatic_filariasis/en/ accessed 12 Apr 2017.
[51] Budge, P.J., Dorkenoo, A.M. Sodahlon, Y.K., Fasuyi, O.B., and Mathieu, E. Ongoing surveillance for lymphatic filariasis in Togo: assessment of alternatives and nationwide reassessment of transmission status. American Journal of Tropical Medicine and Hygiene. 2014, January 8; 90(1): 89–95.

Country (ENVISION and six END countries)	Year started	No. of districts ever endemic	No. of endemic districts at end of FY 2016	No. of districts where MDA was ever implemented with USAID support, FYs 2006-2016	No. of districts where criteria for stopping MDA achieved	% of districts where criteria for stopping MDA achieved (FY 2016)
Ethiopia	2015	70	70	22	0	0%
Côte d'Ivoire (END)	2016	73	73	41	0	0%

**Only in USAID-supported states.*
***Contains district(s) classified as "endemic" that have achieved the criteria for stopping MDA in a portion of the district. The persons living in areas that have achieved the criteria for stopping MDA are counted as "no longer at risk."*
Source: ENVISION Semi-Annual Report 1 FY 2017, May 2017 (Data may include FY 2016 Semi-Annual Report 2 Workbooks).; other data provided to NTD evaluation team.

As with trachoma, most countries are also on track to reach WHO 2020 elimination goals for LF. As seen in Table 7 (following page), near-future projections for various ENVISION and END in Africa project countries predict that nearly all endemic districts will be under post-MDA surveillance for LF by FY 2021. At the current rate of progress, by FY 2021, only four countries will not be under LF post-MDA surveillance (Guinea, DRC, Nigeria, Côte d'Ivoire).

Table 7. Projected Percentage of Endemic Districts to be Under Post-MDA Surveillance for Lymphatic Filariasis*

Country	By end of FY 2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022+
Togo	100%	100%	100%	100%	100%	100%	100%
Cambodia	100%	100%	100%	100%	100%	100%	100%
Vietnam	100%	100%	100%	100%	100%	100%	100%
Bangladesh	95%	100%	100%	100%	100%	100%	100%
Cameroon	28%	91%	100%	100%	100%	100%	100%
Uganda	75%	84%	100%	100%	100%	100%	100%
Mali	75%	75%	100%	100%	100%	100%	100%
Laos	0%	0%	100%	100%	100%	100%	100%
Sierra Leone	0%	57%	100%	100%	100%	100%	100%
Haiti	72%	91%	96%	100%	100%	100%	100%
Tanzania	61%	83%	93%	100%	100%	100%	100%
Mozambique**	0%	75%	88%	100%	100%	100%	100%
Nepal	41%	61%	84%	100%	100%	100%	100%
Ghana	83%	85%	95%	100%	100%	100%	100%
Benin	48%	75%	75%	100%	100%	100%	100%
Burkina Faso	64%	86%	91%	100%	100%	100%	100%
Philippines	49%	76%	80%	89%	100%	100%	100%
Ethiopia**	0%	0%	6%	11%	84%	100%	100%
Indonesia	17%	37%	40%	51%	78%	100%	100%
Niger	35%	65%	97%	97%	97%	100%	100%
Senegal	0%	0%	20%	26%	26%	100%	100%
Nigeria**	5%	29%	35%	46%	75%	86%	100%
Côte d'Ivoire	0%	0%	1%	25%	45%	84%	100%
Guinea	0%	0%	0%	0%	13%	46%	100%

Country	By end of FY 2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022+
DRC**	0%	0%	0%	0%	2%	2%	100%

**Assumes all districts achieve at least five rounds of sufficient epidemiological coverage in remaining years, and pass pre-TAS and TAS 1.*

***Reflect data received by ENVISION as of April 4, 2017. Includes data from non-USAID supported areas and might not be complete.*
Source: ENVISION Semi-Annual Report 1 FY 2017, May 2017 (Data may include FY 2016 Semi-Annual Report 2 Workbooks).

4.3 Onchocerciasis

Judged by the initial goals of eliminating the public health burden, the USAID NTD Program has been very successful. Blinding onchocerciasis had virtually disappeared by the early years of the USAID NTD Program. In locations where many rounds of ivermectin treatment have been carried out, several programs reported that the development of ocular lesions is now minimal.

Onchocerciasis transmission patterns differ between Africa and Latin America, and program efforts have accordingly been based on different intervention strategies. In the Americas, the majority of locations have now been cleared due to the smaller areas of disease endemicity relative to Africa and the correspondingly more focused nature of efforts at the transmission sites. The elimination of onchocerciasis has been largely achieved, with Guatemala being the most recent country to be verified by WHO as onchocerciasis free.

For Africa, the challenges are much greater. Indeed, more than 99% of all current cases of onchocerciasis are found in sub-Saharan Africa.[52] The disease is much more widely endemic than the Americas, and treatment strategies differ across varying types of geography (e.g., savanna versus forest). There are some transmission areas that have reached the point where treatment has been stopped, and others may soon reach the point where MDA can be stopped for onchocerciasis; many other transmission areas remain.

[52] Kim, Y.E., Remme, J.H., Steinmann, P., Stolk, W.A., Roungou, J.B., and Tediosi, F. 2015. Control, elimination, and eradication of river blindness: scenarios, timelines, and ivermectin treatment needs in Africa. PLoS Neglected Tropical Diseases 2015, April 10; 9(4):e0003664.

Uganda provides an example for success in Africa. In Figure 13, the changes in the endemic status of 17 foci in Uganda are depicted, indicating a rapid movement toward elimination of transmission. While Uganda has unquestionably the best data on elimination status among African countries, the same pattern is seen in other countries that follow the same MDA approach, including former Onchocerciasis Control Program (OCP) countries.

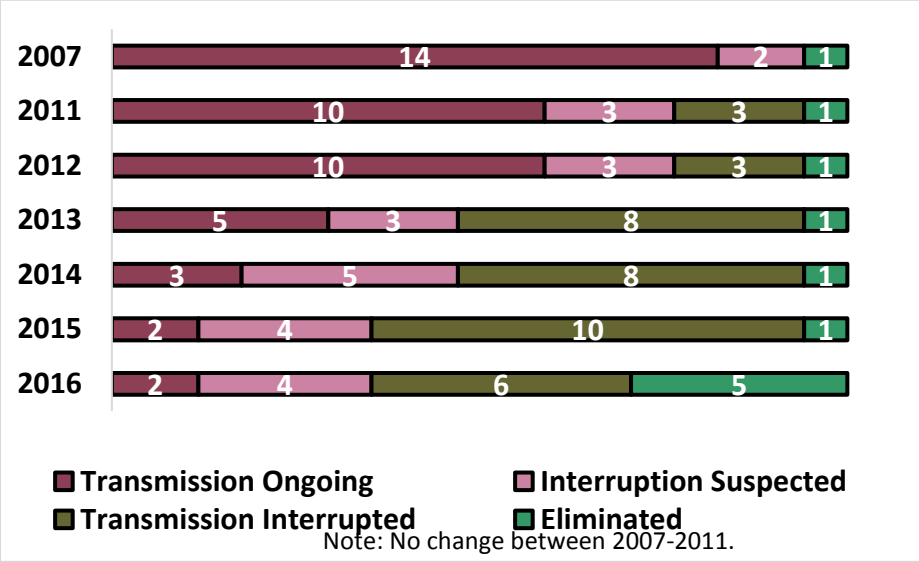

Figure 13. Change in Endemic Status of 17 Onchocerciasis Foci from 2007–2106 in Uganda
(Source: Carter Center)

Still, as suggested above, other countries face different challenges with onchocerciasis elimination. The disease was nearly eliminated in Burkina Faso under the OCP, followed by the Special Intervention Zones activity under the African Program for Onchocerciasis Control. Recent mapping, however, documented a small but important resurgence, leading to new rounds of CDTI, as shown in Figure 14 (next page).

District	Year	Pop. Counted	Pop. Treated	Therapeutic Coverage
Batié	2016	35,529	28,336	79.8%
Dano	2016	82,328	69,496	84.4%
Diébougou	2016	33,002	27,164	82.3%
Gaoua	2016	40,404	31,784	78.7%
Banfora	2015	46,273	36,761	79.4%
Mangodara	2015	7,111	5,723	80.5%

Figure 14. Onchocerciasis Treatment in Burkina Faso, 2015-2016 *(Source: NTD evaluation team data)*

Onchocerciasis control in Africa is evolving; early strategies used vector control but later used MDA of ivermectin. The changes in control activities have caused reevaluations of country strategies and programs. At present it is not clear which countries have included prior non-endemic areas in their current strategies, and accurate mapping is not entirely complete. Elimination in Africa was once considered impossible; however, with excellent coverage of ivermectin distribution it was demonstrated that treatment could be stopped on the Senegal-Mali border.[53,54,55] Although these two countries had to deal with only some small pockets of disease to achieve elimination, there is enthusiasm in other African countries about the potential for elimination of onchocerciasis through ivermectin.

Despite this promise, significant challenges still remain. It is likely not feasible for most African countries to reach the 2020 goals; 2025 could be more of a possibility. Onchocerciasis remained endemic in a number of districts in many African countries at the time of the evaluation. Only Uganda among USAID-assisted countries[56] had a significant percentage of districts where the criteria for stopping MDA have

[53] Traore, M.O., Sarr, M.D., Badji, A., Bissan, Y., Diawara, L., Doumbia, K., Goita, S.F., Konate, L., Mounkoro, K., Seck, A.F., Toe, L., Toure, S., and Remme, J.H. 2012. Proof-of-principle of onchocerciasis elimination with ivermectin treatment in endemic foci in Africa: final results of a study in Mali and Senegal. PLoS Neglected Tropical Diseases, 2012; 6(9):e1825.
[54] Hopkins, A.D. 2015. From 'control to elimination': a strategic change to win the end game. International Health. 2015, September 7(5):304-5.
[55] Walker, M., Stolk, W.A., Dixon, M.A., Bottomley, C., Diawara, .5, Traoré, M.O., de Vlas, S.J., and Basáñez, M.G. 2017. Modelling the elimination of river blindness using long-term epidemiological and programmatic data from Mali and Senegal. Epidemics. 2017, March, 18:4-15.
[56] Some non-USAID countries such as Malawi are also doing well.

been achieved; Table 8 shows the number of endemic and non-endemic districts for several ENVISION and END project countries in Africa for FY 2016; along with Uganda, only Mali showed any districts where the criteria for stopping MDA for onchocerciasis was achieved.

Table 8. Onchocerciasis Endemicity* for Districts in Africa

Country	No. of endemic districts at the end of FY 2016*	No. of non-endemic districts	% of districts where criteria for stopping MDA achieved
Benin	51	26	0%
Cameroon	113	76	0%
DRC	266	253	0%
Ethiopia	188	648	0%
Guinea	24	14	0%
Mali	20	43	9%
Mozambique**	0	0	0%
Nigeria***	121	65	0%
Senegal	8	68	0%
Tanzania	27	159	0%
Uganda****	26	78	41%
Burkina Faso	6	64	0%
Ghana	85	131	0%
Côte d'Ivoire	65	17	0%
Niger	0	42	0%
Sierra Leone	12	2	0%
Togo	32	8	0%

**Definition of endemicity varies by country; some include only meso- and hyper-endemic, while others include known hypo-endemic districts as well.*
***Hypo-endemic onchocerciasis may be present in at least five provinces.*
****Only in USAID-supported states.*
*****Contains district(s) classified as "endemic" that have achieved the criteria for stopping MDA in a portion of the district. The persons living in areas that have achieved the criteria for stopping MDA are counted as "no longer at risk."*
Source: ENVISION Semi-Annual Report 1 FY 2017, May 2017 (Data may include FY 2016 Semi-Annual Report 2 Workbooks); Data reflect what was reported to ENVISION as of April 4, 2017.

4.4 Schistosomiasis

When considering outcomes, it is important to keep in mind that schistosomiasis and STH (next section) are the least well-funded of the five interventions. For schistosomiasis, the focus has been on the treatment of schoolchildren. In many places, children have the highest exposure to infected water bodies, and the pharmaceutical donation program is itself designed only for children. However, by not being a population-based intervention, the effort by its very nature does not result in elimination. In some places, the challenges are readily evident; fishing communities, for example, often have higher exposure to the disease and considerably greater organ pathology. This group is largely outside of the control approaches.

Control efforts are also hampered considerably because of the unpleasant nature of the treatment that patients may experience. Even more challenging, while mapping is complete in almost all places, the quality of some of the earlier mapping is in doubt. Incomplete or inaccurate maps lead to no treatment where it is needed, or treatment continuing where it is no longer needed. For example, in some countries, such as Tanzania, updated mapping indicated that treatment was continuing in the Lake Victoria area when the disease had probably disappeared from that area some years back. With the current mapping, it has been possible to reduce treatment in low prevalence areas, to alternate years or every third year, and still prevent pathology from developing.

Although programs for most other NTDs started much earlier, progress with schistosomiasis is being made. In most ENVISION and END in Africa countries, MDA has started in all or nearly all districts (Table 9). For the remainder, most have MDA started in more than half of their districts.

It should be noted that some countries—and WHO—are considering schistosomiasis as a condition that can be eliminated through MDA. The approach to schistosomiasis treatment is being rethought concerning target groups and possible elimination; this is happening in several of the USAID NTD partner countries (based on feedback to evaluators). Some countries have also discussed trying to eliminate schistosomiasis on their own, but their level of available resources is unclear.

Table 9. Schistosomiasis Endemicity and MDA Coverage for Districts

Project	Country	No. of endemic districts at the end of FY16	No. of non-endemic districts	% of districts where MDA started (since 2012)
ENVISION	Cambodia	2	22	100%
	Indonesia	2	512	100%
	Laos	1	16	100%
	Mozambique	159	0	100%
	Senegal	59	17	100%
	Tanzania*	186	0	100%
	Philippines	28	52	96%
	Mali*	65	0	94%
	Uganda*	93	29	92%
	Ethiopia**	346	364	72%
	Benin	76	1	66%
	Cameroon*	140	49	61%
	Guinea	31	7	58%
	Nigeria**	161	25	20%
	DRC**	375	140	1%
END in Africa	Burkina Faso	70	0	100%
	Côte d'Ivoire	80	2	100%
	Niger	41	1	100%
	Sierra Leone	12	2	100%
	Togo	35	5	100%

Project	Country	No. of endemic districts at the end of FY16	No. of non-endemic districts	% of districts where MDA started (since 2012)
	Ghana	216	0	96%

**Not at 100% geographic coverage in areas of low endemicity.*
***Reflect data received by ENVISION as of April 4, 2017. Includes data from non-USAID supported areas and might not be complete.*
Source: ENVISION Semi-Annual Report 1 FY 2017, May 2017 (Data may include FY 2016 Semi-Annual Report 2 Workbooks).

4.5 Soil–Transmitted Helminths

As of FY 2016, most ENVISION and END in Africa countries had started MDA for STH in the majority of districts, and about half the countries for which data were available had reached over 90% of their program coverage targets (Table 10 below). Data available as of October 2017 showed that 1,502 districts had been reached for STH treatment in 20 USAID-supported countries.

Countries have recognized that there are different platforms where deworming is offered, as seen in Figure 15, but also recognize the value of the more comprehensive, community-wide approach. There is increasing thought that community-based STH treatment programs may be more cost effective and may also reduce the community burden of disease more effectively.[57]

Figure 15. Community Deworming Platforms
(Source: NTD evaluation team)

Thinking forward about STH, it is probably time to think of alternative treatment approaches in some USAID NTD Program countries. While treatment in schools may have individual benefit to primary school children, it seems unlikely to alter the prevalence of transmission in the community. Further, many children in private schools and children out of school are being missed with the present approach in some countries.

[57] Anderson, R.M., Turner, H.C., Truscott, J.E., Hollingsworth, T.D., and Brooker, S.J. Should the goal for the treatment of soil-transmitted helminth (STH) infections be changed from morbidity control in children to community-wide transmission elimination? PLoS Neglected Tropical Diseases, 2015, 9: e0003897.

Some countries are considering, after LF MDAs cease, the expansion of albendazole for specific community STH MDAs. It is uncertain, however, whether there will be sufficient supplies of medicines and WHO support.

Table 10. STH Endemicity* and MDA Coverage

Project	Country	No. of endemic districts (end of FY16*)	No. of non-endemic districts	No. of districts treated (FY16)	% of districts achieving 80% of program coverage** target (FY16)	% of districts where MDA started (since 2012)
ENVISION	Bangladesh	64	0			100%
	Benin	45	32	57	39%	100%
	Cambodia	24	0			100%
	Cameroon	79	110	189	85%	100%
	Guinea	17	21	10	100%	100%
	Laos	17	0			100%
	Mali	65	0	59	83%	100%
	Mozambique	151	8			100%
	Nepal	75	0	18	67%	100%
	Philippines	80	0			100%
	Senegal	76	0	52	100%	100%
	Tanzania	186	0	141	82%	100%
	Haiti	140	0	23	39%	99%
	Ethiopia	477	233	9	100%	92%
	Vietnam	63	0			92%
	Uganda	122	0	25	77%	55%
	Indonesia	514	0	51	96%	48%
	Nigeria***	125	61	146	63%	29%
	DRC	292	223	4	100%	2%
END in Africa	Burkina Faso	70	0	59	97%	100%
	Ghana	216	0	204	46%	100%
	Sierra Leone	14	0	14	100%	100%
	Niger	41	1	28	93%	95%
	Côte d'Ivoire	29	53	15	100%	93%
	Togo	40	0	35	100%	88%

**Defined as >=20% overall prevalence at baseline.*
***Program coverage defined as # treated / # eligible of population targeted.*
****Only in USAID-supported states*
Source: ENVISION ENVISION Semi-Annual Report 1 FY 2017, May 2017 (Data may include FY 2016 Semi-Annual Report 2 Workbooks). Data reflect what was reported to ENVISION as of April 4, 2017; not all data were available for all countries.

4.6 Morbidity Management

Although morbidity management was outside the scope of the PCT/MDA approach and thus this evaluation, it does represent Intermediate Result 4 of the USAID NTD Program, and it is an important area of neglect. In addition, as mentioned earlier, stakeholders expressed the need for morbidity management, and communities and programs see morbidity as important. USAID's morbidity management and disability prevention (MMDP) program is not part of most USAID-supported NTD programs. Three countries are implementing the USAID MMDP program activities on a small scale: Burkina Faso, Cameroon, and Ethiopia. Other countries are seeking help elsewhere or using local resources.

Morbidity control, especially for LF and trachoma, varies across countries. Morbidity, especially from LF, is also proving to be a much bigger problem in some locations than originally envisioned. Some limited morbidity control activities have been implemented, but these are not sufficient for the larger needs. Management of lymphedema is fairly straightforward in communities, although hydrocele demands more resources. In some areas, eye services are well developed and trichiasis can be managed well. Morbidity control activities continue in their separate units or as part of overall district clinical services, and are not always strongly integrated as part of national NTD programs.

Conclusions – Question 4

PROGRESS TOWARD ACHIEVING ELIMINATION/CONTROL

The concept of NTD elimination has evolved over the past 10-plus years, along with USAID NTD efforts. Countries are engaged and making progress with LF and trachoma elimination, and are adjusting to the new focus on onchocerciasis elimination. Others are using their experience in the NTD-supported programs to think beyond these three diseases.

While there is a high likelihood for achieving PCT NTD elimination of public health consequences, interruption of new infections for some diseases, and control of others, there are country- and disease-based challenges. In some cases, additional mapping is needed, validation/verification processes to stop MDAs must be strengthened, and some late-starting countries will need to get caught up. A concern expressed elsewhere in this report regards the necessity of building strong surveillance capacities in countries to monitor both for morbidity and for recrudescence or importation.

Ghana exemplifies some of the challenges in reaching targets. The Ghana NTD staff, while they anticipate ultimate success, are sanguine about the key implementation issues needed to achieve elimination. These issues include possible moves to biannual treatments and continued management of serious adverse events (as additional populations are brought on board in previously untreated areas). They note the existence of persistent non-compliance and management of hotspots. A common problem in many locales is fatigue among community, volunteer, and health workers.

TRACHOMA

Many countries are on track to meet their 2020 WHO elimination goals for trachoma. Data from Trachoma Impact Surveys are being compiled for eventual inclusion in the countries' elimination dossiers. In countries that have been undertaking trachoma MDAs, two already have achieved criteria for stopping MDA in 100% of their districts: Ghana and Nepal. Togo also has stopped MDA in all eight districts that were under treatment. Elsewhere in Africa, Mali has achieved stopping criteria in 93% of districts, while the figure is 86% in Nigeria. A few other countries have reached the 60% to 80% range:

Tanzania, Uganda, Burkina Faso, and Niger.[58] There are ongoing challenges in reaching nomadic peoples and populations in conflict areas, as well as managing cross-border transmission.

LYMPHATIC FILARIASIS

The LF treatment efforts are progressing well, and the criteria for stopping are on track for meeting WHO goals in many countries. MDA of either ivermectin or diethylcarbamazine-citrate has taken place since the late 1990s.[59] USAID technical support, which included albendazole along with the two microfilaricidal drugs, began in 2006 and reached 24 countries in Africa and Asia by FY 2016. For many countries, half or more of their targeted districts have now reached the point where MDA can stop (Table 6 above). By FY 2020 or 2021, nearly all countries are anticipated to have all their target districts under post-MDA surveillance (Table 7 above). Challenges remain in some of the larger countries, which contain a large number of endemic districts; scaling up is also a challenge.

ONCHOCERCIASIS

The overall USAID goal for onchocerciasis will partially be met. Elimination in the Americas has almost been achieved, and the remaining foci there, although hard to reach, should provide lessons for some of the remote and border areas in Africa. As noted above, the situation for onchocerciasis in Africa has been reorienting as the potential for elimination becomes a possibility. A focus on elimination requires the mapping and inclusion of all districts, including hypoendemic districts. The latter were formerly excluded when the goal was elimination as a public health problem, but are now included when the goal becomes elimination of transmission.

Uganda demonstrates that progress is slow in reaching the goal of actual, confirmed elimination. Burkina Faso shows that recrudescence (or reinvasion) is possible. The move to full elimination targets, at about the same time that the regional program APOC was closed, presents a special challenge to partners in terms of new mapping, re-mapping, and improved planning. Since WHO and the Mectizan Donation Program are supporting expanded onchocerciasis treatment areas in a move toward elimination, country programs will likely need additional financial and logistical support; governments and partners will need to play expanded roles as the need for medicines increases.

SCHISTOSOMIASIS

Schistosomiasis efforts seem to be mostly on track to meet USAID goals. MDA has started in 75% or more of districts in all but a handful of countries. While there have been problems in reaching some districts, the targeted districts for schistosomiasis control among primary school-based populations have been reached and are being maintained. There has been variable success in reaching children out of school. Awareness of other reservoirs of infection among certain adult populations raises concern, leading some countries to talk about elimination (assuming drugs can be acquired). However, a move toward elimination and not just control through MDA would require further mapping to identify out-of-school populations where transmission is occurring, and a willingness of medicine donors to increase their supplies (as the drug is relatively expensive).

STH

Meeting the STH goals will be a significant challenge. At the time of the evaluation, about 70% of districts had been reached, although the treatment levels varied. Within the target districts in countries, greater

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[58] Data are from the ENVISION Annual Report workbook, Table 10, and reflect data available as of April 2017.

[59] Ramaiah, K.D., Das, P.K., Vanamail, P., and Pani, S.P. 2007. Impact of 10 years of diethylcarbamazine and ivermectin mass administration on infection and transmission of lymphatic filariasis. Transactions of the Royal Society of Tropical Medicine and Hygiene (2007) 101(6): 555-563.

efforts are needed to achieve control objectives. STH programs for primary schoolchildren have been established and have proven beneficial; these should be maintained. Repeated treatments are needed since reinfection will occur due to contaminated environments; these repeated treatments may potentially have the added benefit of reductions in levels of infection for the whole community.[60,61]

Countries have observed the collateral benefit of community LF interventions using albendazole for community-wide STH control, and they have expressed concern that as LF MDAs stop, community worm burdens will increase. It is probably time to think of alternative treatment approaches in some USAID NTD Program countries. While treatment in schools may have individual benefit to primary school children, it currently seems unlikely, depending on the program, to alter the prevalence of transmission in the larger community. In addition, in some countries, many children in private schools and out-of-school children are being missed with the present approach. One study shows that expanding annual treatment to include adults can reduce one type of parasitic infection both in children and the community as a whole, since the adults have the majority share of the infectious reservoir. The best treatment strategy is highly dependent on the local age distribution of infection of the different STH species.[62]

SUMMARY

Overall, there are challenges moving forward with current approach to the five PCT diseases, with three of these targeted for elimination and two remaining with control strategies. At present, countries have worked hard over several years to create unified PCT NTD programs. As some diseases are eliminated, the structures created to unify funding, planning, and human resources may be weakened. Valuable disease control human resource capacity has been built into national NTD programs, and hence into national health ministries. To ensure that momentum is not lost, it is time to consider how these resources and the remaining PCT disease programs can be effectively integrated into the broader disease control programs of ministries.

Recommendations – Question 4

PROGRESS TOWARD ACHIEVING ELIMINATION/CONTROL

Follow-through. Much can happen before the end of Phase III in 2020, but commitments must be made to guide countries to continue MDAs, conduct TAS/TIS and validation/verifications, and achieve elimination by developing or ensuring a pathway to the dossier. This process will require stronger partnerships with other stakeholders at global, regional, and national levels to secure the years of investment.

Persistent disease. Attention is needed to intervention areas where disease persists. At a minimum, identification of PCT diseases needs to be integrated into sentinel surveillance systems. Such systems

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[60] Drabo, F., Ouedraogo, H., Bougma, R., Bougouma, C., Bamba, I., Zongo, D., Bagayan, M., Barrett, L., Yago-Wienne, F., Palmer, S., Chu, B., Toubali, E., and Zhang, Y. 2016. Successful control of soil-transmitted helminthiasis in school age children in Burkina Faso and an example of community-based assessment via lymphatic filariasis transmission assessment survey. PLoS Neglected Tropical Diseases. 2016, May, 10(5): e0004707.

[61] Anderson, R.M., Truscott, J.E., Pullan, R.L., Brooker, S.J., and Hollingsworth, T.D. 2013. How effective is school-based deworming for the community-wide control of soil-transmitted helminths? PLoS Neglected Tropical Diseases. 2013, 7(2): e2027. https://doi.org/10.1371/journal.pntd.0002027

[62] Anderson, R.M., Turner, H.C., Truscott, J.E., Hollingsworth, T.D., and Brooker, S.J. 2015. Should the goal for the treatment of soil transmitted helminth (STH) infections be changed from morbidity control in children to community-wide transmission elimination? PLoS Neglected Tropical Diseases, 2015, August, 9(8): e0003897.

can also address the reintroduction of disease from neighboring countries where NTD programs are still at early stages.

Social research is needed to determine the factors responsible for continued transmission, such as issues related to compliance or program weaknesses. Operational research, including better uses of social and behavioral communication strategies, is needed to target intervention areas that are hard to control.

Post-validation/verification surveillance. A number of countries are already in the post-MDA phase for many LF and trachoma sites, and will be approaching the time for verification of elimination of disease. Assistance should be provided to countries to plan appropriate post-verification surveillance requirements, not just at the national level, but at the district level.

Assistance also needs to be provided to countries to develop a response mechanism for managing the reappearance of disease in districts that have completed post-MDA surveillance (i.e., some sort of standardized "mopping-up" process). There are several locations where cross-border spread can threaten foci of LF, trachoma, and onchocerciasis, which are now in the post-MDA surveillance phases. Although the USAID NTD Program has in the past avoided issues with post-validation/verification surveillance, it is time to revisit this decision, given the progress made toward elimination.

Pharmacovigilance. Methods are needed to tie the national pharmacovigilance program more closely to MDA programs. Treatment of onchocerciasis in *Loa loa*-endemic areas is but one example. Several countries are still in the start-up stages for their MDAs, and should be aided to guarantee pharmacovigilance from the beginning. There will also be a need to address serious adverse effects (SAEs) moving forward, as people who have been chronic non-compliers are encouraged to finally take part in MDAs.

Integration of control diseases. When three of the NTDs are eliminated, planning is needed to ensure that efforts to continue MDA for schistosomiasis and STH are integrated into strong disease control or the epidemiology departments of ministries of health, where their functions can be maintained.

Disease morbidity. USAID is in a good position to advocate within the whole NTD community to encourage appropriate partners to take up morbidity management efforts. As noted above, morbidity management is outside the scope of an MDA program, but morbidity is seen by stakeholders as important (and is IR 4). Unfortunately, a community may not believe an NTD has been eliminated if they still can see people suffering from the morbidity of that disease. There are also ethical reasons to eliminate the disease, not just the parasite.

MAJOR CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

OVERALL APPROACH

1. USAID support has changed the status quo by moving NTDs from poorly coordinated small programs to major national initiatives, and has given high visibility to NTD programs worldwide. The comprehensive approach to PCT NTDs and the flexibility to meet contextual needs are outstanding features. This program has helped countries make great progress toward achieving their 2020 goals for elimination of the five PCT diseases as a public health problem. Globally, there was clear support for USAID's leadership and coordination.

2. There is rightly a strong focus on elimination, and three of the five diseases in the NTD portfolio have a strong possibly of elimination; certainly, elimination as a public health problem and likely elimination of transmission are realistic. This situation leaves STH and schistosomiasis remaining, which are principally treated in school-based interventions; they are unlikely to be eliminated through these methods, although it should be noted that some countries are considering schistosomiasis as a condition that can be eliminated through MDA. These two components are also the least well-funded of the five interventions. Some countries are considering expansion of albendazole for STH to include community MDA, although it is uncertain whether there will be sufficient support to sustain this approach. This dual track, elimination/control approach is likely to cause difficulties going forward with the current management approaches.

3. Health systems strengthening has been a key component. Much work with capacity building was done through extensive training programs. IP-MOH joint planning of NTD programs, including multiple stakeholders, has been an important capacity built through the USAID NTD Program. Other elements have been through the seconding of expert personnel to program management and the supply chain. There is scope for increasing this latter arrangement in several locations, which could contribute to sustainability. Fixed obligation grants were used to extend support from the MOH to local government and, in some cases, to NGOs. These worked well in moving resources around national program bottlenecks and into the field sites, and strengthened local district government and health systems (one of the WHO priorities). On the other hand, bypassing weak national programs did not strengthen them, and sometimes created the feeling that the USAID NTD Programs were implementing activities separate from the national programs.

4. Sustainability is a central goal of the NTD programs, and excellent progress has been made in its achievement in many national programs and with their program components. Sustainability includes building country ownership, strengthening supervision, enhancing data management, and building a strong planning capacity. Sustainability also means that, along with the PCT diseases, countries can include additional neglected diseases in their efforts and manage their control. Further, the integration of NTD data into the national HIS would be an indication of sustainable actions for NTDs. Looking forward, it also means building the capacity to manage the epidemiological and entomological aspects of stopping MDA treatment, the post-MDA surveillance, and dossier preparation where relevant. Tying the program to the Sustainability Development Goals is a strategy to be encouraged.

INTEGRATION OF DISEASE-SPECIFIC PROGRAMS

5. Integration at the country level of separate disease-specific programming, often functioning semi-autonomously, has been one of the major successes of this program, but it was not achieved without considerable effort, and was not fully achieved in some locations. In both Ghana and Nepal, trachoma treatment remains outside the national NTD program. The exclusion of morbidity activities from the national NTD programs suggests to some that the national NTD programs are not fully integrated. In some cases, specific MOH decrees lent legitimacy to the creation of coordination units and committees. For the most part, those involved in NTD programming recognize that the integration of NTD activities into one unit enables efficiency and promotes the coordination of key activities, ranging from training to data management to commodities. A few NTD programs saw problems with integrated programming, including the persistence of rivalries among disease programs. Ultimately, the degree of integration that is possible and desired depended on the number of specific PCT programs existing in a country (which can vary from one to five) and to some extent on pre-existing relationships.

USAID AND NATIONAL NTD COLLABORATION

6. The nature of USAID IP and national NTD program collaboration varied. Collaboration ranged from having IP staff embedded in the NTD program to situations where the IP was seen as operating semi-independently. The fixed obligation grant process sometimes meant that the IP had a more direct and functional relationship with districts and regions than it did with the national program, and more than the national program had with its own sub-national units. However, some programs are quite strong and well-staffed, and in those the IP took a more supportive role. Others are still weak, requiring substantial USAID IP direct support. This situation is sometimes resented; there was a feeling that the IP was taking on roles that government should be performing, even though the national program may lack the capacity to implement activities themselves. Another challenge in the planning process was the lack of synchronicity between the USAID financial cycle and the respective ministry of health's calendar. Even though there was really only a three-month difference in many countries, USAID required longer advanced planning than the typical ministry cycle. National programs were sometimes confused about the budgeting process and the full extent of USAID support for a given year, until after the first of October of a given year. This process made for awkward coordination between USAID and governmental support in some instances. It should be noted that, under other USAID efforts with on-the-ground staff like PMI and PEPFAR, these IP versus MOH differences could be resolved quickly, as it was in the best interests of the Mission to ensure smooth working relationships. Often the Mission would serve as an advocate for the MOH is such circumstances.

CROSS-PROGRAM AND INTER-SECTORAL INTEGRATION

7. Morbidity is a problem with lymphatic filariasis and trachoma. There has been hesitancy on the part of the USAID NTD Program to address morbidity control in the NTD programs, although it is IR 4 of the NTD program. Although not a part of this evaluation, morbidity is nonetheless relevant in the larger NTD evaluation context. In one country, the IP includes addressing morbidity in their budget each year, as there is great community demand, and each year the USAID NTD Program deleted this request. This situation is creating considerable frustration, for not only the IP but for the national program. A separate USAID program, MMDP, has functioned in three countries. The minimal investment in morbidity control has been seen as a major weakness by partner countries and organizations. In fact, morbidity, especially from LF, is proving to be a much bigger problem in some locations than originally envisioned. Some limited morbidity control activities have been implemented, but these are not sufficient for the larger needs. Management of lymphedema is fairly straightforward in communities, and can be integrated with

leprosy care where health services for it exist and are being provided. Those countries contemplating submission of a dossier for LF will need to include evidence of a morbidity control activity. Hydrocele surgery demands more resources, which are sometime provided through camps or as part of routine surgical care at the district hospital level. In some areas, eye services are well developed and trichiasis can be managed well. How these morbidity activities are managed depends on local health system structure. The links did not seem strong in the countries visited between national NTD programs and the morbidity management activities in the MOH health services. Where the morbidity management activities are patchy or nonexistent, the costs are often borne by individual patients, some of whom may be fortunate enough to be covered by national health insurance schemes.

8. Integration of the NTD activities with other sectors has been discussed widely, but has been achieved only to a limited degree. (Although there was some collaboration with WASH programs at district levels, no collaboration was seen at national levels in any of the countries visited.) The trachoma SAFE strategy addresses personal hygiene and environmental improvement, including sanitation, and improvements in sanitation also would benefit STH programs. WASH activities may be handled in schools or by ministries of environment or be supported directly by NGOs. Incentives to collaborate across programs within the MOH or across ministries were lacking. Some integration also occurs at the IP level, where the NGO holding the NTD subagreement may have multiple WASH or other related programs.

9. STH programs tend to be divided among the ministry of health or the department of education, or school health departments of the MOH, and it is hard to integrate these programs at the national level. Managing data from STH programs is a problem, and it is likely that a considerable number of treatments are not getting recorded. There is an opportunity to work with ministries of education in incorporating STH messages into national school health curricula.

10. Little evidence was seen of coordinated planning for vector interventions such as indoor residual spraying and insecticide-treated bed nets (ITN) between the National Malaria Control Program and the USAID NTD Program. Although there are national documents such as the demographic and health survey and the malaria information survey that paint a broad picture of ITN geographic coverage, NTD programs were not aware of these publications. Longer-term efforts post-elimination to help prevent LF resurgence, for example, would benefit from closer collaboration among those programs that have a vector component.

NATIONAL PLANNING

11. A major support activity to national programs was annual planning, which was generally done successfully. Normally, the IP ensured that all parties came together for this planning activity, and this was done well. Overall, IP support for planning had a number of direct benefits to the planning and implementation of program activities, including increased efficiency and effectiveness. The breadth of annual planning and the extent of participation varied widely. In one case, the IP and the national program together reached out to smaller program partners who did not have a full office in the country. In others, the planning was mainly an IP activity, with minimal effort to involve the national program, let alone other non-USAID partners.

12. Because of WHO's promotion of the "Master Plan" concept, there were high expectations for the WHO NPO who had the NTD program as one of his/her tasks. Often the NPO role was ambiguous in the planning process, because the NPO responsible was sometimes over-stretched with multiple responsibilities. Some NPOs took an active part in planning, while others were less involved. In former

APOC countries, NTD staff still missed the regional support and coordination this program provided for planning. At the time of the country visits, there was little or no understanding among NTD programs of what the successor ESPEN would do to provide country support.

13. WHO plays a central a role in coordinating the commodity ordering process, both from Geneva and locally. At the country level, the direct involvement of the WHO NPOs with the IPs varied. The WHO involvement at the country level contributed substantially to the planning and implementation of program activities, and increased efficiency and effectiveness.

14. National NTD program staff were aware that NTDs include more that the five PCT/MDA diseases. On reading examples of national master plans, it is obvious that WHO encouraged an emphasis on all NTDs, regardless of which units or departments were involved in the actual implementation. At the same time, it was not clear to countries whether ongoing national planning applied only to the five PCT diseases, or that other conditions could replace those being eliminated or where MDA has been halted. Since USAID was a major source of program support in partner countries, there was an expectation that USAID would provide guidance. This issue needs to be resolved with the WHO NTD department to provide clarification and guidance. Country ownership conditions are relevant here. It appeared ironic to some that after all the effort to create integrated units to eliminate at least three PCT diseases, these newly integrated units might become obsolete in the future. One country, in its integrated coordination unit, had a section for "other" NTDs, but for the most part these were managed by other service areas of the ministries, particularly those concerned with either epidemiology or case management. The issue of lack of inclusion of morbidity management for the PCT diseases was a concern in nearly all countries visited.

15. Some countries do not manage the NTD supply chain with sufficient commitment through their medical stores. Secondment of technical staff by the IPs to medical stores has improved this issue in some places; however, more support to central medical stores to strengthen the supply chain for the five PCT medicines could have benefits to the national supply chain in general. Attention was also needed in the "reverse" supply chain, that is, the process of retrieving and accounting for unused medicines. In addition, the expiry of unused medicines was of concern to the pharmaceutical donors.

PARTNERSHIPS

16. Strong partnerships have been established by the USAID NTD Program with countries and donors, and allowed the program to leverage additional resources available through other donors, foundations, and, potentially, from other USAID-funded programs. The large amount of resources available for NTD control and elimination gives the USAID program a leadership position and a strong voice in determining policy. WHO NTD program support has been a major contribution to the achievements of the WHO NTD program in partner countries.

17. In the area of collaboration, unlike during the APOC era, there were few regional collaborations or meetings. Even within countries, there has generally not been a good sharing of information and capacities among USAID programs. The END in Africa program brings its countries together annually in a sub-regional workshop. This approach could push forward the cross-border control and elimination issues.

DATA, TOOLS, AND RESOURCES

18. As the NTD programs developed, emerging needs such as disease mapping and the need for diagnostic and management tools arose. The USAID support to complete mapping for the five PCT diseases has been very much appreciated, and was an important contribution. The mapping has enabled more precise MDA as well as better estimates of resources required.

19. Also mentioned frequently were the tools developed by RTI International, some being commissioned by WHO. These tools have been used beyond NTD programs in their immediate countries, and in programs other than NTDs. Some of the tools required extended time in development, and others were sometimes thought to be too complex by some country program personnel. Nevertheless, they are widely used in such areas as improving data quality, national planning, and costing estimates. The national NTD programs very much appreciated having these.

20. Data collection and use have been areas of strong USAID NTD Program emphasis. Tools for data quality and extensive training for NTD focal persons, CDDs, first-line health workers, and supervisors have increased the quality and completeness of data. In most locations, a national integrated NTD database is functioning or is being put into place. The database will greatly facilitate the Joint Request Form for Selected PC Medicines (JRSM), the Joint Reporting Form (JRF) and the PC Epidemiological Data Report Forms (EPIRF). However, it is not clear how to move to the next step, to incorporate this information into the national health information systems.

GENERAL COMMUNICATIONS

21. Communication and coordination, both internal and external, have many elements in this large program. These are found at global, national, and local levels, and include international stakeholder fora; general communications nationally among USAID, the IPs, and ministries of health; communications and advocacy to raise the visibility of program successes; and communication as part of the IEC/BCC efforts for the public health programs. Communication has generally been done very well within the USAID NTD Program. There was positive feedback about the communication of program achievements to the wider NTD community as well as the interested public, although some survey comments noted that these communications could be more vigorously pursued. Survey comments also revealed that communications about programs, goals, and successes were sometimes seen as weak within the respective country's ministry(ies) and the wider health/development community. Most of the elements worked well, but there were various issues raised by stakeholders.

INTERNAL COMMUNICATIONS

22. Overall, varying levels of communication were experienced among the NTD programs and the USAID implementing partners. At one end, the IP was embedded within the NTD program, while at the other end, the IP was seen as acting semi-independently. This situation led to calls for better transparency in terms of USAID program activities like planning and budgeting. In some places, the NTD program was part of the IP outreach to sub-national units like regional or district health teams, and in others the national program seemed to be out of the communication loop. In short, consistency was lacking in these basic communication processes across countries.

23. Some national NTD programs were happy that communication with USAID passed through the IP. In others, there was a desire for more direct communication with the USAID Mission, as happens with other programs such as RMNCH, HIV, and malaria. Some ministries had an expectation of direct

communication with USAID and were disappointed with having to communicate through the IP. Some Mission representatives also felt left out of communications about program activities, and Mission staff expressed the desire for better communication with NTD activities on the ground to allow them to provide a full understanding of the use of USAID funding to others, when needed. Some national NTD programs felt, at times, that their implementation was held back by delays and last-minute changes in USAID timelines.

EXTERNAL COMMUNICATIONS

24. External communications are seen as very critical to the program, and in many ways, these have been done well. The IPs developed context-specific advocacy materials, which were appreciated by national programs. Advocacy materials have been developed for national and local leadership, radio spots announcing treatment schedules are in place, and reports are being circulated. However, USAID Missions in countries with extensive health programming are often unaware of NTD activities. Within the larger country programs, maintaining good communications among NTD partners and stakeholders has not always been optimum. There is a feeling that the program successes do not receive the publicity they deserve, and they have not been as strong as perhaps they have been with other programs. This gap is widely recognized. Advocacy has been a generally successful component of the program, and it is important for enlisting support of politicians and community leaders at multiple levels.

25. Mass media—ranging from billboards to radio spots—were employed to inform and educate communities. Local community communication efforts, through opinion leaders and civil society organizations, were also used. In some of these areas the results were excellent, but in other communication areas, stakeholders identified areas for improvement. It was widely felt that program successes were not adequately publicized to the general public.

26. BCC and IEC activities were supported by the USAID NTD Program together with other local and global partners. Evidence was found of materials ranging from pamphlets to billboards to radio spots. However, there were no clear efforts evident to evaluate the potential effects or impacts in terms of reaching target audiences in appropriate ways. An evaluation component could help to ensure that appropriate audiences perceived the messages and were acting on them.

RECOMMENDATIONS

1. The **critical focus should remain on disease elimination**, with adequate support to operational research, training, advocacy, new donor engagement, and similar elements, in order to maintain concentration on this objective. For appropriate diseases, the development of a pathway to the elimination dossier would be most helpful for those countries approaching cessation of MDA. Support to develop and operationalize a complete set of epidemiological and entomological tools for each disease is essential to document the elimination of transmission.

2. An **approach to control STH and schistosomiasis should be developed** that will emphasize efficiency, effectiveness, and coverage, with a focus on all populations at risk as well as those maintaining transmission, as verified by periodic mapping (as required). Data issues, especially for STH, need to be addressed. Funding for these conditions is generally more limited than for the other conditions, making it very important to look at streamlining treatment without sacrificing coverage.

3. **Alternate strategies for community deworming activities, post-LF MDA, should be explored** in high STH-burden communities. In some countries, STH treatments are given to women of child-bearing age in antenatal clinics, and to mothers and children during Expanded Program on Immunization (EPI) visits, through UNICEF support. Given the high prevalence of iron deficiency anemia as well as hookworm in many countries where NTD programs are present, this strategy would provide benefits to both mothers and children, and should be encouraged. Other options already being used in some places include STH treatment during child health and national immunization days. As iron deficiency anemia is common among pregnant women in most partner countries, often due to hookworm, this approach is something that community deworming activities could address.

4. **Post-MDA surveillance is a rapidly appearing need that should be addressed** in several countries, as should the development of epidemiological and entomological tools and capacities, which have lagged in some areas. This surveillance will require some very basic epidemiology and in some cases entomology capacities. In the longer term, sentinel site surveillance may be needed to identify flare-ups in areas previously under control. This surveillance is very important in order to protect the investments in control and elimination. The use of central public health laboratories established by other USAID programs could be employed to meet this need in some locations.

5. **A post-validation surveillance approach should be developed** for countries that are developing elimination dossiers that will safeguard the extensive investment in control and elimination. This surveillance approach will provide a warning where there is a serious risk of cross-border reinvasion after the elimination of LF and trachoma. At the same time, it is important that countries have in place the capacity to implement any follow-up measures to be instituted, such as additional MDA in areas where coverage proved to be inadequate or where disease recurs.

6. **National NTD programs and pharmacovigilance programs need to be tied in more closely in some countries**, especially those where *Loa loa* is endemic. This is particularly important in countries that will be implementing triple drug treatment for LF.

7. **Attention is needed in intervention areas where disease persists.** Social research is needed to determine the factors responsible for continued transmission, such as noncompliance or program weaknesses. Operational research, including better use of social and behavioral communication strategies, is needed to target the intervention areas that are hard to control.

8. The **central public health laboratories developed by PEPFAR and the CDC, can, with a little effort, help build field surveillance capacities for NTDs**, thereby leveraging USAID investments. They could assist in mapping, surveys, and surveillance. In addition, several other laboratories in Uganda, Cameroon, and Ghana could provide regional support for surveillance activities. This support is both for diseases that can be eliminated as well as for those with a control focus. For the control group, this support can help direct interventions where they are most effective, as well as to improve efficiency of donor-assisted efforts. Public health laboratories have capacities that NTD programs will need at some point in their program cycles; they manage surveys, are the central locus of epidemiological and geographic information systems (GIS) skills, have capacities to conduct and interpret field microfilaraemia and immunological testing, and usually have access to entomological skills.

9. **Strengthening collaboration across countries needs further attention**. At the top regional level in Africa, this collaboration could be through a well-functioning ESPEN, which USAID already supports. However, the support level that ESPEN will be able to provide to individual countries is not

entirely clear. Regional collaboration capacities among neighboring groups of countries need to be harnessed. There are already elements that can be brought together, such as cross-border quality improvement collaborative methods. Both FHI 360 and RTI International have regional advisors in Accra and Dar es Salaam, respectively. As noted above, regional laboratories with relevant capacities exist in Cameroon, Ghana, and Uganda, in addition to the Multi-Disease Surveillance Center (MDSC) in Burkina Faso. Building regional collaboration between country NTD teams would help share best practices and successful approaches toward NTD control. The regional coordinators for RTI International and FHI 360 could play a strong role in regional activities. The Roll Back Malaria approach of sub-regional networks (SRNs) should be considered as a model.

10. **Enhancement of communication is needed at global, national, and community levels.** Overall, building solid communication capacities is essential in, for example, strengthening advocacy. Better monitoring and documentation of program communication is needed at all levels. Although communications among stakeholders has been good generally, there were some exceptions seen in country visits, where key players felt excluded; these experiences need to be addressed.

11. Global Communication: There has been information dissemination in numerous fora, but this has been mostly in Europe and the U.S. (although there were attendees from endemic countries). **More effort is needed to address the regional levels (such as WHO AFRO annual meetings or West Africa health community meetings) of endemic countries in Africa, Asia, and the Americas to facilitate the mutual learning of lessons and to broaden their ideas and strategies for implementation and advocacy**. Such efforts would also allow countries to highlight their own progress. Future programs should build on efforts at international gatherings to continue to disseminate successes and advocate for continued support.

12. National Communication: **At the national level, there is a need for more structured dissemination and communication about program results and ongoing program needs**. The communication of program successes, which are many, should be broader. This includes working with national NTD programs to plan media events and national fora to better disseminate information among stakeholders in government, the private sector, and NGOs. Information would include updates on progress and remaining needs, with an aim to gain more domestic funding and support. The USAID goal of elimination of public health consequences of three of the five PCT NTDs has been largely achieved or will soon be achieved in many countries; stronger communication of this achievement will help sustain resources to ensure that all program goals are met by the end of this program phase. More specifically, communication would support and encourage work to sustain efforts like schistosomiasis, and to successfully conclude efforts like LF, where there is a need to monitor post-elimination to prevent recurrence.

13. National Counterpart Communication: **USAID should encourage other country-level health projects, in conjunction with their counterpart NTD programs, to share successes and disseminate findings** in a more systematic way, in order to better reach key stakeholders and national-level decision-makers.

14. National Program–Implementing Partner Communication: **Communication issues in some countries between IPs and the respective national programs should be reviewed** and addressed as needed. Survey comments revealed that communication is weak about the program and its goals and successes within the wider ministry and health/development community of many countries.

15. Community Communication: **Better tracking and evaluation of IEC/BCC activities and interventions are needed**, which includes exploring the extent of use and response by community members, ministries of health, and policymakers for these activities. Ongoing BCC is needed to remind people of the actions needed at various stages of the program, including MDA participation and surveillance, as well as to encourage continued participation in remaining activities (such as those needed for STH and schistosomiasis). The evaluation of BCC reach and impact needs to be strengthened to help programs design more effective communications in the future.

16. **The costing of control and elimination efforts should be carried out**, as these efforts were discussed in early project documents but were seemingly not implemented. This step is particularly important for STH and schistosomiasis, where long-term control measures will be required, and in which efficiency and effectiveness will be critical to sustainability. After MDA has reduced the number of intervention areas to be treated to a minimum, there will be continuing treatment required for STH and schistosomiasis, where they are present. The costs to governments must be minimal to ensure sustainability. The experience from APOC was not encouraging, so alternative approaches should be aggressively discussed. Some country NTD program staff do not fully that USAID NTD funding is not indefinite, and, as a result, they are not planning for this eventuality.

17. **The efforts to strengthen country ownership of the NTD process, such as better integration of NTD programs into core MOH planning and resource allocation, must continue**. While the USAID NTD Program has done well at this effort, getting greater contributions for and from countries is important for sustainability. This process includes country-level financial support, but also more **mainstreaming of NTDs into MOH planning, programming, and policy**. The option of adding non-PCT diseases to the national NTD program was raised on several occasions by NTD country staff, and should be addressed. Countries have made major investments in organizing integrated program approaches, and for ownership and commitment to continue, there must be a clear path forward after major PCT diseases have been eliminated.

18. **Efforts to strengthen NTD program management should continue.** National-level efforts have been done well in most locations; programs have become stronger through various types of staff training and the development of management and data tools (e.g., there is more country ownership, stronger management capacity, more data-supported decision-making, and improved transparency). However, management in many districts still remains weak, as is the linkage between national and sub-national levels. Efforts should continue to build capacities here, including first-line health workers, community distributors, and health workers, whether full or part time. These capacities would include, for example, training in planning and implementation, supply chain management, and monitoring and evaluation. Effort should also include strengthening the supervisory and monitoring capacity of national programs at all levels.

19. **Fixed obligation grants are important management tools, which should be encouraged.** Though not always appreciated by national programs, they ensure funds reach the implementation level. Their use builds district-level capacities to budget and to implement projects. By making these grants to local government units, they build coordination and cooperation between the district health sector and local government (as local government is responsible for health achievements).

20. **The morbidity component of the NTD program should be reinforced**. While communities and programs see morbidity as important, and it is included as IR 4, it is not well addressed by USAID outside of the three countries implementing morbidity management and disability prevention program

activities. The concern of countries and programs is that NTDs will not be considered eliminated until morbidity is reduced. Although MMDP activities are not a part of all USAID-supported NTD programs, and morbidity was outside scope of the PCT/MDA approach, it is recommended for long-term accountability and legitimacy that country programs be strengthened in addressing morbidity. The search for a workable approach to morbidity management should be seen as a priority. Lessons are available. There is increasing experience at treating lymphedema with community resources, and these experiences should be assessed for inclusion in the national NTD programs. Various approaches to incentives for hydrocele surgery, for both patients and surgeons, could be explored. There are likely to be community economic benefits from addressing these conditions.

21. **USAID should explore ways to help ministries of health ensure that NTD programs are part of broader primary and public healthcare efforts**. National NTD programs are not necessarily limited only to PCT/MDA efforts, and USAID IP efforts may help NTD programs prepare and work with other ministry programs. For example, as part of these activities, efforts to scale up cross-sectoral programming with water, sanitation, and hygiene (WASH) and education could be revisited and enhanced. While this process has been discussed, and the advantages are well understood, attempts to take it to a large scale have not been particularly successful. Ways to explore incorporation of the sanitation component of WASH are particularly important for the STH and schistosomiasis components. Other areas for potential cross-sectoral collaboration include nutrition, school health (as an MOH section), maternal and child health, and malaria.

22. Coverage is monitored generally well for the three PCT diseases with the potential for elimination, but for STH and schistosomiasis there are still some gaps. **Improved ways are needed to monitor the treatment of school-age children who are incompletely covered in many locations**. Some children are out of school, while others are in non-government schools. Adolescents may not be included. **Ways need to be found to target adults with schistosomiasis and organ damage with praziquantel,** which is often just reserved for schoolchildren. There could be areas where impact assessments could be carried out to assess what STH treatment has achieved in the population prevalence of disease.

23. Completion of mapping for the five PCT diseases has been an important USAID accomplishment. However, **additional thorough and up-to-date mapping is needed** for STH and schistosomiasis to enable monitoring of intervention and impact going forward. Although onchocerciasis mapping is complete, some of these maps are also out of date, and do not clearly characterize the hypoendemic areas. As such, the data do not provide the full information needed to achieve elimination. Demographic movements and years of MDA have certainly modified other foci. The mapping process is always ongoing, as environments and demographics change.

24. As national NTD databases are being developed in most countries, **more attention must be given to the collection of data and improving its quality.** Accelerating efforts for enhanced electronic collection, and developing the capacity for real time analysis to spot difficulties in distribution, should be undertaken. (Problems like validity and verification persist—electronic data collection may work well for district levels, but mistakes happen in the field—so there is a need for stronger monitoring for accuracy, completeness, and timeliness at all levels.) Electronic NTD data collection should be consistent with the national MOH electronic data collection now being implemented in many countries.

25. **Efforts should be made to improve the in-country management of donated medicines in a number of countries.** Several problems persist. There are still excess medicines that expire in some locations; there are challenges in shifting medicines around within countries to meet local shortages; there are also problems to shift excess supplies and to return unused medicines in post-MDA periods. USAID support should continue to address and strengthen the capacity for the estimation of treatment requirements, timely dispatch, return or redirection of excess supply, and prevention of expiry. In general, this support has improved with assistance from the NTD IPs, but further attention is needed. USAID should explore whether the NTD programs will take charge directly of these issues, or work through existing MOH bodies like the national pharmacy/medicine stores. In addition, a valid logistics information system that accounts for delivery of medicines to each level needs to be established.

26. **Continued close engagement with pharmaceutical donation programs is essential to ensure that they continue to meet the needs of national NTD programs**, and it is particularly important as the terms of the pharmaceutical company programs change. The improved management of donated medicines, as noted in the previous recommendation, is required to assure donors that only a minimal waste of donations is occurring. USAID should continue advocacy with WHO and others to ensure that the supplies of praziquantel for MDA program needs are assured.

ANNEX 1. EVALUATION STATEMENT OF WORK

Assignment #: 185 [*assigned by GH Pro*]

Global Health Program Cycle Improvement Project -- GH Pro
Contract No. AID-OAA-C-14-00067

EVALUATION OR ANALYTIC ACTIVITY STATEMENT OF WORK (SOW)
Date of Submission: 11-20-2015
Last update: 02-15-2017
Amendment #2

Refer to the USAID How-To Note: Developing an Evaluation SOW and the SOW Good Practice Examples when developing your SOW.

I. TITLE: USAID's Neglected Tropical Disease Program Evaluation

II. Requester / Client
■ USAID/Washington
Office/Division: GH/HIDN/ID

III. Funding Account Source(s): (Click on box(es) to indicate source of payment for this assignment)

☐ 3.1.1 HIV	☐ 3.1.4 PIOET	☐ 3.1.7 FP/RH
☐ 3.1.2 TB	■ 3.1.5 Other public health threats	☐ 3.1.8 WSSH
☐ 3.1.3 Malaria	☐ 3.1.6 MCH	☐ 3.1.9 Nutrition
		☐ 3.2.0 Other (specify):

IV. Cost Estimate: _____ (**Note**: GH Pro will provide a cost estimate based on this SOW)

V. Performance Period
Expected Start Date (on or about): early May 2016
Anticipated End Date (on or about): March 31, 2017

VI. Location(s) of Assignment: (Indicate where work will be performed)

Washington and key countries: Ghana, Burkina Faso, Uganda, Cameroon, Tanzania, Nepal, Haiti and Geneva (meeting with WHO)

VII. Type of Analytic Activity (Check the box to indicate the type of analytic activity)

EVALUATION:

■ **Performance Evaluation** (*Check timing of data collection*)
■ Midterm ■ Endline ■ Other (specify): **This evaluation is a combination of a midterm and endline. It is the end of the original flagship agreements for this Program, but both (ENVISION and END in Africa) were extended another 2.5 years so it is a bit of a midterm as well.**

Performance evaluations focus on descriptive and normative questions: what a particular project or program has achieved (either at an intermediate point in execution or at the conclusion of an implementation period); how it is being implemented; how it is perceived and valued; whether expected results are occurring; and other questions that are pertinent to program

design, management and operational decision making. Performance evaluations often incorporate before-after comparisons, but generally lack a rigorously defined counterfactual.

☐ **Impact Evaluation** (*Check timing(s) of data collection*)

☐ Baseline ☐ Midterm ☐ Endline ☐ Other (specify):

Impact evaluations measure the change in a development outcome that is attributable to a defined intervention; impact evaluations are based on models of cause and effect and require a credible and rigorously defined counterfactual to control for factors other than the intervention that might account for the observed change. Impact evaluations in which comparisons are made between beneficiaries that are randomly assigned to either a treatment or a control group provide the strongest evidence of a relationship between the intervention under study and the outcome measured.

OTHER ANALYTIC ACTIVITIES

☐ **Assessment**

Assessments are designed to examine country and/or sector context to inform project design, or as an informal review of projects.

☐ **Costing and/or Economic Analysis**

Costing and Economic Analysis can identify, measure, value and cost an intervention or program. It can be an assessment or evaluation, with or without a comparative intervention/program.

☐ **Other Analytic Activity** (Specify)

PEPFAR EVALUATIONS *(PEPFAR Evaluation Standards of Practice 2014)*

Note: If PEPFAR funded, check the box for type of evaluation

☐ **Process Evaluation** (*Check timing of data collection*)

☐ Midterm ☐ Endline ☐ Other (specify): _____

Process Evaluation focuses on program or intervention implementation, including, but not limited to access to services, whether services reach the intended population, how services are delivered, client satisfaction and perceptions about needs and services, management practices. In addition, a process evaluation might provide an understanding of cultural, socio-political, legal, and economic context that affect implementation of the program or intervention. For example: Are activities delivered as intended, and are the right participants being reached? (PEPFAR Evaluation Standards of Practice 2014)

☐ **Outcome Evaluation**

Outcome Evaluation determines if and by how much, intervention activities or services achieved their intended outcomes. It focuses on outputs and outcomes (including unintended effects) to judge program effectiveness, but may also assess program process to understand how outcomes are produced. It is possible to use statistical techniques in some instances when control or comparison groups are not available (e.g., for the evaluation of a national program). Example of question asked: To what extent are desired changes occurring due to the program, and who is benefiting? (PEPFAR Evaluation Standards of Practice 2014)

☐ **Impact Evaluation** (*Check timing(s) of data collection*)

☐ Baseline ☐ Midterm ☐ Endline ☐ Other (specify):

Impact evaluations measure the change in an outcome that is attributable to a defined intervention by comparing actual impact to what would have happened in the absence of the intervention (the counterfactual scenario). IEs are based on models of cause and effect and require a rigorously defined counterfactual to control for factors other than the intervention that might account for the observed change. There are a range of accepted approaches to applying a counterfactual analysis, though IEs in which comparisons are made between beneficiaries that are randomly assigned to either an intervention or a control group provide the strongest evidence of a relationship between the intervention under study and the outcome measured to demonstrate impact.

☐ **Economic Evaluation** (PEPFAR)

Economic Evaluations identifies, measures, values and compares the costs and outcomes of alternative interventions. Economic evaluation is a systematic and transparent framework for assessing efficiency focusing on the economic costs and outcomes of alternative programs or interventions. This framework is based on a comparative analysis of both the costs (resources consumed) and outcomes (health, clinical, economic) of programs or interventions. Main types of economic evaluation are cost-minimization analysis (CMA), cost-effectiveness analysis (CEA), cost-benefit analysis (CBA) and cost-utility analysis (CUA). Example of question asked: What is the cost-effectiveness of this intervention in improving patient outcomes as compared to other treatment models?

VIII. BACKGROUND

If an evaluation, Project/Program being evaluated:

USAID's Neglected Tropical Disease Program			
Project Title:	**ENVISION**	**END in Africa**	**END in Asia**
Award/Contract Number:	AID-OAA-A-11-00048	AID-OAA-A-10-00050	AID-OAA-A-10-00051
Award/Contract Dates:	9/30/2011-9/30/2019	9/30/2010-9/29/2018	9/30/2010-9/29/2015
Project Ceiling:	$415,672,102	$100,000,000	$99,924,680
Implementing Organization:	Research Triangle Institute	FHI360	FHI360
Project AOR/COR:	Rob Henry	Joseph Shott	Kama Garrison

Background of project/program/intervention:

An independent external evaluation of USAID's Neglected Tropical Disease program is scheduled for early 2016. This evaluation is timed to review the last five years of implementation. The evaluation will assess the performance of the NTD program's ability to apply global guidance and operating/management principles in priority countries, work within the global NTD partnerships, and examine the impact of the NTD program on priority diseases at county-level. At the same time, the NTD program has been active over 10 years so there may be data/information that reflects the longer term presence of the USAID/NTD program.

The evaluation will require interviews with USAID staff, ministry of health staff, in-country partners, CDC/Atlanta, World Health Organization (WHO), Bill and Melinda Gates Foundation (BMGF), The Task Force, DFID, and the drug donation partners, Merck, Johnson and Johnson, Glaxo, Smith Kline (GSK), Merck Serano, Pfizer, Eisai and others. A final list will be determined with input from the USAID NTD team.

The NTD program has extensive program and disease impact data. There is ongoing analysis of this data that will feed into this evaluation. The evaluation team will not be expected to conduct analysis of this data but may request specific analyses as necessary. For example, the NTD program collects extensive programmatic data (training numbers, meetings, advocacy activities, social mobilization activities etc). This data can be utilized to introduce the evaluation team to the country as well as complement the information the evaluation team will collect in country. The disease specific data for each country will provide an overview of where the country is in terms of the elimination goals. These various data sources (programmatic data, disease specific data and the data collection completed by the evaluation team) reinforce one another and allow for a more complete picture of the country program. The evaluation team will focus on programmatic strategy questions such as the impact of integration on disease elimination and control, USAID's role within the extensive global partnerships, and the success of USAID's global leadership.

The USAID Neglected Tropical Diseases (NTD) Program is a large-scale integrated treatment program for those NTDs that can be controlled or eliminated through targeted mass drug administration (MDA). The priority diseases include: *Lymphatic filariasis* (elephantiasis), *Trachoma*, *Onchocerciasis* (river blindness), *Schistosomiasis, and 3 different Soil-*

transmitted helminthes (intestinal worms). USAID program operates in areas where there are overlapping disease burdens and thereby attempts to magnify impact through this integrated approach to multiple conditions.

Since 2006, the U.S. Congress has appropriated $486 million to the USAID NTD Program. The NTD Program supports 25 countries in Africa and Asia and six countries in a regional program in the America's to reach treatment targets and to monitor and evaluate their progress towards achieving the World Health Organization's 2020 NTD Goals http://www.who.int/neglected_diseases/London_Declaration_NTDs.pdf.

The program is comprised of its flagship project, ENVISION, led by Research Triangle Institute (RTI) www.ntdenvision.org . In addition, the program has 2 additional projects; END in Africa, www.endinafrica.org and END in Asia[63], http://www.fhi360.org/projects/end-neglected-tropical-diseases-asia-end-asia led by FHI360. The three of these projects are the center of USAID's NTD program and are responsible for the "at scale" implementation of mass drug treatment programs in the priority countries. In addition, there are supportive investments in research, drug development, morbidity management and supply chain management but those elements will not be a primary focus of this evaluation.

Strategic or Results Framework for the project/program/intervention (*paste framework below*)

If project/program does not have a Strategic/Results Framework, describe the theory of change of the project/program/intervention.

Goal: Counter Ancient Diseases and Emerging Threats

NTD Objective: By 2020, eliminate globally lymphatic filariasis and blinding trachoma

IR1: Increased MDA coverage among at-risk populations in endemic communities

IR2: Improved evidence base for action to control/eliminate targeted NTDs

IR3: Strengthened environment for implementation of integrated NTD control and elimination programs

IR4: Morbidity managed

This strategic framework includes the following core assumptions:

- Integration of disease treatment where there is overlapping disease burden is more effective and efficient than addressing each disease individually
- That utilizing Fixed Obligation Grants to governments allows for stronger country ownership and capacity building
- That our implementing partners play an essential role in leading and influencing the global agenda for NTDs.

What is the geographic coverage and/or the target groups for the project or program that is the subject of analysis?

Geographic Coverage: Bangladesh, Benin, Burkina Faso, Cambodia, Cameroon, Cote d'Ivoire, DRC, Ethiopia, Ghana, Guinea, Haiti, Indonesia, Laos, Mali, Mozambique, Nepal, Niger, Nigeria, Philippines, Senegal, Sierra Leone, Tanzania, Togo, Uganda, Vietnam.

Target groups: Those at risk for any of the preventative chemotherapy diseases.

IX. SCOPE OF WORK

[63] END in Asia comes to an end in September 2015.

A. **Purpose**: Why is this evaluation or analysis being conducted (purpose of analytic activity)? Provide the specific reason for this activity, linking it to future decisions to be made by USAID leadership, partner governments, and/or other key stakeholders.

The purpose of this evaluation is to determine the extent to which our strategic assumptions help to ensure that USAID's NTD focus countries are on track to meet WHO's 2020 goals and to determine what needs to be considered for the next iteration of USAID's NTD program which will be redesigned, procured and awarded in the next 2 years. In addition, the evaluation should capture any unintended, yet positive consequences of 'at scale,' integrated MDA programs in countries (capacity building, financial efficiency, etc).

B. **Audience**: Who is the intended audience for this analysis? Who will use the results? If listing multiple audiences, indicate which are most important.

USAID NTD team, WHO, focus country government, NGO partners

C. **Applications and use**: How will the findings be used? What future decisions will be made based on these findings?

The findings will be used to design the next 5 years of the NTD program as well as document key lessons and successes for the broader NTD community.

D. **Evaluation/Analytic Questions & Matrix**:

a) Questions should be: a) aligned with the evaluation/analytic purpose and the expected use of findings; b) clearly defined to produce needed evidence and results; and c) answerable given the time and budget constraints. Include any disaggregation (e.g., sex, geographic locale, age, etc.), they must be incorporated into the evaluation/analytic questions. **USAID policy suggests 3 to 5 evaluation/analytic questions.**

b) List the recommended methods that will be used to collect data to be used to answer each question.

c) State the application or use of the data elements towards answering the evaluation questions; for example, i) ratings of quality of services, ii) magnitude of a problem, iii) number of events/occurrences, iv) gender differentiation, v) etc.

	Evaluation/Analytic Question	Research Methods	Application or Data Use
1	**GLOBAL LEADERSHIP: How have the USAID NTD Program and the implementing partners influenced global policy, best practices?** *Illustrative factors to consider:* - USAID's NTD program advanced the global NTD agenda/goals - Global policies that USAID and/or the implementing partners have influenced and how - Strengths and weaknesses other donors/global partners see within USAID's NTD program?	Interviews	Questions should be disaggregated by USAID staff, individual partner as well as for the program as a whole. Will be used for redesign purposes.

	Evaluation/Analytic Question	Research Methods	Application or Data Use
2	**PROGRAM IMPLEMENTATION STRATEGY: Is the USAID NTD program's current strategy the best approach for achieving the 2020 goals at country level?** *Illustrative factors to consider:* - USAID application of the principles of integration within the country programs - Successes and challenges to this integrated approach - Extent to which WHO tools/products (Roll out package, TIPAC, Program Managers Toolbook etc) have been developed to support national programs been effective (or not) - Key/critical gaps in the USAID NTD programming approaches at country level - The extent to which FOGs are a useful strategy for implementation - Ways that USAID/NTD projects (implementing partners) ensure the quality of program implementation; including any ongoing effort for quality assurance - Documented effect that the USAID/NTD program is having on the overall health system (ancillary benefits) - Innovative approaches that the USAID/NTD partners use to achieve NTD project goals - NTD activities integrated into other health/education/environment programs - Evidence that NTD program reporting/data collection requirements enhance the country's ability to use data for decision making, with examples of data use for program planning/implementation	Interviews Document review	- Will require providing evaluation team the criteria for integration. - Will require documents listing out the WHO roll out package. - USAID will provide necessary contextual information regarding the extent to which the country programs on target for 2020 goals

	Evaluation/Analytic Question	Research Methods	Application or Data Use
3	**Capacity Building/COUNTRY OWNERSHIP: Has the USAID/NTD program built country capacity <u>AND</u> country ownership of the program**? *Illustrative factors to consider:* - The extent to which countries have an NTD Master Plan in place, and its use/affect in that country - The extent to which the MOHs appointed an NTD Coordinator/Program Manager and disease specific coordinators - The extent to which the MOH/NTD programs hold an annual stakeholder planning and budgeting meetings (use TIPAC) - The extent to which FOGs build country capacity to plan for, budget and implement NTD programs - The extent to which countries have a NTD line item budget – created and funded - Joint drug application forms completed correctly and done on time - MDA completion on time and with >80% coverage, and factors leading to delays - Use of an integrated database by MOH officials - MOH NTD program utilization of the data to make decisions, with examples	Interviews Data review	Provide evaluation team with capacity building and country ownership framework and indicators.
4	Progress toward achieving elimination/control: Are USAID supported countries on track to achieve the WHO NTD 2020 elimination and control goals for the diseases supported in the program? - Mapping completed - Drug donation available in country - Program implementation at scale - Progress towards elimination/control depending on the disease including: - documented break in transmission (LF and Trachoma) - documented below the threshold defined as a public health problem (SCH) - adequate program coverage (STH/SCH)	Data review	

Other Questions *[OPTIONAL]*
(***Note***: Use this space only if necessary. Too many questions leads to an ineffective evaluation or analysis.)

To the evaluation team: There is interest in exploring how the projects problem-solve and are proactive vs reactive as issues arise. This critical thinking is difficult to get at so we are putting this as a reminder to explore. Additionally, there is an organization, Helen Keller International (HKI), that is a sub partner at the country level under both ENVISION and END in Africa. It would be useful to use HKI's experience

under the leadership of RTI (ENVISION) and FHI360 (END in Africa) to highlight things to repeat or avoid in any future redesign efforts. The two projects are designed slightly different so HKI's perspective may help to better understand the pros and cons of each.

E. **Methods**: Check and describe the recommended methods for this analytic activity. Selection of methods should be aligned with the evaluation/analytic questions and fit within the time and resources allotted for this analytic activity. Also, include the sample or sampling frame in the description of each method selected.

For the interviews, sampling will be non-probability, purposive sampling of targeted NTD stakeholders who are familiar with USAID's NTD program. Country level program review will be a combination of data and document review along with interviews. With the document review and interviews, it is expected that conclusions regarding the assumptions the NTD program was built upon will be confirmed or negated. Additionally, the analysis will provide recommendations for any future design.

■ **Document and Data Review** (*list of documents and data recommended for review)*

This desk review will be used to provide background information on the project/program, and will also provide data for analysis for this evaluation. Documents and data to be reviewed include:

- NTD Roll Out Package
- Documents describing integration (need to find titles)
- USAID project workplans, semi-annual reports, publications, including PMPs with indicator data
- Document describing TIPAC
- Document describing integrated data base
- Disease specific documents
- http://www.who.int/neglected_diseases/Integrated_Implementation_programs_Targeting_NTD_through_PC.pdf
- WHO Regional strategy for Africa http://www.afro.who.int/en/clusters-a-programmes/dpc/neglected-tropical-diseases/strategies.html
- WHO Roadmap http://www.who.int/neglected_diseases/NTD_RoadMap_2012_Fullversion.pdf
- The London Declaration http://unitingtocombatntds.org/resource/london-declaration
- http://unitingtocombatntds.org/sites/default/files/document/UTCNTD%20FULL%20REPORT.pdf
- http://unitingtocombatntds.org/sites/default/files/document/9789241564861_eng.pdf

■ **Secondary analysis of existing data** (*This is a re-analysis of existing data, beyond a review of data reports. List the data source and recommended analyses*)

Data Source (*existing dataset*)	Description of data	Recommended analysis
NTD workbooks/data base	Program disease and treatment data	There will be analysis of data (number of treatments, results from impact surveys etc). This analysis will be done by others outside of the evaluation team due to the complexity of navigating the data base. While this analysis is not part of the scope of work for the evaluation team, it is expected that the information resulting from the analysis will be incorporated into the final report.

■ **Key Informant Interviews** (*list categories of key informants, and purpose of inquiry*)

Representatives from the following organizations/programs:

- A comprehensive list of informants by institution will be provided by USAID.
- WHO
- National NTD program managers and disease specialists
- The World Bank
- Gates Foundation
- The Carter Center
- The Task Force
- CDC
- The END Fund
- Global Network for Neglected Tropical Diseases
- USAID partners (RTI, HKI, FHI360)
- DFID
- CNTD

Using semi-structured interview guides, key informant interviews (KII) will be conducted. These interviews will be conducted at interviewees' onsite locations or by telephone, whichever is most expedient and cost effective. USAID and USAID NTD Partners (RTI and FHI360) will provide a final list of interviewees.

Field visits (Countries still to be finalized. Potentially: Ghana, Burkina Faso, Uganda, Cameroon, Tanzania, Nepal and Haiti and Geneva (Meeting with WHO)): Key informant interviews with Country MOH NTD management/leadership staff, other governmental staff, NGOs USAID Mission staff (other TBD) will be conducted using a semi-structured question guide, in addition to a broader range of stakeholders, including:

- ENVISION, END in Africa or END in Asia staff
- MoHS
- Mission staff

☐ **Focus Group Discussions** (*list categories of groups, and purpose of inquiry*)

■ **Group Interviews** (*list categories of groups, and purpose of inquiry*)

Optional: As appropriate, key informants can be grouped for a group interview, using the same KII semi-structured question guide, both in the US, Europe and in country during field visits.

☐ **Client/Participant Satisfaction or Exit Interviews** (*list who is to be interviewed, and purpose of inquiry*)

☐ **Facility or Service Assessment/Survey** (*list type of facility or service of interest, and purpose of inquiry*)

☐ **Cost Analysis** (*list costing factors of interest, and type of costing assessment, if known*)

■ **Survey** (*describe content of the survey and target responders, and purpose of inquiry*)

This survey will be administered via the web (e.g., Survey Monkey) and will target all NTD program country stakeholders (e.g. Program Managers, implementing partners, USAID staff etc). If necessary, it can also be administered in person by an Evaluation Team member. Key implementers and stakeholders, including country Program Managers, ENVISION, END in Africa or END in Asia staff; USAID staff (DC and Missions), other NTD partners and collaborators, will be asked to complete this brief online survey.

The purpose of the survey is to obtain primarily categorical (quantitative) data to a uniform set of questions. This allows a broader reach to respondents who have internet access with standardized questions.

☐ **Observations** (*list types of sites or activities to be observed, and purpose of inquiry*)

■ **Data Abstraction** (*list and describe files or documents that contain information of interest, and purpose of inquiry*)

☐ **Case Study** (*describe the case, and issue of interest to be explored*)

☐ **Verbal Autopsy** (*list the type of mortality being investigated (i.e., maternal deaths), any cause of death and the target population*)

☐ **Rapid Appraisal Methods** (ethnographic / participatory) (*list and describe methods, target participants, and purpose of inquiry*)

☐ **Other** (*list and describe other methods recommended for this evaluation/analytic, and purpose of inquiry*)

If **impact evaluation** –

Is technical assistance needed to develop full protocol and/or IRB submission?

☐ Yes ☐ No

List or describe case and counterfactual"

Case	Counterfactual

X. HUMAN SUBJECT PROTECTION

The Analytic Team must develop protocols to insure privacy and confidentiality prior to any data collection. Primary data collection must include a consent process that contains the purpose of the evaluation], the risk and benefits to the respondents and community, the right to refuse to answer any question, and the right to refuse participation in the evaluation at any time without consequences. Only adults can consent as part of this evaluation. Minors cannot be respondents to any interview or survey, and cannot participate in a focus group discussion without going through an IRB. The only

time minors can be observed as part of this evaluation is as part of a large community-wide public event, when they are part of family and community attendance. During the process of this evaluation, if data are abstracted from existing documents that include unique identifiers, data can only be abstracted without this identifying information.

XI. ANALYTIC PLAN

Describe how the quantitative and qualitative data will be analyzed. Include method or type of analyses, statistical tests, and what data it to be triangulated (if appropriate). For example, a thematic analysis of qualitative interview data, or a descriptive analysis of quantitative survey data.

All analyses will be geared to answer the higher level evaluation questions. Additionally, the evaluation will review both qualitative and quantitative data related to the project/program's achievements against its objectives and/or targets. Data will include, but not limited to, qualitative data from interviews focus groups, and project reports; and quantitative data from the NTD data base and project reports.

Quantitative data will be analyzed primarily using descriptive statistics. Data will be stratified by demographic characteristics, such as sex, age, and location, whenever feasible. This data is managed by the USAID M&E staff and staff with the ENVISION project. Quantitative data for this evaluation will be analyzed by USAID staff. It is not expected that the evaluation team will analyze the disease specific data but rather work with USAID to incorporate the results of that analysis into the final results and report

Thematic review of qualitative data will be performed, connecting the data to the evaluation questions, seeking relationships, context, interpretation, nuances and homogeneity and outliers to better explain what is happening and the perception of those involved. Qualitative data will be used to substantiate quantitative findings, provide more insights than quantitative data can provide, and answer questions where other data do not exist. Collection and analysis of the qualitative data is the responsibility of the Evaluation Team's scope of work.

Use of multiple methods that are quantitative and qualitative, as well as existing data (e.g., project/program performance indicator data, NTD/ workbooks/data base data, etc.) will allow the Team to triangulate findings to produce more robust evaluation results. Determination of how to use the quantitative and qualitative data will be further refined once the Evaluation Team has been determined.

The Evaluation Report will describe analytic methods and statistical tests **if** employed in this evaluation.

XII. ACTIVITIES

List the expected activities, such as Team Planning Meeting (TPM), briefings, verification workshop with IPs and stakeholders, etc. Activities and Deliverables may overlap. Give as much detail as possible.

Background reading – Several documents are available for review for this analytic activity. These include NTD projects (ENVISION, END in Africa, END in Asia) proposal, annual work plans, M&E plans, quarterly progress reports, and routine reports of project performance indicator data, as well as survey data reports (i.e., DHS and MICS). This desk review will provide background information for the Evaluation Team, and will also be used as data input and evidence for the evaluation.

Team Planning Meeting (TPM) – A two-day team planning meeting (TPM) will be held at the initiation of this assignment and before the data collection begins. The TPM will:

- Review and clarify any questions on the evaluation SOW

- Clarify team members' roles and responsibilities
- Establish a team atmosphere, share individual working styles, and agree on procedures for resolving differences of opinion
- Review and finalize evaluation questions
- Review and finalize the assignment timeline
- Develop data collection methods, instruments, tools and guidelines
- Review and clarify any logistical and administrative procedures for the assignment
- Develop a data collection plan
- Draft the evaluation work plan for USAID's approval
- Develop a preliminary draft outline of the team's report
- Assign drafting/writing responsibilities for the final report

Briefing and Debriefing Meetings – Throughout the evaluation the Team Lead will provide briefings to USAID. The In-Brief and Debrief are likely to include the all Evaluation Team experts, but will be determined in consultation with the Mission. These briefings are:

- Evaluation **launch**, a call/meeting among the USAID, GH Pro and the Team Lead to initiate the evaluation activity and review expectations. USAID will review the purpose, expectations, and agenda of the assignment. GH Pro will introduce the Team Lead, and review the initial schedule and review other management issues.
- **In-brief with USAID**, as <u>part of the TPM</u>. This briefing may be broken into two meetings: a) at the beginning of the TPM, so the Evaluation Team and USAID can discuss expectations and intended plans; and b) at the end of the TPM when the Evaluation Team will present an outline and explanation of the design and tools of the evaluation. Also discussed at the in-brief will be the format and content of the Evaluation report(s). The time and place for this in-brief will be determined between the Team Lead and USAID prior to the TPM.
- **In-brief with NTD projects** to review the evaluation plans and timeline, and for the project to give an overview of the project to the Evaluation Team.
- **In-brief and Out-brief with USAID Mission**
    1) Prior to arriving in country, the Evaluation Team will have a field visit evaluation preparation call with Missions to discuss schedules and expectations. Representatives from USAID/NTD who will be going to the field with the Evaluation Team will join this call.
    2) Upon arrival in country the Evaluation Team, including USAID/NTD staff who are participating in the evaluation will meet with relevant USAID Mission staff to discuss in detail the evaluation methods and schedule.
    3) Prior to leaving each country the Evaluation Team will provide a debrief using a PowerPoint presentation, with the USAID Mission with preliminary findings from the county specific evaluation.
- The Team Lead (TL) will brief the USAID/NTD **weekly** to discuss progress on the evaluation. As preliminary findings arise, the TL will share these during the routine briefing, and in an email.
- A mid-point meeting will be held with the USAID NTD Team and WHO at a location to be determined.
- A **final debrief** between the Evaluation Team and USAID /NTD will be held at the end of the evaluation to present preliminary findings to USAID/NTD team. During this meeting a summary of the data will be presented, along with high level findings and draft recommendations. For the debrief, the Evaluation Team will prepare a **PowerPoint Presentation** of the key findings, issues, and recommendations. The evaluation team shall incorporate comments received from USAID during the debrief in the evaluation report.

(***Note**: preliminary findings are not final and as more data sources are developed and analyzed these finding may change.*)

- **Stakeholders' debrief/workshop** will be held with the project staff and other stakeholders identified by USAID/NTD. This will occur following the final debrief with the Mission, and will not include any information that may be deemed sensitive by USAID/NTD. Seven Country Representatives from the MoH will travel to Washington, DC to participate in this workshop.

Fieldwork, Site Visits and Data Collection – The evaluation team will conduct site visits to for data collection. Selection of sites to be visited will be finalized during TPM in consultation with USAID. The evaluation team will outline and schedule key meetings and site visits prior to departing to the field.

Evaluation/Analytic Report – The Evaluation/Analytic Team under the leadership of the Team Lead will develop a report with findings and recommendations (see Analytic Report below). Report writing and submission will include the following steps:

1. Prior to the Evaluation Team finishing the first draft of the report, USAID will provide written analysis of the quantitative data to the Evaluation Team to be incorporated into the first draft.
2. Team Lead will submit draft evaluation report to GH Pro for review and formatting
3. GH Pro will submit the draft report to USAID/NTD
4. USAID will review the draft report in a timely manner, and send their comments and edits back to GH Pro
5. GH Pro will share USAID's comments and edits with the Team Lead, who will then do final edits, as needed, and resubmit to GH Pro
6. GH Pro will review and reformat the final Evaluation/Analytic Report, as needed, and resubmit to USAID for approval.
7. Once Evaluation Report is approved, GH Pro will re-format it for 508 compliance and post it to the DEC.

The Evaluation Report **excludes** any **procurement-sensitive** and other sensitive but unclassified (**SBU**) information. This information will be submitted in a memo to USIAD separate from the Evaluation Report.

XIII. DELIVERABLES AND PRODUCTS

Select all deliverables and products required on this analytic activity. For those not listed, add rows as needed or enter them under "Other" in the table below. Provide timelines and deliverable deadlines for each.

Deliverable / Product	Timelines & Deadlines (estimated)
■ Launch briefing	May 2, 2016
■ Workplan with timeline	May 13, 2016
■ Analytic protocol with data collection tools	May 20, 2016
■ In-brief USAID/HIDN	May 24, 25, and 26, 2016
■ In-brief with target project / program	June 6, 2016
■ Routine briefings	Weekly
■ Out-brief with Mission or organizing business unit with Power Point presentation	September 1, 2016
Include a mid-point meeting with USAID, WHO	July 22, 2016
■ Findings review workshop with stakeholders with Power Point presentation	September 15, 2016
Evaluation report out with public panel	September 28, 2016
■ Draft report	Submit to GH Pro: February 16, 2017 Submit to USAID: February 21, 2017

■ Final report	Submit to GH Pro: March 13, 2017 Submit to USAID: March 15, 2017
■ Raw data	March 1, 2017
■ Dissemination activity	November 4, 2016
■ Report Posted to the DEC	March 31, 2017
☐ Other (specify):	

Estimated USAID review time
Average number of business days USAID will need to review deliverables requiring USAID review and/or approval? __10__ Business days

XIV. TEAM COMPOSITION, SKILLS AND LEVEL OF EFFORT (LOE)

Evaluation/Analytic team: When planning this analytic activity, consider:

- Key staff should have methodological and/or technical expertise, regional or country experience, language skills, team lead experience and management skills, etc.
- Team leaders for evaluations/analytics must be an external expert with appropriate skills and experience.
- Additional team members can include research assistants, enumerators, translators, logisticians, etc.
- Teams should include a collective mix of appropriate methodological and subject matter expertise.
- Evaluations require an Evaluation Specialist, who should have evaluation methodological expertise needed for this activity. Similarly, other analytic activities should have a specialist with methodological expertise related to the
- Note that all team members will be required to provide a signed statement attesting that they have no conflict of interest, or describing the conflict of interest if applicable.

Team Qualifications: Please list technical areas of expertise required for this activities
List the key staff needed for this analytic activity and their roles. You may wish to list desired qualifications for the team as a whole, as well as for the individual team members.

The evaluation team will comprise two key personnel from Johns Hopkins University who are provided through a separate USAID project mechanism and additional in-country consultants. Team composition will likely include a Team Lead, NTD Technical Specialist, and 3-4 in-country support staff. This team may provide an in-briefing and/or out-briefing to the Mission POC while they are in-country, as determined by USAID mission capacity and availability. In addition, one full time staff from USAID/Washington may join the evaluation team in the field work conducted in the selected countries and provide assistance in communicating with missions. This person will be a resource person to answer questions and make clarifications as issues arise. They will not be a member of the team or responsible for final conclusions determined by the team. Two additional team members will be provided through the separate USAID project mechanism: 1. A JHU graduate student to manage the online survey and assist with helping to assemble key references, and 2. A JHU budget analyst to help manage receipts, expenses and evaluation costs for the USAID project mechanism provided contractors.

Together the evaluation team must possess the following skills and qualifications:

- Experience in evaluating infectious disease/public health programs in developing country settings (prefer NTD specifically).
- Experience implementing infectious disease mass treatment programs in developing country settings.

- Experience in implementing and/or evaluating capacity-strengthening activities within infectious disease treatment programs.
- Familiarity with USAID contracting and reporting requirements; policies and initiatives; and tools, such as performance monitoring plans and results frameworks.
- Experience with USAID mission programming.
- Professional competency in spoken French (one team member).
- Advanced written and oral communications skills in English.

Team Lead and Evaluation Specialist: The team lead should have significant experience conducting project evaluations/analytics. Ideally the person would also have a strong background in management and/or organizational development.

Team Lead Roles & Responsibilities: The team leader will be responsible for (1) providing team leadership; (2) managing the team's activities, (3) ensuring that all deliverables are met in a timely manner, (4) serving as a liaison between the USAID and the evaluation/analytic team, and (5) leading briefings and presentations.

Evaluation Roles & Responsibilities: Serve as a member of the evaluation team, providing quality assurance on evaluation issues, including methods, development of data collection instruments, protocols for data collection, data management and data analysis. S/He will oversee the training of all engaged in data collection, insuring highest level of reliability and validity of data being collected. S/He is the lead analyst, responsible for all data analysis, and will coordinate the analysis of all data, assuring all quantitative and qualitative data analyses are done to meet the needs for this evaluation. S/He will participate in all aspects of the evaluation, from planning, data collection, data analysis to report writing.

Qualifications:

- Minimum of 10 years of experience in public health, which included experience in implementation of health activities in developing countries
- Demonstrated experience leading health sector project/program evaluation/analytics, utilizing both quantitative and qualitative methods
- Excellent skills in planning, facilitation, and consensus building
- Excellent interpersonal skills, including experience successfully interacting with host government officials, civil society partners, and other stakeholders
- Excellent skills in project management
- Excellent organizational skills and ability to keep to a timeline
- Good writing skills, with extensive report writing experience
- Experience working in the regions (East Africa, West Africa, Nepal and Haiti)
- Experience in design and implementation of evaluations
- Strong knowledge, skills, and experience in qualitative and quantitative evaluation tools
- Experience implementing and coordinating other to implements surveys, key informant interviews, focus groups, observations and other evaluation methods that assure reliability and validity of the data.
- Able to analyze quantitative and qualitative data
- Experience using analytic software
- Able to review, interpret and reanalyze as needed existing data pertinent to the evaluation
- Strong data interpretation and presentation skills
- An advanced degree in public health, evaluation or research or related field
- Familiarity with USAID health programs/projects, primary health care or health systems strengthening preferred
- Familiarity with USAID M&E policies and practices

- Evaluation policies
- Results frameworks
- Performance monitoring plans

Key Staff 2 Title: NTD specialist
Roles & Responsibilities: Serve as a member of the evaluation team, providing technical expertise to evaluate NTD activities; specifically, lymphatic filariasis, trachoma, onchocerciasis, schistosomiasis, and helminthes.
Qualifications:

- At least 5 years of experience working with NTD or infectious disease programs in developing country settings
- Experience with mass treatment/campaign style programs (NTDs, Polio, Vit A Immunization etc)
- Experience and knowledgeable on evaluation methodologies
- Experience in implementing and/or evaluating capacity-strengthening activities
- An advanced degree in public health or related field

Other Staff Titles with Roles & Responsibilities (include number of individuals needed):

Program Assistant /Logistics Coordinator (DC based) to work part-time with the Evaluation Team to arrange interviews, meetings and logistics, and other support duties as needed by the Evaluation Team.

Graduate Student Assistant (at JHU) will work part-time manage the online survey and assist with helping to assemble key references, especially from scientific literature.

Budget Analyst (at JHU) to help manage receipts, expenses and evaluation costs.

Four Regional NTD Specialists (1 per region: East Africa, West Africa, Haiti and Nepal) will support the Evaluation Team for country site visits. The Regional NTD Specialist will be a highly skilled technical specialist with knowledge of NTD programs in their designated region. S/he will support the Team with all logistics and administration to allow them to carry out this evaluation. The Regional NTD Specialist will have a good command of English and local language(s). S/He will have knowledge of key actors in the health sector and their locations, including MOH, donors and other stakeholders. To support the Team, s/he will be able to efficiently liaise with hotel staff, arrange in-country transportation (ground and air), arrange meeting and workspace as needed, and insure business center support, e.g. copying, internet, and printing. S/he will work under the guidance of the Team Leader to make preparations, arrange meetings and appointments, including assisting booking interviews. S/he will conduct programmatic administrative and support tasks as assigned and ensure the processes moves forward smoothly. S/He may also be asked to assist with note taking at interviews and meetings, as well as with translation of data collection tools and transcripts.

Note: GH Pro will negotiate an MOU with the designated USAID project mechanism in order to clarify and formalize roles and responsibilities for all team members (both JHU and GH Pro staff and independent consultants) working on this assignment. Coordination and collaboration of this MOU will be overseen by GH Pro under the guidance of the USAID/GH/HIDN NTD management team.

Will USAID participate as an active team member or designate other key stakeholders to as an active team member? This will require full time commitment during the evaluation or analytic activity.

This is still to be determined.

☐ Yes – If yes, specify who:

■ Significant Involvement anticipated – If yes, specify who: a) USAID/Washington may join the evaluation team in the fieldwork; and b) Mission M&E staff may participate in in-country fieldwork, as determined by USAID mission capacity and availability.

☐ No

Staffing Level of Effort (LOE) Matrix (Optional):

This optional LOE Matrix will help you estimate the LOE needed to implement this analytic activity. If you are unsure, GH Pro can assist you to complete this table.

a) For each column, replace the label "Position Title" with the actual position title of staff needed for this analytic activity.
b) Immediately below each staff title enter the anticipated number of people for each titled position.
c) Enter Row labels for each activity, task and deliverable needed to implement this analytic activity.
d) Then enter the LOE (estimated number of days) for each activity/task/deliverable corresponding to each titled position.

At the bottom of the table total the LOE days for each consultant title in the 'Sub-Total' cell, then multiply the subtotals in each column by the number of individuals that will hold this title

Level of Effort in **days** for each Evaluation/Analytic Team member

Activity / Deliverable		Evaluation Team					
		Team Lead (JHU)	NTD Specialist (JHU)	Graduate Asst (JHU)	Prog Asst (DC-based) (GH Pro)	Budget Analyst (JHU)	Regional NTD Specialists (GH Pro)
	Number of persons →	1	1	1	1	1	4 (1 per region)
1	*Launch Briefing*	1					
2	*Document review*	7	6	2	4		
3	*Team Planning Meeting*	3	3		3		
4	*In-brief with USAID/HIDN*	1	1		1		
5	*Briefing with NTD Projects*	1	1		1		
6	*Data Collection & Data Quality Assurance workshop (protocol orientation for all involved in data collection)*	1	1		1		
7	*Prep / Logistics for data collection*	1	1		1		
8	*Data collection (US based)*	7	7	10	1		
9	*Prep for Field Visits (8 countries)*	1	1			5	3
10	*Travel & Field Visits to 8 Countries – activities include: in- & de-brief w/ Mission staff, data collection & preliminary analysis*	25	31				10
11	*Data cleaning and analysis (US & Field)*	8	8	7		5	2
12	*Debrief with presentation with USAID/HIDN to present prelim findings (US + Field), with prep in DC*	1	1		1		
13	*Stakeholder workshop with evaluation prelim findings (US + Field), with prep*	1	1		1		

Activity / Deliverable		Evaluation Team					
		Team Lead (JHU)	NTD Specialist (JHU)	Graduate Asst (JHU)	Prog Asst (DC-based) (GH Pro)	Budget Analyst (JHU)	Regional NTD Specialists (GH Pro)
	Number of persons →	1	1	1	1	1	4 (1 per region)
14	*Draft report*	8	6	1	2		
15	*GH Pro Report QC Review & Formatting*						
16	*Submission of draft report to USAID/HIDN*						
17	*USAID Report Review*						
18	*Revise report(s) per USAID comments*	3	1				
19	*Finalization and submission of report*						
20	*508 Compliance Review*						
21	*Upload Eval Report(s) to the DEC*						
	Sub-Total LOE	**69**	**69**	**20**	**16**	**10**	**15**
	Total LOE	**69**	**69**	**20**	**16**	**10**	**60**

If overseas, is a 6-day workweek permitted ■ Yes ☐ No

Travel anticipated: List international and local travel anticipated by what team members.

Countries under consideration include: Ghana, Burkina Faso, Uganda, Cameroon, Tanzania, Nepal, Haiti, trip to Geneva/WHO

XV. LOGISTICS

Note: Most Evaluation/Analytic Teams arrange their own work space, often in their hotels. However, if Facility Access is preferred GH Pro can request it. GH Pro does not provide Security Clearances. Our consultants can obtain **Facility Access** only.

Check all that the consultant will need to perform this assignment, including USAID Facility Access, GH Pro workspace and travel (other than to and from post).

☐ USAID Facility Access

Specify who will require Facility Access: _____

■ Electronic County Clearance (ECC) (International travelers only) [**Note**: will verify once country site visits are determined.]

■ GH Pro workspace

Specify who will require workspace at GH Pro: Team Planning Meeting and other DC based activities.

■ Travel -other than posting (specify): Counties for site visits; Travel to Washington, DC for report out panel for 7 country representatives

☐ Other (specify): _____

XVI. GH PRO ROLES AND RESPONSIBILITIES

GH Pro will coordinate and manage the evaluation/analytic team and provide quality assurance oversight, including:

- Review SOW and recommend revisions as needed
- Provide technical assistance on methodology, as needed
- Develop budget for analytic activity

- Recruit and hire the Regional NTD Specialists with USAID POC approval
- Arrange international travel and lodging for international consultants, as required
- Request for country clearance and/or facility access (if needed)
- Review methods, workplan, analytic instruments, reports and other deliverables as part of the quality assurance oversight
- Report production - If the report is public, then coordination of draft and finalization steps, editing/formatting, 508ing required in addition to and submission to the DEC and posting on GH Pro website. If the report is internal, then copy editing/formatting for internal distribution.
- Secure the meeting space and set up for the NTD Report Out Panel on September 28, 2016.
- Arrange travel and support travel costs for seven Country Representatives who come to Washington, DC for the events surrounding USAID's NTD 10 Year Celebration.
- Arrange for an interpreter to provide services during the NTD Report Out Panel.
- Miscellaneous document translations as needed.

XVII. USAID ROLES AND RESPONSIBILITIES

Below is the standard list of USAID's roles and responsibilities. Add other roles and responsibilities as appropriate.

USAID Roles and Responsibilities

USAID will provide overall technical leadership and direction for the analytic team throughout the assignment and will provide assistance with the following tasks:

Before Field Work

- SOW.
  - Develop SOW.
  - Peer Review SOW
  - Respond to queries about the SOW and/or the assignment at large.
- Consultant Conflict of Interest (COI). To avoid conflicts of interest or the appearance of a COI, review previous employers listed on the CV's for proposed consultants and provide additional information regarding potential COI with the project contractors evaluated/assessed and information regarding their affiliates.
- Documents. Identify and prioritize background materials for the consultants and provide them to GH Pro, preferably in electronic form, at least one week prior to the inception of the assignment.
- Local Consultants. Assist with identification of potential local consultants, including contact information.
- Site Visit Preparations. Provide a list of site visit locations, key contacts, and suggested length of visit for use in planning in-country travel and accurate estimation of country travel line items costs.
- Lodgings and Travel. Provide guidance on recommended secure hotels and methods of in-country travel (i.e., car rental companies and other means of transportation).

During Field Work

- Mission Point of Contact. Throughout the in-country work, ensure constant availability of the Point of Contact person and provide technical leadership and direction for the team's work.
- Meeting Space. Provide guidance on the team's selection of a meeting space for interviews and/or focus group discussions (i.e. USAID space if available, or other known office/hotel meeting space).
- Meeting Arrangements. Assist the team in arranging and coordinating meetings with stakeholders.
- Facilitate Contact with Implementing Partners. Introduce the analytic team to implementing partners and other stakeholders, and where applicable and appropriate prepare and send out an introduction letter for team's arrival and/or anticipated meetings.

After Field Work

- Timely Reviews. Provide timely review of draft/final reports and approval of deliverables.

XVIII. ANALYTIC REPORT

Provide any desired guidance or specifications for Final Report. (See *How-To Note: Preparing Evaluation Reports)*

The **Evaluation/Analytic Final Report** must follow USAID's Criteria to Ensure the Quality of the Evaluation Report (found in Appendix I of the USAID Evaluation Policy).

a. The report must not exceed **30-35 pages** (excluding executive summary, table of contents, acronym list and annexes).
b. The structure of the report should follow the Evaluation Report template, including branding found here or here.
c. Draft reports must be provided electronically, in English, to GH Pro who will then submit it to USAID.
d. For additional Guidance, please see the Evaluation Reports to the How-To Note on preparing Evaluation Draft Reports found here.

Reporting Guidelines: The draft report should be a comprehensive analytical evidence-based evaluation/analytic report. It should detail and describe results, effects, constraints, and lessons learned, and provide recommendations and identify key questions for future consideration. The report shall follow USAID branding procedures. ***The report will be edited/formatted and made 508 compliant as required by USAID for public reports and will be posted to the USAID/DEC.***

The findings from the evaluation/analytic will be presented in a draft report at a full briefing with USAID and at a follow-up meeting with key stakeholders. The report should use the following format:

- Executive Summary: concisely state the most salient findings, conclusions, and recommendations (not more than 4 pages);
- Table of Contents (1 page);
- Acronyms
- Evaluation/Analytic Purpose and Evaluation/Analytic Questions (1-2 pages)
- Project [or Program] Background (1-3 pages)
- Evaluation/Analytic Methods and Limitations (1-3 pages)
- Findings
    - Include information on country progress toward 2020 NTD goals (provided by USAID)
- Conclusions
- Recommendations
- Annexes
    - Annex I: Evaluation/Analytic Statement of Work
    - Annex II: Evaluation/Analytic Methods and Limitations
    - Annex III: Data Collection Instruments
    - Annex IV: Sources of Information
        - List of Persons Interviews
        - Bibliography of Documents Reviewed
        - Databases
        - [etc]
    - Annex V: Disclosure of Any Conflicts of Interest
    - Annex VI: Statement of Differences [if applicable]

The evaluation methodology and report will be compliant with the USAID Evaluation Policy and Checklist for Assessing USAID Evaluation Reports

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The Evaluation Report should **exclude** any **potentially procurement-sensitive information**. As needed, any procurement sensitive information or other sensitive but unclassified (SBU) information will be submitted in a memo to USIAD separate from the Evaluation Report. ---------- All data instruments, data sets (if appropriate), presentations, meeting notes and report for this evaluation/analysis will be provided to GH Pro and presented to USAID electronically to the Program Manager. All data will be in an unlocked, editable format.

XIX. USAID CONTACTS

	Primary Contact	**Alternate Contact 1**	**Alternate Contact 2**
Name:	Kama Garrison	Violetta Yevstigneyeva	Emily Wainwright
Title:	Sr. Public Health Advisor	M&E Advisor	
USAID Office	USAID/GH/HIDN	USAID/GH/HIDN	
Email:	kgarrison@usaid.gov	vyevstigneyeva@usaid.gov	ewainwright@usaid.gov

List other contacts who will be supporting the Requesting Team with technical support, such as reviewing SOW and Report (such as USAID/W GH Pro management team staff)

XX. REFERENCE MATERIALS

Documents and materials needed and/or useful for consultant assignment, that are not listed above

ANNEX 2. EVALUATION METHODS AND LIMITATIONS

This report was based on a review of project documents, scholarly publications. PowerPoint presentations, interviews with international stakeholders, visits to seven countries selected by USAID, and interviews with the staff in the countries visited. An interview guide was developed, based on the questions in the Scope of Work and an initial review of key project documents. For country visits, the respective heads of the implementing partner and the directors of the national neglected tropical diseases (NTD) programs were contacted in advance, in order to identify persons who would be helpful in-country to provide relevant information on the formation and management of the program, as well as the specific diseases. The team endeavored to speak with persons in both the public and NGO sectors. Interviews were also carried out with personnel in the ministries of education, when relevant. In each site, time was spent at a field site in order to understand how services were being provided, to speak with first-line health workers, and where possible, to speak with members of the community. Country profiles of NTD programs were prepared by a graduate public health doctoral student before the field sites were visited. For the international stakeholders, who were mostly interviewed by telephone, a separate interview guide was developed; this guide was created to reflect the senior positions of those interviewed and to respect the time of these individuals.

Full cooperation was extended to the evaluation team by all those interviewed. Such a high of level of participation, and the forthcoming nature of their comments, made this evaluation a pleasure to conduct.

While the evaluators tried to speak with a representative selection of knowledgeable persons, this group did not represent a comprehensive sample. The review of reports and literature also was intended to be representative, but in some cases, it is likely that key information may have been missed. The purposive sample of countries and of field sites will have introduced some bias into the evaluation. The field sites were mainly those that were geographically accessible, and these sites most certainly would have differed from the more remote sites.

Careful notes were taken of all interviews, either by typing or handwriting notes during the interviews; notes were then expanded after the interviews. Before leaving each country, a consolidated country report was prepared by the evaluators.

An online (SurveyMonkey platform) interview form was developed with information from the country visits, and was reviewed with the USAID NTD program before being distributed in both French and English. Assistance was provided by GH Pro for translations of the questionnaire and the open-ended comments.

In shaping the direction of the evaluation, the team decided to focus on lessons learned; these lessons would apply to completion of this funding cycle, with a view toward recommendations that would help build sustainability for the country programs. As a great level of resources has been expended to date, it is important to seek ways to protect this investment, and to prevent losing ground on achievements. These are reasons for a particular focus on data collection and management, and on post-mass drug administration surveillance, in the analysis and report.

ANNEX 3. DATA COLLECTION INSTRUMENTS

Evaluation USAID NTD Flagship Program 2006-2017

This evaluation of the USAID Neglected tropical diseases (NTD) Program is being conducted with GH Pro through Jhpiego and the Johns Hopkins Bloomberg School of Public Health, beginning on 2 May 2016, and concluding in early 2017.

Background

The USAID NTD program has been active for over 10 years and has been a major player in NTD control activities in many countries. Beginning in 2010, three awards were made, ENVISION (2011-2019, RTI International), END in Asia (2010-2015, FHI 360), and END in Africa (2010-2018, FHI 360). These programs have played a major role in supporting the integration of the five Preventive chemotherapy (PCT) NTD programs in 25 countries in Africa and 10 countries in Asia, and are working toward achieving the WHO's 2020 NTD goals. In addition to support of mass drug administration (MDA), there is support of research, drug development, morbidity management, and supply chain management. These activities are not a primary focus of this evaluation.

Goal

The evaluation goal is to determine the extent to which the strategic assumptions of the USAID NTD program are on track to meet WHO's 2020 NTD goals, and determine any future changes required.

Objectives

5. Determine the success with which the NTD program is applying global guidance to priority countries in NTD implementation
6. Assess the impact of NTD programs on priority diseases at the country level to achieve 2020 NTD goals
7. Note unintended consequences that occurred during the scale up of integrated MDA programs, both negative and positive
8. Make recommendations for the design of the next iteration of the NTD program, to be awarded in the next two years

Approach

This evaluation will consist of an initial desk review of key documents and additional materials, interviews, and orientations with USAID personnel, and a review of the scientific literature related to program activities. During this time, plans for the online survey will be developed with specific survey goals and objectives identified, and with a view to augment and support the evaluation process. Starting in late July and running through early September, travel will be carried out by the two consultants to the countries identified.

Country	Diseases	Description
Ghana		
Burkina Faso		
Cameroon	• Lymphatic Filariasis • Onchocerciasis • Schistosomiasis • Soil-Transmitted Helminthiasis • Trachoma	The National NTD Program in Cameroon is led by a part-time focal point within the Ministry of Public Health (MSP) who coordinates activities of the vertical disease programs. The MSP works in partnership with Helen Keller International (HKI), which is the lead recipient of ENVISION funding, as well as Sightsavers, Perspectives, and the International Eye Foundation. The partner NGOs each oversee various regions of the country while HKI also provides grant management and technical oversight to the program overall.
Haiti	• Lymphatic Filariasis • Soil-Transmitted Helminthiasis	The Haiti Neglected Tropical Disease Control Program follows the WHO recommended strategy for LF elimination through consecutive annual mass drug administration (MDA) with DEC and ALB for at least 5 years to interrupt transmission. Haiti recently achieved national coverage in 2012, and the program has been ongoing in many geographic areas for more than four years. Ongoing assessments will decide when it is appropriate to stop MDA. The MSPP and program partners continue to discuss the best strategy to continue deworming efforts once interruption of LF has been confirmed in program areas.
Uganda	• Lymphatic Filariasis • Onchocerciasis • Schistosomiasis • Soil-Transmitted Helminthiasis • Trachoma	A National Plan for Integrated Control of NTDs was established in 2007, with an NTD Secretariat to bring together all of the vertical programs and relevant partners. Together with WHO and partners, Uganda's NTD Master Plan aims to significantly reduce the burden of 11 NTDs (including those treated through primary care) in all affected districts in Uganda to a level where they are no longer of public health importance by 2016.
Tanzania	• Lymphatic Filariasis • Onchocerciasis • Schistosomiasis • Soil-Transmitted Helminthiasis • Trachoma	The Tanzania NTD Control Program (TZNTDCP) follows the WHO recommended strategy for control and elimination of all five target diseases: LF treatment with at least five consecutive rounds of MDA with IVM and ALB; trachoma treatment with Zithromax for at least 3 consecutive years; annual SCH treatment of school-age children with praziquantel; treatment of onchocerciasis focal areas with annual IVM and ALB MDA; and STH treatment with twice annual deworming with ALB. In collaboration with partners, the TZNTDCP intends to expand to national coverage for all endemic areas in Tanzania. The program currently reaches 14 of 23 regions throughout the country.
Nepal	• Lymphatic Filariasis • Soil-Transmitted Helminthiasis • Trachoma	NTD elimination and control activities in Nepal are a joint effort between the Ministry of Health and Population (MOHP), the Ministry of Education (MOE), and the Nepal Trachoma Program to eliminate and control NTDs that can be treated with preventive chemotherapy. The integrated control program is supported by a group of collaborating partners, including WHO, USAID's ENVISION project, Centre for Neglected Tropical Diseases (CNTD), Liverpool School of Tropical Medicine, GlaxoSmithKline and Pfizer.

Key evaluation questions
These questions will be addressed during the country visits as well as in the literature review, and will be supplemented by the online survey.

Category	Key Questions	Who to ask
GLOBAL LEADERSHIP	**How have the USAID NTD Program and the implementing partners influenced global policy, best practices**? ● How have USAID's NTD program advanced the global NTD agenda/goals? ● Global policies that USAID and/or the implementing partners have influenced and how? ● Strengths and weaknesses other donors/global partners see within USAID's NTD program? ● Level of support provided to global entities ● Consistency and reliability of USAID support ● Consistency with WHO and country norms ● Contributions to achieving the NTD 2020 goals	Other donors WHO Country offices NGOs Contractors
PROGRAM IMPLEMENT-ATION STRATEGY	**Is the USAID NTD program's current strategy the best approach for achieving the 2020 goals at the country level?** ● Has USAID applied the principles of integration within the country programs? ● What have been the successes and challenges to this integrated approach ● Has the extent to which WHO tools/products (Roll out package, TIPAC, Program Managers Toolbook, etc.) have been developed to support national programs been effective (or not)? ● What are key/critical gaps in the USAID NTD programming approaches at country level? ●The extent to which FOGs are a useful strategy for implementation ● Ways that USAID/NTD projects (implementing partners) ensure the quality of program implementation; including any ongoing effort for quality assurance ● What are the documented effects that the USAID/NTD program is having on the overall health system (ancillary benefits)? ● List some innovative approaches that the USAID/NTD partners used to achieve NTD project goals ● How are NTD activities integrated into other health/education/environment programs? ● Evidence that NTD program reporting/data collection requirements enhance the country's ability to use data for decision making, with examples of data use for program planning/implementation	
CAPACITY BUILDING/ COUNTRY OWNERSHIP	**Has the USAID/NTD program built country capacity <u>AND</u> country ownership of the program**? *Illustrative factors to consider:* ● To what extent do countries have an NTD Master Plan in place, and its use/affect in that country? ● What is the extent to which the MOHs appointed an NTD Coordinator/Program Manager and disease specific coordinators? ● To what extent to which the MOH/NTD programs hold an annual stakeholder planning and budgeting meetings (use TIPAC)? ● The extent to which FOGs (Fixed Obligation Grants) build country capacity to plan for, budget and implement NTD programs?	

Category	Key Questions	Who to ask
	● The extent to which countries have a NTD line item budget – created and funded? ● Are joint drug application forms completed correctly and done on time? ● MDA completion on time and with >80% coverage, and factors leading to delays ● The use of an integrated database by MOH officials ● MOH NTD program utilization of the data to make decisions, with examples	
PROGRESS TOWARD ACHIEVING ELIMINATION/ CONTROL	**Are USAID-supported countries on track to achieve the WHO NTD 2020 elimination and control goals for the diseases supported in the program?** ● Mapping completed? ● Donated drugs available in country at correct times? ● Program implementation at scale? ● Assess progress towards elimination/control depending on the disease including: ○ documented break in transmission (LF and Trachoma) ○ documented below the threshold defined as a public health problem (SCH) ○ adequate program coverage (STH/SCH)	
PROBLEM SOLVING	● Do national programs, NGOs and grant holders in specific countries move proactively to head off problems or are they reactive once problems have arisen?	
COUNTRY LEADERSHIP	● Local country leadership by ENVISION/END ● Engagement of stakeholders ● Interaction with WHO NTD planning ● Nature of support to MOH NTD program ● Success in supporting goals achievement MOH and partners ● Completeness of documentation ● Success at local capacity building ● Have financial efficiencies been improved?	
GRANT HOLDER'S LEADERSHIP	● What is the NGO's implementing programs perspective of leadership by ENVISION (RTI International) and END (FHI 360) from each of the grantholders? ● What elements should be considered from their experience in the redesign of the NTD project?	
EFFICIENCY	● Were the resources efficiently managed and utilized? ● Finances – procedures (reporting & budgeting), was this appropriate? Assets use ● Were the outputs generated as expected (in quality and time)? ● Were there any unforeseen problems, how well were they dealt with?	
EFFECTIVE-NESS	● What extent did the outputs (planned & unplanned) contribute to the overall objectives? Why? Why not? ● Capacities of project partners, MOH NTD program and grantees/NGOs strengthened? ● Availability & use of resources ● Community effectiveness in MDA process ● Country data reviewed for coverage, doses provided and achievement of workplan objectives	

Category	Key Questions	Who to ask
RELEVANCE	● Establish whether or not the project design and approach were relevant in addressing the identified needs, issues and challenges facing target population in target countries. ● To what extent does the project contribute to overall key results and strategies?	
IMPACT	● What impacts did the project have on the population, health services, and community structures? ● Who participated in decision-making processes? ●Were there any unintended positive or negative impacts arising from particular outcomes?	
SUSTAIN-ABILITY	● Was the approach used likely to ensure a continued benefit and/or use of the outputs and outcomes after the end of the project in particular countries? Why/ Why not? ● Supported activities, financial resources, training, data management materials ● Levels of stakeholder participation ● Country resources ● Other donors	
LESSONS LEARNED	**Lessons learned from the project structure:** ● Were management structures (human resources, financial management, etc.) handled in a sound manner? What was learnt? ● Were the decision-making structures adequate? ● Were sound processes used for monitoring, reporting and assessment? *Lessons learned regarding project strategic approach:* ● Stakeholder involvement? ● Partnerships formed? ● Operational strategies used in implementation? ● Lessons learned regarding the initial assumptions and hypothesis made during project design: ● Degree of project financial and technical support ● It the project were to be redesigned, what would be done differently?	
TIMELINESS	● Was assistance provided in a timely manner? ● Arrival of medicines in a timely manner? ● Training done before distribution? ● Work plans and reports on time? ● Medicines arrived and MDA distribution in a manner? ● Morbidity control activities done as scheduled?	
PARTNER-SHIPS	NGOs MOHs—doing their part Other implementing partners	
SurveyMonkey		
French and English versions	Key functions of the NTD program and support provided to countries	

ANNEX 4. SOURCES OF INFORMATION

Persons met in Cameroon	
Name	**Position**
Nko Ayissi Georges	NTD Program Director MOH
Biholong Benjamin Didion	NTD Program, Oncho/LF
Louis-Albert Tchuem Tchuente	NTD Program, Schisto, STH
Bella Assumpta Lucienne	BTD Program, Trachoma
Hendji Mechel	HKI Country Director
Joseph Enyegue Oye	SightSavers Country Director
Joseph Kamgno	Director CRFilMT
Wirba Joseph Kun	District Health Director, Ngog Mapubi
Dr. N Nomzo	WHO NPD

Persons met in Burkina Faso	
Name	**Position**
Fanny Yago Wiennne	HKI, Country Director
Jean Paul Djiatsa	HKI
Banba Issouf	HKI MMDP Project
Nare Dieudonne	HKI
Bakari Traore	USAID
Jennifer Somtore	USAID
Chantal Kambire	WHO NPD
Kabore Martin	NTD Program MOH
Ouedraogo W. Mathias	NTD Program MOH
Kabre Catherine	NTD Program MOH
Ouedraogo Micheline	NTD Program MOH
Nassa Christophe	NTD Program MOH
Kima Apolimaise	NTD Program MOH
Compaore Justin	NTD Program MOH
Coulibaly Issiaka Valentin	NTD Program MOH
Ouedraogo Hamado	NTD Program MOH
Serne Mamadou	NTD Program MOH
Pitroipa Zavier	NTD Program MOH
Bougma Roland	NTD Program MOH
Yameogo Franceline	NTD Program MOH
Drabo Francois	NTD Program MOH (Head of Department)
Sawadogo Christine	NTD Program MOH
Zongo Dramane	IRSS (research)
Ouedraogo Sylvin	IRSS (Director)
Bricaba Brice	DLM (Director)
Richard Karama	Regional Director, MOH Boucle du Mouhoun
Ouatara Soumala	MOH Boucle du Mouhoun
Karama Robert	MOH Boucle du Mouhoun

Persons met in Ghana	
Name	***Position***
Dr. Badu Sarkodie	GHS
Dr. Nana Kwadwo Biritwum	GHS/NTD Head
Dr. Joseph Koroma	FHI Regional
Dr. Ernest Mensah	FHI
Dr. Elizabeth Elhassan	SightSavers Regional
Mr. David Agyemang	SightSavers
Dr. Sally-Ann Ohene	WHO
Dr. Badu Sarkodie	GHS
Odame Asiedu	GHS/NTD
Emanuel Nyarko	GHS/NTD
Abednego Yeboah	GHS/NTD
Bright Alomatu	GHS/NTD
Paul Yipkotey	GHS/NTD
Edward Tei Hervie	GHS/NTD

Persons met in Haiti	
Name	**Position**
Dr. Luula Mariano	IMA World Health, Country Director
Dr. Franck Monestime	IMA World Health, NTD Program Manager
Dr. Carl Renand Fayette	IMA World Health, NTD Coordinator
Dr. Jean-Frantz Lemoine	MOH, Coordinator, LF/Malaria Program
Dr. Anne Marie Desormeaux	MOH, Directorate of Family Health
Dr. Joseph Erold	Ministry of Education, Director, Directorate of School Health

Persons Met in Uganda	
Name	**Position**
8 August 2016	
Ambrose Onapa	Technical Officer
Benjamin BINAGWA	Country Director
Stella Agunyo	Program Officer
Dr. Wondimagegnehu Alemu	WR
Dr. Miriam Nanyunja	WHO Disease Prevention and Control Advisor and Cluster Leader
9 August, 2016	
Edridah Muheki Tukahebwa	Acting Asst. Commissioner Health Services-Vector Control
Tom Lakwo	Program Manager Oncho Control Programme
Patrick Turyaguma	Trachoma Elimination Program MOH
Narcis Kabatereine	Consultant SCI
10 August 2016	
Moses Katabarwa	Epidemiologist, Carter Center
Peace Habomugisha	Country Representative, TCC
Johnson Ngorok	Country Director, Sightsavers
11 August 2016	
Patrick K. Tusiime	Commissioner Health Services National Disease control

Persons Met in Uganda	
Name	**Position**
Diana J. Harper	Senior Evaluation and Program Advisor, USAID/Washington
Gloria Sebikaari MD, MPH	Program Management Specialist- Malaria USAID, Uganda Mission
12 August 2016	
Dr. Elly K. Tumushabe	District Medical Officer, Mukono District
Christine Adyedo	District Environmental Health officer
David Metom	Resident District Commisioner, Mokono
Stephen Mufuwa	Vice Chair person
Andrew SSenyouga	Chairperson
Rev. Kinru Yosamu	Headmaster, Katosi School
Richard Wasswa	Teacher, Katosi School
Francis Wamunyelele	Teacher Katosi School
Sarah Nakayenga	Teacher Katosi School

Persons met in Tanzania	
Name	**Position**
15 August 2016	
Boniphace Idindili	Program Manager, IMA/Envision
Luke King	Country Director IMA
Romanus Juma	Finance Manager, IMA
Upendo Mwingira	Program Manager, NTD CP
Georgina Msemo	Acting Director of Preventive Services, Ministry of Health and Social Welfare
Alphoncina Nanai	NP WHO Office—NTD Prevention and Control
16 August 2016	
Andreas Nshala	Senior Technical Advisor, NTD-M&E
Maria Chikawa	NTD Programme Officer, LF
Edward Kirumbi	NTD Programme Officer-Trachoma
Oscar Kaitaba	NTD Program Officer, Oncho
Jeremiah Ngondi	NTD Technical Advisor, RTI
17 August 2016	
Ludamila Mgalula	NTD Officer, Bagamoyo
Bonaventure Sactamilwa	District Health Secretary, Bagamoyo District

Persons met in Nepal	
Name	**Position**
22 August 2016	
Dharmapal Prasad Raman	Resident Program Advisor, NTD Envision
Deepti Bhattarai	Finance and Grants Manager, Envision
Achut Ojha	Program Manager Envision
Dr. Bhim Acharya	Director, EDCD, DoHS, MoH
Tulsi Ram Adhikary	NTD Focal Person, EDCD
23 August 2016Badri Jnawali	Section Chief, Planning, Surveillance and Research
Sailesh Mishra	Program Director, NNJS
Shekhar Sharma	Trachoma Focal Person (Admin/Finance Manager) NNJS
Giriraj Mani Subedi	Director, Child Health Division

Persons met in Nepal	
Name	**Position**
Uttam Acharya	Technical Coordinator, Child Health Division, Nutrition Section
Mahendra Prasad Shrestha	Chief of the Policy and Planning, and International Coordination Division, MoH
Basu Dev Pandey, MD, PhD	Deputy Director, General Department of Health Services, Ministry of Health
24 August	
Thalak Nath Sharms	District Health Officer, Lalitpur
Indira Bhandari	District Malaria Officer
Ram Naresh Mahat	Lele Primary Health Center, Senior Community Health Worker
Durga, KC	Assistant Nurse Midwife, Bhardeu HP
Krishan Chandra Karcki	Teacher, Saraswali Higher Secondary School Lele, Lalitpur
Sishil Khanal	Teacher, Saraswali Higher Secondary School Lele, Lalitpur
25 August 2016	
Dr. Padam Bahadur Chand,	NTD Control Secretariat, MoH
Dr. Prakash Ghimire	NPO, Malaria and VBD. WHO Office , Nepal
Dr. Keshav Kumar Yogi	NPO, NTDs, WHO Office, Nepal
26 August 2016	
Shandra Stseimer MPH	Office of Health and Education
Pragya Shresta	Office of Health and Nutrition
Mr. Chetnath Sharma,	Deputy Director, School Health and Nutrition Focal Person, Department of Education

Interviews in Geneva	
Name	**Position**
Dirk Engels	Director, Department of NTDs
Gautam Biswas	Coordinator Preventive Chemotherapy & Transmission Control, Dept. NTD
Amadou Garba Djirmay	Scientist, Schistosomiasis, Dept. PCT
Antonio Montresor	Medical Officer (STH) Dept. PCT
Pamela Mbabazi	Medical Epidemiologist

Stakeholder In-Depth Interviews/Conversations

Name	Organization
Frank Richards	Carter Center
LeAnn Fox	CDC
David Addiss	Children Without Worms (CWW)
Delna Ghandi	DfID
Sarah Craciunoiu	ENVISION/IMA
Bolivar Po	FHI360 END Africa
Andy Wright	GSK
Mark Bradley	GSK
P.J. Hooper	ITI
Danny Haddad	ITI
"Bill" William Lin	J&J
Charles Mackenzie	Liverpool School of Trop Med
Adrian Hopkins	Mectizan Donation Program (MDP)
Ken Gustavsen	Merck
Pat Lammie	NTD Support Center
Eric Ottesen	NTD Support Center
Phil Downs	RTI
Amy Doherty	RTI
Richard Reithinger	RTI
Amy Doherty	RTI
Lisa Rotondo	RTI Deputy Technical Director
Alan Fenwick	SCI
Simon Bush	Sightsavers
Elizabeth El Hassan	Sightsavers (Regional Accra)
Julie Jacobson	Technical advisor
Violetta Yevstigneyeva	USAID
Darin Evans	USAID Sr. Technical Advisor
Emily Wainwright	USAID Team Lead
Tom Unnasch	USF
Dirk Engels	WHO
Gautam Biswas	WHO
Garba Djirmay	WHO
Antonio Montresor	WHO
Pamela Mbabazi	WHO

ANNEX 5. TOOLS DEVELOPED FOR THE NTD PROGRAM

ENVISION-SUPPORTED TOOLS AND RESOURCES				
NTD Control Program and ENVISION Tools and Resources				
NTD Toolbox – Your resource for key planning and implementation tools to help prevent NTDs: https://www.ntdenvision.org/toolbox				
ENVISION-supported NTD tool resources	Collaborator	Languages in addition to English	Effort to focus on ENVISION countries only (E)/ Global (G)	Target audience
PLANNING NTD PROGRAMS				
Training: WHO Integrated NTD Programme Managers' Course	WHO	Fr, Pr	G	MOH National program managers
Training: WHO District-level NTD Programme Management	WHO	Fr	G	MOH District
Tool for Integrated Planning and Costing (TIPAC): To facilitate MOH with planning inc. drug ordering and estimating costs and funding gaps	WHO	Fr, Pr, Bh, Sp	G	MOH National program managers
Video: TIPAC overview	WHO	Fr	G	MOH National program
User Guide: Tool for Integrated Planning and Costing	WHO		G	MOH National program
Advocacy Booklet (Country Example: Uganda)	Uganda MOH		E	MOH National program
MANAGING MDAs				
Serious Adverse Events Handbook	The Taskforce for Global Health, WHO	Fr, Pr	G	MOH National Program managers
Training: Serious Adverse Events Course			G	MOH National Program
Webinar: Serious Adverse Events		Fr	G	MOH Level
Serious Adverse Events Job Aid Packet	WHO		G	MOH National, District
Data for Action Guide			E	MOH National
MDA Preferred Practices Guide			E	MOH National, District
Supervisory Monitoring Forms			E	MOH All Levels
Social Mobilization Planning Guide	Sightsavers		E	MOH National
Drug Stock Call Guide			G	In Pilot Training Phase
Webinar: Completing the WHO Joint Application Package for NTDs	WHO		G	MOH National
Webinar: Preparation, Implementation and Evaluations: Lessons Learned in Haiti, Benin and Burkina Faso		Fr	G	MOH National
IMPACT ASSESSMENTS and SURVEILLANCE				
Video Training: How to Use the Alere Filariasis Test Strip	WHO, CDC	Fr, Pr, Bh	G	MOH LF National Program managers and laboratory staff
Training: WHO Transmission Assessment Survey TAS Training	WHO, CDC	Fr	G	MOH LF National Program managers and laboratory staff
WHO Improving TAS Outcome Checklists for Programmes	WHO		G	MOH LF National Program
WHO LF dossier template	WHO		G	MOH LF National Program managers
LF Disease-specific Assessments Job Aid	WHO		G	MOH LF National Program managers
Trachoma Disease-specific Assessments Job Aid	WHO		G	MOH Trachoma National Program managers
Oncho Disease-specific Assessments Job Aid	WHO		G	MOH Onchocerciasis/NTD National Program managers
DATA MANAGEMENT and M&E				
USAID's Disease and Program Workbooks		Fr, Pr	E	ENVISION staff only
USAID's NTD Database		Fr	E	ENVISION and USAID staff only
WHO Integrated NTD Database	WHO, APOC, CNTD	Fr, Pr, Bh	G	MOH National Program Managers and M&E Manager
Training – Integrated NTD Database Course	WHO	Fr, Pr	G	MOH M&E staff
Data Quality Assessment (DQA)	WHO	Fr	E/G	MOH National Program Managers and M&E Manager
Webinar: Assessing MDA coverage: Are we getting the coverage we need?			G	MOH National Program managers and M&E staff
Calculating Coverage Job Aid	WHO		G	MOH national program managers and M&E manager
Independent MDA monitoring	Led by HKI		E	In Pilot Training Phase
Coverage Supervisory Tool (CST)	Taskforce, WHO	Fr	E	In Pilot Training Phase
Dashboard	USAID		-	In Development
Online Mapping Tool	USAID		-	In Development
Coverage Survey + KAP Questionnaire	Taskforce, WHO		E	MOH National Program Managers and M&E manager
Tropical Data	ITI, WHO, Sightsavers		G	
MOOC: Eliminating Trachoma Course	LSHTM, WHO		G	

Bh: Bahasa Fr: French Pr: Portuguese Sp: Spanish

ANNEX 6. ONLINE SURVEY RESULTS AND QUESTIONNAIRE

This online survey was sent to a list of persons working with the USAID NTD Program in 26 countries. Responses were received from 22 countries.

Overview: Response to the USAID NTD Program Evaluation Survey

- Email invitations were sent via SurveyMonkey to the participants for this survey between January 3 and 7, 2017.
- All responses were collected on the 21st of January 2017.
- A total of 202 invitations were sent by email; 186 emails were delivered and 16 emails were not delivered.
- The English language questionnaire was sent t 99 people, while 103 people received the French language questionnaire.
- Of the 99 invitations sent to the English respondents, there were 44 responses, 4 participants opted out, and 8 emails were not delivered.
- Of the 103 invitations sent to the French respondents, there were 22 responses, 5 participants opted out, and 8 emails were not delivered.
- The participants in this survey were based in 21 countries spanning three continents: Africa, Asia, and North America.
- The response rate from the participants in the English questionnaire (participants were mostly from Anglophone countries) was 48.4% (44 out of 91).
- The response rate from the participants in the French questionnaire (participants were mostly from francophone countries) was 23.2% (22 out of 95).
- The total response rate from the participants in this survey was 33.33% (62 out of 186).

Response by Country

Country	Number	% of total
Uganda	5	8.1
Ethiopia	2	3.2
Tanzania	6	9.7
Mozambique	1	1.6
Benin	1	1.1
Ghana	6	9.7
Burkina Faso	6	9.7
Côte d'Ivoire	4	6.5
Cameroon	6	9.7
Mali	1	1.6
Niger	3	4.8
Senegal	1	1.6
Nigeria	3	4.8
Togo	1	1.6
Bangladesh	1	1.6
Indonesia	1	1.6
Nepal	6	9.7
Haiti	3	4.8
Philippines	2	3.2
Cambodia	1	1.6
Vietnam	2	3.2
Total	62	99.4%

The following pages are the data collected, both quantitative and qualitative, from the online survey. In some cases, responses have been edited slightly to correct improper spellings or punctuation. Note that data for questions 20 and 21 indicate that respondents may have had technical difficulties in responding to the questions.

This is a survey of the USAID NTD program being conducted by a team of independent evaluators to help understand the experiences and perceptions of those working with the USAID NTD program over the past 5-10 years. We may have talked with you in person, but we would appreciate hearing from all stakeholders using this standard survey format. The survey is anonymous and does not request any personal information. You are encouraged to answer all questions as possible, and are given the opportunity to add additional brief comments should you wish. Should you wish to take this survey in French, please send us an email to request the link. Thank you for your assistance in improving the understanding of past and current efforts as a platform for planning a better future for NTD elimination and control. Your feedback is important.

Section A

Please provide the following information on your work in the country where you work

1. My work is based in

- ( ) West, Central Africa
- ( ) East, Southern Africa
- ( ) Asia
- ( ) Other (please specify)

2. I am employed by

- ( ) USAID, DfID, other bilateral donor country
- ( ) International Organizations like WHO, Unicef
- ( ) Endemic Country National Government
- ( ) International NGO or Implementing Partner
- ( ) Endemic Country National NGO

3. The USAID NTD project where I am based works with

Section B

Please check/tick the box of the response that most closely matches your thoughts and opinions.

4. How important for the achievement of NTD goals has the integration of NTD control programs into one coordination/management unit been in the country you work in?

- ◯ Not at all important
- ◯ Not too important
- ◯ Uncertain
- ◯ Important
- ◯ Very Important

Comments/or details about your answer

5. In many endemic countries that use mass drug administration (MDA). NTDs have been integrated into one national control program unit. If this was done in your country, has this integration resulted in..

- ◯ No synergy contributing to success
- ◯ little Synergy and contribution to success
- ◯ Some synergy and contribution to success
- ◯ Much synergy and contribution to success
- ◯ Uncertain, not applicable

Comments/or details about your answer

6. How important for the long term success of NTD goals do you think the integration or coordination with other health and development efforts or sectors like MCH, WASH, PHC, Education?

- ◯ Not at all important
- ◯ Not too important
- ◯ Uncertain
- ◯ Important
- ◯ Very important

Comments/or details about your answer

7. In the case where most or all endemic MDA NTD programs coordinate with other health and development efforts like MCH, WASH, PHC,and Education has the control program results been enhanced?

- ◯ No result/effect
- ◯ A little enhancement
- ◯ Uncertain/not applicable
- ◯ Somewhat enhanced
- ◯ Much enhanced

Comments/or details about your answer

8. How successful is the current method of commodity/drug procurement for NTD programs through donation programs and the Joint Application for obtaining the medicines needed for distribution in a timely manner?

- ( ) Ineffective and inefficient
- ( ) Somewhat ineffective and inefficient
- ( ) Uncertain
- ( ) Effective and Efficient
- ( ) Very Effective and efficient

Comments/or details about your answer

9. Has USAID NTD program support played a useful role in improving the capacity of national NTD programs in requesting and receiving adequate and timely drug supplies for their MDAs?

- ( ) Not useful
- ( ) Little use
- ( ) Uncertain
- ( ) A useful role
- ( ) Very useful role

Comments/or details about your answer

10. Has USAID NTD program support played a useful role in improving the capacity of national NTD programs in seeking and receiving adequate and timely drug supplies for their MDAs?

- Not useful
- Little use
- Uncertain
- A useful role
- Very useful role

Comments/or details about your answer

11. Has USAID NTD program support played a useful role in improving the capacity of national NTD programs in managing and distributing drugs once they arrive in the country?

- Not useful
- Little use
- Uncertain
- A useful role
- Very useful role

Comments/or details about your answer

12. How much has USAID NTD efforts contributed to NTD program management capacity building at the national level?

- ( ) Not at all
- ( ) Somewhat
- ( ) Uncertain
- ( ) Good contribution
- ( ) Great contribution

Comments/or details about your answer

13. How much has USAID NTD efforts contributed to program management capacity building at the subnational or district levels?

- ( ) Not at all
- ( ) Somewhat
- ( ) Uncertain
- ( ) Good contribution
- ( ) Great contribution

Comments

14. In which areas have the USAID NTD program contributed to capacity building? Please tick all that apply.

- [ ] Improved monitoring, evaluation and reporting capacity
- [ ] Enhanced surveillance skills
- [ ] Greater program planning ability
- [ ] Better coordination with partners and related programs
- [ ] Laboratory capacity
- [ ] Financial planning
- [ ] No particular contribution to capacity building
- [ ] Please mention others you have experienced

15. How effective has the USAID NTD program been in communicating among partners and the wider health/development community about its goals and accomplishments at the national level in your country ...

- ( ) Not at all effective
- ( ) Somewhat
- ( ) Uncertain
- ( ) Effective
- ( ) Very Effective

Comments/or details about your answer

16. How useful has USAID support been to effective, inclusive and comprehensive annual planning processes for NTD programs in your country?

- Not at all useful
- Somewhat useful
- Uncertain
- Useful
- Very useful contribution

Comments/Explain your answer

17. How well coordinated and harmonized is the USAID-support to the annual NTD planning processes.

- Often at odds with national processes
- Not well coordinated and harmonized
- Uncertain
- Coordinated and harmonized
- Very Well coordinated and harmonized
- Comments/or details about your answer

18. USAID NTD program planning and national NTD programming could be better coordinated and by … (tick all that are relevant)

- [ ] improved communication between USAID implementing partners and national program leadership and staff
- [ ] more openness about prioritizing and budgeting processes support for national programs
- [ ] better continuity between the different project fiscal years
- [ ] stronger support for the data collection process
- [ ] stronger support for management of the national NTD database
- [ ] seconding of more NGO or consultant staff to the national NTD program
- [ ] better communication with the NTD stakeholders in my country
- [ ] or no problems in coordination at present

19. How well do Global/WHO NTD goals align with national priorities in the country where you work?

- ( ) Not aligned
- ( ) Somewhat
- ( ) Uncertain
- ( ) Adequately Aligned
- ( ) Fully aligned

Comments/or details about your answer

20. Consider the following program areas and indicate how well the USAID NTD program has supported the national NTD program in these specific activities …

	Not well supported	Uncertain	Well supported
Aligning with 2020 Goals	○	○	○
Setting & achieving coverage targets	○	○	○
Designing and implementing key strategies	○	○	○
Advocating for national financial commitment	○	○	○
Achieving capacity building targets	○	○	○
Developing and implementing a strong monitoring and evaluation system	○	○	○

Comments/or details about your answer

21. How well has the USAID NTD support contributed to timely and accurate NTD M&E systems including reporting, data flow, data ownership, data use?

	Not much contribution	Uncertain	Important Contribution
Timely data submission from field to National level	○	○	○
Accurate data at all levels	○	○	○
Using data for decision making	○	○	○
Ensuring national program access to all data	○	○	○
Using data to formulate accurate and adequate drug requests/applications	○	○	○
Providing feedback to WHO and partners	○	○	○
Determining the need for TAS and requesting this	○	○	○
Reporting to WHO	○	○	○

Comments/or details about your answer

22. How well has the USAID NTD effort strengthened national leadership for NTD programming in the country where you work?

- ○ Very little - the implementing partner takes main leadership roles
- ○ There is little encouragement for national leadership
- ○ Uncertain
- ○ National leadership encouraged by USAID program efforts
- ○ National leadership strongly encouraged by USAID program efforts

Comments/or details about your answer

23. How would you evaluate the following parts of the USAID-NTD program?

	Major Shortcoming	Less Effective	Uncertain	Effective	Most Effective
Promoting integrated programming					
Building local capacity					
Developing tools for planning					
Strengthening M&E Systems					
Promoting Strong Partnerships					
Enhancing local leadership, ownership					

Please add Comments to explain your answers above

Section C

* 24. Please provide any specific recommendations you have for the USAID NTD program?

ANNEX 7. DISCLOSURE OF ANY CONFLICT OF INTEREST

GLOBAL HEALTH PROGRAM CYCLE IMPROVEMENT PROJECT

USAID NON-DISCLOSURE AND CONFLICTS AGREEMENT

USAID Non-Disclosure and Conflicts Agreement- Global Health Program Cycle Improvement Project

As used in this Agreement, Sensitive Data is marked or unmarked, oral, written or in any other form, "sensitive but unclassified information," procurement sensitive and source selection information, and information such as medical, personnel, financial, investigatory, visa, law enforcement, or other information which, if released, could result in harm or unfair treatment to an individual or group, or could have a negative impact upon foreign policy or relations, or USAID's mission.

Intending to be legally bound, I hereby accept the obligations contained in this Agreement in consideration of my being granted access to Sensitive Data, and specifically I understand and acknowledge that:

1. I have been given access to USAID Sensitive Data to facilitate the performance of duties assigned to me for compensation, monetary or otherwise. By being granted access to such Sensitive Data, special confidence and trust has been placed in me by the United States Government, and as such it is my responsibility to safeguard Sensitive Data disclosed to me, and to refrain from disclosing Sensitive Data to persons not requiring access for performance of official USAID duties.
2. Before disclosing Sensitive Data, I must determine the recipient's "need to know" or "need to access" Sensitive Data for USAID purposes.
3. I agree to abide in all respects by 41, U.S.C. 2101 - 2107, The Procurement Integrity Act, and specifically agree not to disclose source selection information or contractor bid proposal information to any person or entity not authorized by agency regulations to receive such information.
4. I have reviewed my employment (past, present and under consideration) and financial interests, as well as those of my household family members, and certify that, to the best of my knowledge and belief, I have no actual or potential conflict of interest that could diminish my capacity to perform my assigned duties in an impartial and objective manner.
5. Any breach of this Agreement may result in the termination of my access to Sensitive Data, which, if such termination effectively negates my ability to perform my assigned duties, may lead to the termination of my employment or other relationships with the Departments or Agencies that granted my access.
6. I will not use Sensitive Data, while working at USAID or thereafter, for personal gain or detrimentally to USAID, or disclose or make available all or any part of the Sensitive Data to any person, firm, corporation, association, or any other entity for any reason or purpose whatsoever, directly or indirectly, except as may be required for the benefit USAID.
7. Misuse of government Sensitive Data could constitute a violation, or violations, of United States criminal law, and Federally-affiliated workers (including some contract employees) who violate privacy safeguards may be subject to disciplinary actions, a fine of up to $5,000, or both. In particular, U.S. criminal law (18 USC § 1905) protects confidential information from unauthorized disclosure by government employees. There is also an exemption from the Freedom of Information Act (FOIA) protecting such information from disclosure to the public. Finally, the ethical standards that bind each government employee also prohibit unauthorized disclosure (5 CFR 2635.703).
8. All Sensitive Data to which I have access or may obtain access by signing this Agreement is now and will remain the property of, or under the control of, the United States Government. I agree that I must return all Sensitive Data which has or may come into my possession (a) upon demand by an authorized representative of the United States Government; (b) upon the conclusion of my employment or other relationship with the Department or Agency that last granted me access to

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Sensitive Data; or (c) upon the conclusion of my employment or other relationship that requires access to Sensitive Data.

9. Notwithstanding the foregoing, I shall not be restricted from disclosing or using Sensitive Data that: (i) is or becomes generally available to the public other than as a result of an unauthorized disclosure by me; (ii) becomes available to me in a manner that is not in contravention of applicable law; or (iii) is required to be disclosed by law, court order, or other legal process.

ACCEPTANCE

The undersigned accepts the terms and conditions of this Agreement.

Signature Date 17JAN 2016

Name GILBERT M. BURNHAM Title PROFESSOR

GH Pro

Global Health Program Cycle Improvement Project

Global Health Program Cycle Improvement (GH Pro) Project
NON-DISCLOSURE STATEMENT

Assignment Number/Name: GH Pro #185: NTD Program Evaluation

I certify that I, GILBERT BURNHAM will not discuss with, or reveal to, any representative of any business organization or other entity, or any individual person (except persons specifically assigned to my specific proposal evaluation group) either within or without the United States Government, any aspects of the pending procurement.

The term "any aspects of the pending procurement" includes, but is not limited to, information such as the identity and number of applicants, the method of procurement, the number and identity of Government personnel involved, and the schedule of key technical and procurement events in the source selection process. Except as specifically authorized by the Agreement Officer, the release of such information constitutes the unauthorized release of advance procurement or procurement information.

The term "any aspects of the pending procurement" also includes but is not limited to, information dealing with the development and/or design of the procurement, its corresponding RFP/RFA/IDIQ, and information on the evaluation of another procurement that is/may be relevant to or influenced by the development and/or design of said procurement.

I recognize that a significant factor in the success and proper completion of the source selection process is the strict confidentiality observed by all Government participants in the various proposal evaluation and evaluation review groups concerning all of the activities and procedures involved in source selection and that failure to comply with these requirements may compromise the ultimate source selection. I acknowledge that the unauthorized release of advance procurement or procurement information as defined herein may result in the termination of my participation in this procurement.

In the event I have released any of the advance procurement or procurement information covered hereby, I agree to advise the technical panel chair of the proposal evaluation or proposal evaluation review group to which I am assigned as soon as practicable. That advice will identify the business organization or other entity, or individual person, to whom the information in question was divulged and the content of that information.

DATE: 15 JUNE 2016

NAME: GILBERT BURNHAM

SIGNATURE: GILBERT BURNHAM

GH Pro

Global Health Program Cycle Improvement (GH Pro) Project
NON-DISCLOSURE STATEMENT

Assignment Number/Name: GH Pro #185: NTD Program Evaluation

I certify that I, William R. Brieger, will not discuss with, or reveal to, any representative of any business organization or other entity, or any individual person (except persons specifically assigned to my specific proposal evaluation group) either within or without the United States Government, any aspects of the pending procurement.

The term "any aspects of the pending procurement" includes, but is not limited to, information such as the identity and number of applicants, the method of procurement, the number and identity of Government personnel involved, and the schedule of key technical and procurement events in the source selection process. Except as specifically authorized by the Agreement Officer, the release of such information constitutes the unauthorized release of advance procurement or procurement information.

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DATE: 15 June 2016

NAME: William R Brieger

SIGNATURE: William R Brieger

For more information, please visit

http://ghpro.dexisonline.com/reports-publications

Global Health Program Cycle Improvement Project
1331 Pennsylvania Avenue NW, Suite 300
Washington, DC 20006
Phone: (202) 625-9444
Fax: (202) 517-9181
http://ghpro.dexisonline.com/reports-publications