The NTD Control Program, led by RTI International, was made possible by the generous support of the American People and USAID under Cooperative Agreement No. GHS-A-00-06-00006-00. The author’s views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.
ACKNOWLEDGMENTS

Many groups and individuals have contributed to the achievements made in NTD control over the course of this project. We would like to recognize and thank our grantees and their country staff for their support of the national NTD programs with which we worked. These include IMA World Health in Haiti and Tanzania; Health and Development International in Togo; Helen Keller International in Cameroon, Mali and Sierra Leone; International Trachoma Initiative in Ghana and Mali; the Malaria Consortium in South Sudan; the Schistosomiasis Control Initiative, Imperial College, London in Burkina Faso and Niger; and World Vision in Ghana. We would also like to recognize RTI country staff members who supported national NTD programs in Indonesia, Nepal and Uganda.

We also appreciate the many groups we collaborated with globally and at country level, including our friends and colleagues at the World Health Organization Department of Control of NTDs, Liverpool Associates in Tropical Health, The Task Force for Global Health, The Centre for Neglected Tropical Diseases at the Liverpool School of Tropical Medicines and Health, Sightsavers International and many others.

Most importantly, we want to recognize the substantial achievements of the host governments with which we worked and the countless program managers, health officials, teachers and community volunteers working every day to improve the health of their communities, who supported NTD control and elimination efforts. Your dedication inspires us to continue these efforts and realize the goals for NTD control and elimination.

In recognition for their leadership and vision in guiding the NTDCP towards success, we give sincere thanks to Christy Hanson, Agreement Officer Representative, USAID (2006-2010); Angela Weaver, Agreement Officer Representative, USAID (2010-2012); Alan Fenwick, Project Director (2006); Barbara Kennedy, Interim Project Director (2007); Jean Shaikh, Project Director (2007-2008); Mary Linehan, Operations Director (2006-2010) and Eric Ottesen, Project Director (2009-2012).

In the compiling of this report, we thank Jennifer Leopold, Stephanie Foerster, Katie Zoerhoff, Lisa Rotondo, Robyn Kerr, Katie Crowley, Philip Downs, Molly Brady, Achille Kabore, Kalpana Bhandari, Hannah Frawley, Ruth Yohannes, Margaret Davide-Smith, and Amy Doherty.

RTI International is one of the world’s leading research institutes, dedicated to improving the human condition by turning knowledge into practice. Our staff of more than 2,800 provides research and technical services to governments and businesses in more than 40 countries in the areas of health and pharmaceuticals, education and training, surveys and statistics, advanced technology, international development, economic and social policy, energy and the environment, and laboratory testing and chemical analysis. For more information, visit www.rti.org
# LIST OF ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALB</td>
<td>Albendazole</td>
</tr>
<tr>
<td>APOC</td>
<td>African Programme for Onchocerciasis Control</td>
</tr>
<tr>
<td>APS</td>
<td>Annual program statement</td>
</tr>
<tr>
<td>CDD</td>
<td>Community drug distributor</td>
</tr>
<tr>
<td>CDTI</td>
<td>Community directed treatment with ivermectin</td>
</tr>
<tr>
<td>CMD</td>
<td>Community medicines distributor</td>
</tr>
<tr>
<td>CNTD</td>
<td>Centre for Neglected Tropical Diseases</td>
</tr>
<tr>
<td>DEC</td>
<td>Diethylcarbamazine</td>
</tr>
<tr>
<td>DFID</td>
<td>Department for International Development</td>
</tr>
<tr>
<td>DNS</td>
<td>National Directorate of Health (Mali)</td>
</tr>
<tr>
<td>DPLM</td>
<td>Division Of Disease Control and Prevention</td>
</tr>
<tr>
<td>FGAT</td>
<td>Funding gap analysis tool</td>
</tr>
<tr>
<td>FHI360</td>
<td>Family Health International 360</td>
</tr>
<tr>
<td>FY</td>
<td>Fiscal year</td>
</tr>
<tr>
<td>GAELF</td>
<td>Global Alliance to Eliminate Lymphatic Filariasis</td>
</tr>
<tr>
<td>GSK</td>
<td>Glaxo Smith Kline</td>
</tr>
<tr>
<td>HDI</td>
<td>Health and Development International</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HKI</td>
<td>Helen Keller International</td>
</tr>
<tr>
<td>IDM</td>
<td>Intensified Disease Management</td>
</tr>
<tr>
<td>IEC</td>
<td>Information education and communication</td>
</tr>
<tr>
<td>IMA</td>
<td>International Medical Alliance</td>
</tr>
<tr>
<td>ITI</td>
<td>International Trachoma Initiative</td>
</tr>
<tr>
<td>IVM</td>
<td>Ivermectin</td>
</tr>
<tr>
<td>LATH</td>
<td>Liverpool Associates in Tropical Health</td>
</tr>
<tr>
<td>LF</td>
<td>Lymphatic filariasis</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and evaluation</td>
</tr>
<tr>
<td>MBD</td>
<td>Mebendazole</td>
</tr>
<tr>
<td>MDA</td>
<td>Mass drug administration</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MOHP</td>
<td>Ministry of Health and Population</td>
</tr>
<tr>
<td>MOHS</td>
<td>Ministry of Health and Sanitation</td>
</tr>
<tr>
<td>MOHSW</td>
<td>Ministry of Health and Social Welfare</td>
</tr>
<tr>
<td>MSPP</td>
<td>Ministry of Public Health and Population (Haiti)</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organization</td>
</tr>
<tr>
<td>NIMR</td>
<td>National Institute for Medical Research</td>
</tr>
<tr>
<td>NNJS</td>
<td>Nepal Netra Jyoti Sangh</td>
</tr>
<tr>
<td>NTD</td>
<td>Neglected tropical disease</td>
</tr>
<tr>
<td>NTDCP</td>
<td>Neglected Tropical Disease Control Program</td>
</tr>
<tr>
<td>NTP</td>
<td>National Trachoma Program</td>
</tr>
<tr>
<td>OV</td>
<td>Onchocerciasis</td>
</tr>
<tr>
<td>POA</td>
<td>Plan of action</td>
</tr>
<tr>
<td>PC</td>
<td>Preventive chemotherapy</td>
</tr>
<tr>
<td>PELF</td>
<td>Program for the Elimination of Lymphatic Filariasis</td>
</tr>
<tr>
<td>PNLO</td>
<td>National Onchocerciasis Control Program (Mali)</td>
</tr>
<tr>
<td>PZQ</td>
<td>Praziquantel</td>
</tr>
<tr>
<td>RFA</td>
<td>Request for application</td>
</tr>
<tr>
<td>ROSS</td>
<td>Republic of South Sudan</td>
</tr>
<tr>
<td>SCH</td>
<td>Schistosomiasis</td>
</tr>
<tr>
<td>SCI</td>
<td>Schistosomiasis Control Initiative</td>
</tr>
<tr>
<td>SSGWEP</td>
<td>South Sudan Guinea Worm Eradication Program</td>
</tr>
<tr>
<td>STAG</td>
<td>Strategic and Technical Advisory Group</td>
</tr>
<tr>
<td>STH</td>
<td>Soil-transmitted helminths</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>TIPAC</td>
<td>Tool for Integrated Planning and Costing</td>
</tr>
<tr>
<td>TAS</td>
<td>Transmission assessment survey</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>VCD</td>
<td>Vector Control Division</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
1. BACKGROUND
1. BACKGROUND

Of the world’s poorest 2.7 billion people, more than one billion are affected by one or more neglected tropical diseases (NTD). These diseases not only survive and spread in conditions of poverty, they also exacerbate and perpetuate the poverty of affected communities. NTDs disproportionately impact poor and rural populations who lack access to safe water, sanitation, and essential medicines. They cause sickness and disability, compromise maternal health and fetal growth, inhibit children’s mental and physical development, and can result in blindness and severe disfigurement.

1.1 TOOL-READY NTDs

Among the seventeen most prominent NTDs, seven use a similar strategy to address their control. This strategy employs single doses of effective treatment—termed preventive chemotherapy (PC)—given once or twice yearly to broad segments of the population in endemic areas through ‘mass drug administration’ (MDA). The diseases are: lymphatic filariasis (LF), onchocerciasis, schistosomiasis, trachoma and three soil-transmitted helminth (STH) infections (ascariasis, hookworm, and trichuriasis).

These NTDs are considered “tool-ready”. “Tool-ready” indicates that available treatment and diagnostic tools are sufficiently effective to target these diseases either for elimination or reduction to such low levels that they no longer constitute a significant public health problem.

1. WHO classification includes 17 NTDs: dengue, rabies, trachoma, Buruli ulcer (Mycobacterium ulcerans infection), endemic treponematoses, leprosy (Hansen disease), Chagas disease (American trypanosomiasis), human African trypanosomiasis (sleeping sickness), leishmaniasis, cysticercosis, dracunculiasis (guinea-worm disease), echinococcosis, foodborne trematode infections, lymphatic filariasis, onchocerciasis (river blindness), schistosomiasis (bilharziasis) and soil-transmitted helminthiases.

<table>
<thead>
<tr>
<th>Clinical Background</th>
<th>Lymphatic Filariasis (LF)</th>
<th>Onchocerciasis (River Blindness)</th>
<th>Schistosomiasis (SCH) (Biharzia)</th>
<th>Soil-Transmitted Helminthiasis (STH)</th>
<th>Trachoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is widespread clinical epidemiology that causes radical and disfiguring swelling of limbs and genitals. It is commonly referred to as elephantiasis.</td>
<td>A mosquito-borne parasitic disease of the skin and eyes caused by a filarial worm. The disease causes skin lesions, severe itching and visual impairment, including permanent blindness, and can shorten life expectancy by up to 15 years. It is the second most common infectious cause of blindness, after trachoma.</td>
<td>The parasite is transmitted to humans by penetration of the skin in fresh water. The majority of suffering and deaths is the result of slow damage to the host organs caused by accumulation of and host reaction to parasite eggs in the tissues over many years.</td>
<td>Intestinal worms (hookworm, roundworm and whipworm) transmitted through fecal-oral contamination or through the skin.</td>
<td>Bacterial infection of the eye that, upon repeated infection, causes the eyelids to scar and ultimately turn inward (known as trichiasis). Trachoma, the leading infectious cause of blindness in the world, accounts for approximately 3% of the world’s blindness.</td>
<td></td>
</tr>
<tr>
<td>2020 Target</td>
<td>Global elimination</td>
<td>Control leading to elimination by 2025</td>
<td>Control</td>
<td>Control</td>
<td>Global elimination of blinding trachoma</td>
</tr>
</tbody>
</table>

1.2 HISTORIC DRUG DONATIONS
Perhaps the single most important element that distinguishes these tool-ready NTDs from other NTDs and virtually all other global health programs is the enormous, unprecedented contributions of both drugs and support from the pharmaceutical industry. It began with Merck’s commitment 25 years ago to supply all of the Mectizan® required for onchocerciasis control (and subsequently, LF elimination). A decade later, GSK and Pfizer pledged donations of albendazole and Zithromax®, respectively, for the elimination of LF and blinding trachoma; and after a further decade, both Merck Serono and Johnson & Johnson followed suit with donations of their drugs (praziquantel and mebendazole) for programs targeting schistosomiasis and STH.

GLOBAL DRUG DONATION PROGRAMS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Disease</th>
<th>Manufacturer</th>
<th>Donation and Current Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albendazole (ALB)</td>
<td>Lymphatic filariasis</td>
<td>GlaxoSmithKline</td>
<td>All the ALB needed to eliminate LF worldwide by 2020; program established in 1998.</td>
</tr>
<tr>
<td></td>
<td>Soil-transmitted helminths</td>
<td>GlaxoSmithKline</td>
<td>400M tablets of ALB per year for de-worming school-aged children in endemic countries through 2020; program established in 2010.</td>
</tr>
<tr>
<td>Mectizan® (Ivermectin)</td>
<td>Onchocerciasis, Lymphatic filariasis</td>
<td>Merck &amp; Co. Inc.</td>
<td>All the Mectizan® required to treat onchocerciasis wherever it is needed for as long as it is needed; program began in 1987.</td>
</tr>
<tr>
<td>Praziquantel (PZQ)</td>
<td>Schistosomiasis</td>
<td>Merck KGaA (Merck Serono)</td>
<td>250M tablets of PZQ per year to the WHO for allocation to national schistosomiasis control programs; initiated in 2007.</td>
</tr>
<tr>
<td>Mebendazole (MBD)</td>
<td>Soil-transmitted helminths</td>
<td>Johnson &amp; Johnson</td>
<td>200M doses of MBD per year for treatment of STH in children; program began in 2008.</td>
</tr>
<tr>
<td>Zithromax® (Azithromycin)</td>
<td>Trachoma</td>
<td>Pfizer Inc.</td>
<td>All of the Zithromax® treatments needed to eliminate blinding trachoma in the context of the SAFE strategy by 2020; program established in 1998.</td>
</tr>
</tbody>
</table>

1.3. NEED FOR EXPANDED COVERAGE
Historically, when Ministries of Health in NTD-endemic countries supported any NTD control at all, they did so through independent, often parallel, programs—each maintaining its own planning, funding, drug supply chain, MDA campaign, monitoring, and evaluation. If funding were available for one program, that program might implement PC while its sister programs could not. The result was very little ‘reach’ for almost all NTD programs, making the ultimate goal of NTD control and elimination unattainable for most NTD programs.
1.4. INTEGRATION FOR SCALE-UP

Integration of mass drug delivery presented a clear opportunity for maximizing public resources while also increasing coverage. This is because the tool-ready NTDs shared certain programmatic elements that made them particularly suitable for integrated program implementation:

- Safe and effective drugs that can be effective against more than one disease (for example, ivermectin is used in treatment for LF and onchocerciasis; albendazole is used in treatment for LF and soil-transmitted helminthes);
- Co-endemicity of more than one NTD—in many endemic countries populations are affected by more than three of the seven NTDs;
- Common drug distribution mechanisms (school- or community-based); and
- Annual mass drug distribution strategies that were demonstrated to achieve elimination or control.

The epidemiologic overlap among affected populations, the availability of donated drugs, and the similarity of strategic approaches among individual NTD control programs presented an important opportunity. The programs were ideally suited for implementation not in a parallel, independent fashion, but rather, in an integrated manner where coordinated treatment interventions for multiple diseases could minimize the duplication of effort expended in treating the diseases separately.
1.5. U.S. GOVERNMENT COMMITMENT TO INTEGRATED NTD CONTROL

In November 2005, the United States Congress authorized funding for integrated NTD control. In response to this authorization, USAID designed the Neglected Tropical Disease Control Program (NTDCP), a five-year cooperative agreement, which would test the feasibility of integrated NTD control on a large scale.

Leveraging the generous donations of proven effective treatments for NTDs made by GSK, Johnson & Johnson, Merck, and Pfizer, the NTDCP was designed to provide critical funding and technical support to countries receiving these donated drugs to distribute them effectively and expand treatment to national scale. The original project goal was to support the distribution of 160 million treatments provided to 40 million people in 15 countries over five years. The NTDCP represented one of the first efforts to provide support for integrated treatment for control of NTDs on a large scale.

In September 2006, the United States Agency for International Development (USAID) awarded the NTDCP to Research Triangle Institute (RTI) International3. This report documents the story of this landmark project as well as the accelerated global movement for NTD control and elimination that has resulted from its great success in expanding treatment coverage in NTD endemic countries around the world.

“The conferees are aware that certain neglected diseases cause debilitating illness and disfigurement among hundreds of millions of people in mostly tropical countries, and that medicines exist to either prevent or cure most of these diseases. In section 593, the conference agreement includes a provision similar to a Senate amendment, which provides $15,000,000 for an integrated approach to the control of neglected diseases. The conferees direct USAID to consult broadly to ensure the most effective uses of these funds and develop a multilateral mechanism to implement an integrated initiative to control these diseases, enhance coordination and effectiveness and maximize donor contributions4.”


3. RTI International’s proposal also included Liverpool Associates in Tropical Health (LATH) and the Schistosomiasis Control Initiative (SCI), Imperial College London as supporting partners. LATH continued to support NTDCP activities through 2009. SCI elected to change its role in supporting project management when it determined preference to pursue NTDCP grants in Burkina Faso and Niger.

2. PROJECT OVERVIEW
2. PROJECT OVERVIEW

To achieve the project goal of 160 million treatments to 40 million people in 15 countries over five years, RTI worked to establish grants and coordination mechanisms for a team of NGOs (non-governmental organizations) and implementing partners to support integrated NTD control programs organized and led by the governments of selected countries. The project was intended to build on existing commitments by governments and other donors, and to fill financial and technical gaps that were preventing national programs from reaching full national scale. The project followed four main principles:

- Support and empower national governments to develop integrated NTD control programs embedded, where possible, within existing service delivery platforms and to lead these programs in scaling-up activities to full national levels;
- Provide technical assistance for planning, budgeting, reporting and complying with international standards and guidelines to improve program integration;
- Promote cost-efficiency, improved integration strategies and effective advocacy;
- Assure national ownership, continued commitment and resource mobilization for sustained support for NTD control. 5

Due to the overwhelming success of the approach, the NTDCP surpassed life of project targets in Year 3.

2.1. COUNTRIES SUPPORTED BY NTDCP

The program began working with five “fast track” countries in Africa: Burkina Faso, Ghana, Mali, Niger, and Uganda. These countries were designated as “fast track” because they had already made a strong start toward control of NTDs under a pilot project funded by the Bill and Melinda Gates Foundation and others. Each had unacceptably high burdens of NTDs and geographic overlap of multiple NTDs, and each had demonstrated the flexibility and political will to integrate existing vertical programs. These countries had all identified NTDs as a priority in a national health plan and would commit resources from a national budget. Importantly, the Ministries of Health, with support from this project, would have the capacity and ability to reach at least 2 to 3 million people per year in each country.

As additional resources became available over the life of the project, the NTDCP rapidly expanded beyond these initial 5 countries. In total, support for MDAs and overall NTD program implementation was provided in 13 countries: Burkina Faso, Cameroon, Ghana, Haiti, Indonesia, Mali, Nepal, Niger, Sierra Leone, South Sudan, Tanzania, Togo, and Uganda. Limited assistance was provided in an additional six countries: Bangladesh, Guinea, Mozambique, Philippines, Senegal, and Vietnam.

2.2 USAID’S LARGEST PUBLIC-PRIVATE PARTNERSHIP

Critical to NTDCP success was the commitment of the drug donation programs. The Mectizan Donation Program, Children Without Worms and International Trachoma Initiative together with their pharmaceutical partners, Merck & Co. Inc, GSK, Johnson & Johnson and Pfizer were dedicated to meet the demands of national NTD programs as they expanded to national scale. In the first year of the project, drug donation programs supplied over 36 million tablets of NTD drugs. By Year 5, this had dramatically increased to over 200 million tablets. In total, over $US 3 billion in medicines were donated to country programs working with the NTDCP over the life of the project.

USAID NTD PROGRAM SCALE-UP MATCHED BY DRUG DONATION PROGRAMS

Treatment with Zithromax®, Mectizan®, albendazole, mebendazole, praziquantel, and diethylcarbamazine.
NTDCP assisted national programs to forecast and apply for the drugs needed based on their national scale-up plans, and supported them to progress towards their NTD control and elimination goals. The NTDCP also engaged with drug companies’ drug donation programs at the international level to ensure that their programs had accurate forecasts of drug needs as the NTDCP program expanded and global demand dramatically increased.

2.3 PROJECT SUPPORT
A small Washington D.C. based project staff allowed the NTDCP to allocate approximately 80% of project funds to country programs or procurement of drugs, while 20% or less was used for program management. The program was granted a one-year no-cost extension in 2011. Expenditures by Program Year are provided in Appendix A.

2.3.1 SUPPORT FOR COUNTRY IMPLEMENTATION OF NTD PROGRAMS
The majority of NTDCP resources was dedicated to helping country programs integrate and scale-up mass drug administration (MDA) for the targeted NTDs. Assistance and funding was made available for the full spectrum of activities necessary to implement a national integrated NTD program including strategic planning, policy development, cascaded training in support of MDAs, activities in support of community mobilization, completion of applications for drug donation programs, implementation of MDAs, and a range of monitoring & evaluation activities that included supportive supervision, data collection and reporting, technical assessments, as well as the establishment and monitoring of surveillance sites.

Limited technical assistance. In addition to program implementation support provided in 13 countries, the NTDCP provided short-term assistance in six countries:

- Bangladesh: support for IEC development
- Philippines, Senegal and Vietnam: implementation of the Funding Gap Analysis Tool (FGAT)
- Guinea and Mozambique: disease mapping
2.3.1.1 UTILIZATION OF GRANTS

RTI used grants as its primary mechanism to provide support for country implementation. Over the life of the NTDCP, RTI administered 287 grants (including 274 fixed obligation grants) totaling over $65 million dollars in support of country programs. RTI established systems and procedures to provide full accountability of project funds that comply with USAID regulations, including a transparent and competitive grants application process for integrated NTD control programs worldwide. This process was enhanced and streamlined over several successive rounds of requests for application (RFAs), strengthening the NTDCP’s ability to identify international organizations with the necessary expertise to contribute to the goals of the Program and lead the implementation of country program activities in conjunction with Ministries of Health.

RFAs or Annual Program Statements (APSs) were announced as funding became available. In the Fast Track Countries, the Schistosomiasis Control Initiative (SCI) and the International Trachoma Initiative (ITI) had established country programs. These programs, coupled with governments’ commitment to integrate NTD control efforts, facilitated rapid initial implementation. In September 2007, funding was available to support three more country programs: Haiti, Sierra Leone and South Sudan. At this point, the NTDCP began working with three new non-government organizations: IMA World Health (IMA), Helen Keller International (HKI), and the Malaria Consortium. They were selected to provide NTDCP support in Haiti, Sierra Leone, and South Sudan, respectively. In successive years, additional grants were made in order to continue scaling up the program. HKI received grants to provide support in Cameroone, Guinea, and Mali. Health and Development International (HDI) provided assistance to the NTDCP in Togo, IMA in Tanzania, and World Vision in Ghana. RTI acted as the grantee equivalent in Indonesia, Nepal, and Uganda.
2.3.2. DRUG PROCUREMENT

Most drugs administered with NTDCP support were provided by global donation programs that worked directly with national NTD programs. However, some drugs, PZQ in particular, were not widely available through donation programs. Consequently, the NTDCP began procuring PZQ for national NTD programs where needed in Year 3, as well as lesser quantities of ALB and diethylcarbamazine (DEC). While PZQ was needed in several NTDCP countries, ALB for STH treatment was needed early in the project in just three countries where STH was present and not co-endemic for LF, therefore making these three countries ineligible for ALB donations available at the time. Haiti was the only country where DEC procurements were needed to complement the ALB for treating LF. For countries with coexisting onchocerciasis, donated Mectizan® is given with ALB in targeting LF.

The NTDCP developed a set of practices to ensure the timely availability of adequate quantities of drug packages it procured, monitoring progress toward the expected delivery date of the drugs to the country, and quickly mitigating any issues that could impact on-time delivery.

<table>
<thead>
<tr>
<th>Country</th>
<th># DEC tablets</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haiti</td>
<td>85,400</td>
<td>$305,500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th># PZQ tablets</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>22,700,000</td>
<td>1,513,000</td>
</tr>
<tr>
<td>Cameroon</td>
<td>8,800,000</td>
<td>667,000</td>
</tr>
<tr>
<td>Ghana</td>
<td>8,800,000</td>
<td>566,000</td>
</tr>
<tr>
<td>Guinea</td>
<td>4,200,000</td>
<td>347,000</td>
</tr>
<tr>
<td>Mali</td>
<td>30,400,000</td>
<td>2,030,000</td>
</tr>
<tr>
<td>Niger</td>
<td>14,200,000</td>
<td>899,000</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>8,900,000</td>
<td>568,000</td>
</tr>
<tr>
<td>Tanzania</td>
<td>7,000,000</td>
<td>511,000</td>
</tr>
<tr>
<td>Togo</td>
<td>9,200,000</td>
<td>582,000</td>
</tr>
<tr>
<td>Uganda</td>
<td>11,500,000</td>
<td>732,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>125,800,000</td>
<td>$8,415,000</td>
</tr>
</tbody>
</table>
3. THE NTDCP STRATEGY
3.1. EMPLOYING A COUNTRY-LED APPROACH

Fundamental to NTDCP implementation at the country level was the concept of the ‘country-led approach’. Each national NTD control program determined how best to design its program and implement MDA in accordance with WHO guidelines. This approach led to variations in country implementation strategies in each of the NTDCP-supported countries. Regardless of each country’s approach, the NTDCP worked in support of the Ministry of Health and the national NTD control programs to support the National Strategic Plans for Integrated NTD Control. Under the ‘country-led approach’, the national program leadership (whether that was the NTD Coordinator or multiple disease program managers) was involved in nearly every step of RTI-supported NTDCP implementation, from contributing to NTDCP annual country work plans to leading supportive supervision teams.
3.2. PROMOTING INTEGRATION

When the NTDCP began, many countries had disease-specific control or elimination programs that were able to provide at least some treatments to affected populations. These disease-specific programs, however, competed for scarce resources, often with other NTD programs, and suffered from a lack of attention and funding. Promoted by the WHO, integrated approaches were encouraged as a strategy for maximizing cost-efficiencies and reaching higher proportions of at-risk populations. NTDCP worked with national programs to support approaches best suited to each country’s specific circumstances.

Without prescribing any one formula for ‘integration’, strategies promoting integration included:

- Joint planning to achieve resource efficiencies and learn from vertical program experience
- Support for the development of NTD specific tools
- Coordinated timing of drug delivery and storage
- Joint monitoring and supervision processes

Case Study: Sierra Leone

In 2006, Sierra Leone put in place a National Plan of Action for the integrated management of neglected tropical diseases (NTDs). At that time, NTD control was limited to onchocerciasis control in 12 endemic districts using the community directed treatment with ivermectin (CDTI) approach developed by the APOC. With NTDCP support beginning in 2007, the country was able to map for SCH and STH and develop a wholly integrated NTD program that plans, implements, and monitors activities for control of onchocerciasis, STH, and SCH, and LF elimination in a coordinated manner. Sierra Leone reached national scale for treating all targeted NTDs in 2009 using an integrated approach with NTDCP support.

Case Study: Niger

In Niger, a National Coordinator manages integration activities. This Coordinator is responsible for oversight and coordination for multiple disease programs. These programs, including the national blindness, LF, and SCH/STH programs retain their own offices and staff, and work with other donors to carry out additional initiatives. Working in support of this country-led approach, the NTDCP supported phased scale-up of the NTD control and elimination programs from three priority regions to five.
It was anticipated that by promoting an integrated approach to PC, national NTD programs would see an expansion and scale-up of geographic and population coverage rates; the inclusion of new disease treatments into national programs; greater cost efficiencies from use of common systems and management; and the opportunity to leverage more NGO networks and resources at the community or district levels. By working together rather than independently, NTD programs could develop joint trainings, joint IEC materials, and joint monitoring forms. Drug delivery from the central warehouse to the distribution point could be coordinated to save time and effort. Social mobilization activities for more than one disease could be coordinated, decreasing the cost for each disease program. Furthermore, conducting national NTD advocacy or strategic planning events could be consolidated.

Some country programs also found opportunities to benefit from integrating NTD control with existing health service delivery platforms, such as child health days, school health and nutrition programs, and malaria programs. In Uganda, the national NTD control program coordinated MDA with annual child health days.

3.3. IMPLEMENTING ACCORDING TO WHO GUIDELINES

The NTDCP approach and strategy was to structure program support based on global norms and best practices as defined and put forth by the WHO’s Department for the Control of Neglected Tropical Diseases (SCH, LF, and STH) and within the Department for the Prevention of Blindness and Deafness (onchocerciasis and trachoma). While each country program determined the country-specific approach it would take to meet its targets, all NTDCP-supported activities were designed to be implemented according to WHO guidelines. This included guidance on eligible populations/exclusions for treatment, dosing, disease mapping and surveillance. The NTDCP did not aim to support new or experimental approaches for measuring or treating the targeted NTDs, and sought to train and empower national programs to follow the guidelines. This unique characteristic was a hallmark of the NTDCP design and aspired toward uniformity and consistency in program performance.
4. NTDCP CONTRIBUTIONS TO GLOBAL NTD CONTROL
4.1. THE DEVELOPMENT OF THE NTD ROLL-OUT PACKAGE

During the early years of the Program, the NTDCP developed and refined, in concert with its partners, a strategy and supporting tools for initiating and sustaining integrated NTD country programs. The strategy reflected consensus on a sequence of important steps and activities that led to well-designed, government-led, cost-effective, efficient, and integrated national NTD control programs. The sequence has been termed the Roll-out Package, and consists of three principal stages:

1. Laying the groundwork;
2. Rolling out an integrated program;
3. Establishing effective management

The utility and technical soundness of this package\(^6\) has since been acknowledged through endorsement of WHO’s Strategic and Technical Advisory Group (STAG) as the roll-out package for global use. This endorsement facilitates access to proven NTD strategies and tools for countries beyond those that can be supported by USAID.

STAGE 1: LAYING THE GROUNDWORK

Ensuring commitment by the national government is likely the most important element for both short- and long-term success of a national NTD control program. Indeed, it is an aspect of the roll-out package that needs to be addressed, not just at the earliest stage of program development, but at every opportunity where reinforcement is possible. Its measures are not just the financial or personnel contributions of the government, but also the commitment to reorganizing management structures to ensure effective, integrated NTD control programs. A principal indicator of such commitment, assessed by the NTDCP, is the designation of a point person within either the MOH or Ministry of Education (MoE) who will coordinate activities of the individual NTD control programs and lead an integrated approach to their control. Commitment is also demonstrated through documentation of the country’s NTD problems, of a strategic national plan to address these problems, and of an appreciation of the cost of carrying out this plan.

The Country Situation Analysis Tool is used to compile and define the country’s NTD problems. This analysis provides a detailed, up-to-date, standardized account of the available evidence for the prevalence of NTDs and for specific control activities and any related research ongoing in the country. Such an analysis is an essential first step for planning integrated activities and is particularly valuable in defining a baseline for stakeholders during the early planning for integration—defining gaps in available information and activities, advocating for donor support, and identifying potential partners for implementation, technical assistance, and operational research. Ideally, the analysis is prepared by a team of local, disease-specific experts and academics, thereby engaging a cadre of local technical stakeholders early in the process and encouraging their involvement in program planning at the earliest stages. Although the situation analysis can be time consuming to develop, having accurate and complete information and engaged local expertise results in significant time savings and efficiencies at later stages in program startup process.

A multiyear National Plan of Action (POA or “Master Plan”) that recognizes the NTD challenges and potential platforms on which integrated programs can be launched must be formulated to prioritize and address these diseases. Once the situation analysis is complete, it will be clear that there are some areas where program implementation can begin immediately and others where additional NTD prevalence information (i.e., disease mapping) is necessary. Thus, the initial POA must include the progressive roll out of both these sets of program activities; and, as mapping is completed, the national POA must be updated appropriately. The government should develop such a POA with its stakeholders and key partners in NTD control and with full engagement by the WHO, which has created a standardized framework for these plans. A national POA that documents a rational and comprehensive approach is essential for coordinated action at the country level and is also the basis for determining the program’s funding needs.

A funding gap analysis is needed for identifying costs for the NTD program envisioned in the national POA. The Funding Gap Analysis Tool (FGAT), now called the Tool for Integrated Planning and Costing (TIPAC), was developed by the NTDCP to analyze the costs and needs of integrated NTD control programs and to provide standardized, detailed quantification of the costs for implementing integrated NTD control activities in line with international guidelines, with the country’s national plan, and with existing resources available from the government and other donors. This tool is particularly valuable for ensuring recognition of the contributions that governments make toward their national NTD control by quantifying their inputs of largely in-kind resources, such as staff time, materials, and health system infrastructure. Once the funding gap is identified for NTD interventions, country programs and potential donors can be provided with clear information about what is required to achieve the national program’s goals for NTD elimination or control. The TIPAC empowers governments to coordinate the various donor inputs in support of a comprehensive plan and budget. It provides an essential base for scale-up plans and resource allocation, and serves as a valuable tracking tool for documenting opportunities for cost-efficiencies and government commitment over time.

STAGE 2: ROLLING OUT AN INTEGRATED NTD PROGRAM

Ideally, a country’s comprehensive integrated NTD control program would begin its roll out with all preliminary groundwork completed. In reality, that often does not happen, as many groundwork and roll-out activities are carried out simultaneously. Regardless of simultaneous or sequential implementation, there are a number of key elements that can be identified for the successful roll out of any national NTD program.

Meetings of national stakeholders. To present and refine both the POA (based on the situation analysis) and the results of the TIPAC analysis, a meeting of all stakeholders—including the drug donation programs and other potential donors—should be convened by the MOH, and, when appropriate, in concert with the MoE. The WHO support for these meetings is very valuable for endorsing the technical decisions made by stakeholders. It is an important opportunity to provide a transparent presentation of funding requirements, roles and responsibilities, and program scale-up targets to all concerned parties. Government leadership is reaffirmed as discussions of how to address the existing financial and technical gaps are viewed in the context of a broader national program. Deliberate assessment of the capacities of all partners to contribute to a POA, along with identification of all possible existing service delivery platforms (e.g., schools, child health days) on which the program could be based, can yield efficiencies for scale-up by not requiring costly new infrastructure or networks. Such inclusive consultation can stimulate the willingness of partners to expand their activities—such as adding delivery of an additional drug to a previously single disease project—to support the national scale up of an integrated approach. Even in settings where partners already have strong working relationships, the regularly held stakeholders meetings enhance these partnerships among the various levels of government ministries and with other implementing partners. Most country programs have institutionalized annual stakeholders meetings both to report back to partners on program results and to review the annual work plan.
Annual work plan development. Ideally, stakeholders reconvene each year to develop a detailed annual work plan and budget. The process of developing the plan reinforces integrated planning grounded in an understanding of the challenges and successes of the previous year, encourages joint discussions about where cost-efficiencies can be made, improves understanding of the requirements and priorities of individual disease programs, and produces a detailed plan and budget to which the entire team can commit. Modifications of the POA or changes in the TIPAC analysis that impact the implementation activities and strategy can also be accommodated during these annual work plan sessions.

Disease mapping. For countries to plan for implementation most effectively and to apply for essential drugs, the endemic NTDs must be mapped accurately. In many countries, mapping for one or more diseases is not complete. As a result, national implementation scale-up cannot be accurately planned for or budgeted. Determining the extent of disease burden and distribution is a critical initial step for all country programs. The need for disease mapping should be clearly defined, and should begin with the situation analysis and then progressively continue according to the guidelines from the WHO and drug donation programs.

Monitoring and evaluation. The NTDCP developed a system for simple, standard, integrated monitoring of results that can be adapted and implemented in each country setting. This includes tracking disease-specific treatment goals and integration indicators for total population treated, population coverage rates, and combined treatments provided. With this system, managers and donors have prompt, regular semiannual reports on progress toward goals (by country and disease target) that can be shared with district-level stakeholders and between country programs, as appropriate. Any programmatic weaknesses, such as low uptake of drugs during MDA campaigns, can be quickly identified and addressed to ensure public health progress. Integrated reporting and monitoring forms have facilitated the ability of individual program managers to understand the requirements of all the endemic NTDs, and have encouraged joint participation by disease-specific program managers in the monitoring process.

“NTDs now appear to be a priority of Medical Services. When the integrated NTD plan was set into place, with support from partners like USAID, a specific road map was created to help us get to the control and elimination of NTDs in Uganda. We don’t ever want to go off track again. Finally we can now talk about elimination of these diseases.”

– Edridah Muheki, Acting Assistant Commissioner of Health Services (Vector Control) / Schistosomiasis and Worm Control Program Manager, Uganda
Country Highlight: Schistosomiasis Mapping in Ghana

Until just a few years ago, little was known about the extent of the burden of schistosomiasis in Ghana. Health officials knew it was a problem, but they lacked the resources to measure it completely. In 2007, with the support of the NTD Control Program, a large mapping effort was conducted in schools across 170 districts. With nearly a quarter of districts showing the disease in more than 50% of children between 5–15 years of age, there was an urgent need for interventions.

“It is surprising that in some schools we visited, 90% to 100% of all the children sampled were positive for schistosomiasis haematobium,” Mr. Bright Alomatu, the national NTD control program biologist, explained. “It is so rampant that the children view bloody urine as a normal part of life.”

As a result of this mapping, Ghana Health Services and the national NTD control program were able to begin targeting previously unidentified endemic districts with PC for schistosomiasis.

STAGE 3: ESTABLISHING EFFECTIVE MANAGEMENT

Establishing clear roles and responsibilities. The challenges inherent in combining (or even just coordinating) multiple disease-specific programs in a country are numerous. Therefore, developing consensus on managerial arrangements is essential—first, within the national government (notably between the MoE and MoH) about how the leadership of a national NTD program will be defined (including the specific roles of each government entity); and second, among the partners with respect to their roles, responsibilities, and intended contributions toward national NTD control efforts. Although an agreed POA and successful stakeholder meetings are important steps in defining these roles, clarification of the flow of funds and the associated responsibilities is also essential. Indeed, the degree of transparency (i.e., understanding) of this flow of funds and responsibilities is often a principal determinant of the effectiveness with which the partnership functions. It, therefore, deserves appreciable attention.

Central coordinating mechanism. A central-level coordinating mechanism, such as a steering committee that includes disease-specific program managers (i.e., an NTD Task Force), has proven invaluable in providing a critical forum for planning, problem resolution, and advocacy within the country. The significant challenges of integrating strong and independent disease-specific programs can be overcome through solid leadership by a higher-level government colleague capable of mobilizing a team of previously independent program managers to achieve rapid, cost-effective integration. Central coordinating mechanisms that meet two to four times per year were institutionalized in all implementing countries as a means to ensure representation for all appropriate disease-specific programs, and for other government stakeholders, especially the MOE.
4.2. NTD TOOLS DEVELOPED

4.3.1. THE TOOL FOR INTEGRATED PLANNING AND COSTING (TIPAC)

The challenge of projecting NTD program costs and the budgeting based on those costs—both globally and nationally—is of paramount importance to all country programs, donors and concerned international organizations. As the NTDCP began working with country programs, it became clear that better information on the cost of implementing integrated NTD control activities was needed in order to better forecast the resources required to reach the national goals of endemic countries, WHO NTD disease control and elimination goals, and Millennium Development goals. As a result, RTI developed a Microsoft Excel-based tool initially called the Funding Gap Analysis Tool (FGAT) in FY09. The purpose of the tool was to:

- Determine the cost of implementation of integrated NTD control programs in accordance with international guidelines and the country's national plan;
- Quantify the existing resources from government and other donors;
- Identify the funding gap to achieve the national program's goals for elimination or control.

The tool was field tested in 14 countries: Burkina Faso, Cameroon, Ghana, Haiti, Nepal, Niger, Philippines, Senegal, Sierra Leone, Southern Sudan, Tanzania, Togo, Uganda and Vietnam.

Based on this field-testing, the NTDCP began to implement a number of important updates and revisions to the tool during the first half of FY11. These updates included new and improved capabilities, a new user interface, as well as some reorganization of the modular design of the tool which would offer a more powerful and easier to use tool for NTD program managers. The tool estimates the costs and funding gaps of NTD programs while allowing for multi-year planning. It can be used in conjunction with existing national NTD strategic plans and budgets in order to effectively plan and coordinate future program resources.
The tool quickly gained the attention of the global NTD community. In fact, the WHO’s Strategic and Technical Advisory Group for Neglected Tropical Diseases elected to include the tool among its key programmatic tools that support national programs in rolling out and scaling up integrated and coordinated planning, implementation and management of preventive chemotherapy interventions. Due to the increased functionality of the tool for program planning purposes, the tool was renamed the Tool for Integrated Planning and Costing or TIPAC.

In February 2012, the WHO Working Group for M&E of Preventive Chemotherapy recommended that building capacity for the TIPAC be included as one of the efforts addressed through the newly established WHO Working Group for Capacity Strengthening. In the last year of the NTDCP, the tool was translated into French, Spanish, and Portuguese.

4.3.2. M&E FOR INTEGRATED NTD CONTROL
RTI developed a simple monitoring and reporting system to track disease-specific treatment results as well as integration indicators for total population treated and combined treatments provided. The Program’s approach focused on measuring PC coverage and additional persons and districts reached with USAID support. As global guidelines and priorities evolved, additional data such as mapping and disease-specific assessment results were captured.

Data was collected in standard forms, including the Work Plan Workbook, Disease Distribution Form, MDA Coverage Form, and Semi-Annual Reports designed for tracking integrated PC programs. By reporting MDA results by both drug package and disease, the MDA Coverage Form facilitated an increased recognition of integration opportunities across the diseases. Being one of the first times that the PC diseases had been integrated into one reporting form, they helped the NTDCP and USAID understand the requirements of all of the targeted endemic NTDs. Throughout the life of the NTDCP, RTI continued to refine the tools, such as adding district-level targets during work planning, and capturing STH treatment disaggregated by school-age children. With all country programs reporting using the same forms, the Program was able to generate regular semi-annual reports on progress toward goals by country and disease targets that could be shared with district-level stakeholders, national program managers and stakeholders, as well as USAID and the global NTD community.
4.3.3. INTERNATIONAL NTD PROGRAM MANAGERS TRAINING COURSE

Though conceptually simple (i.e., providing one or two doses of medicine a year to at-risk populations), MDA-based NTD programs that often target essentially everyone in endemic populations are enormously complex in terms of logistics, drug delivery, population management, disease assessment, program monitoring, impact evaluation and financial accountability. As additional resources from USAID and other donors were made available for countries to scale-up PC using integrated approaches, a course for helping NTD program managers to navigate these issues was needed.

Working with USAID, the WHO and other partners, the NTDCP set out to support the development of a comprehensive course on integrated NTD control for program managers (led by the WHO). The first of its kind, this course features critical components of integrated NTD strategies. It includes implementation techniques, program management principles, drug and severe adverse event management, M&E, planning and costing analysis, and advocacy strategies to garner long-term support. The course provides participants with a basic understanding of the challenges, benefits and constraints of integrated programs for control of co-endemic PC diseases at national and district levels. Moreover, participants could learn how the activities of the disease-specific program can be integrated in an effective and cost-effective manner, to achieve national targets for control and elimination of NTDs.

In July 2012, a pilot course was held in the WHO Collaborating Centre Public Health Laboratory Ivo de Carneri in Pemba, United Republic of Tanzania (see photo for participants). The pilot was a result of many months of collaborative work to develop the course materials.

The WHO NTD Working Group for Capacity Strengthening will maintain the course and determine the rollout plan moving forward.
Course implementation after the end of the NTDCP will be supported by USAID under the ENVISION project (2011-2016).

4.3 ENRICHING THE GLOBAL NTD KNOWLEDGE BASE

4.3.1. PUBLICATIONS
The NTD Control Program is pleased to report publication of 25 manuscripts in peer-reviewed journals over the life of the project. These manuscripts covered topics as diverse as trachoma mapping in Southern Sudan, coverage rates of MDA in Sierra Leone, costs of MDA in Haiti and best practices for scaling up integrated NTD control. Journals include the American Journal of Tropical Medicine and Hygiene, BMC Infectious Diseases, International Health, The Lancet, Ophthalmic Epidemiology, Parasites & Vectors, PLoS NTDs, Transactions of the Royal Society of Tropical Medicine and Hygiene, Trends in Parasitology, and Tropical Medicine & International Health. A full list of publications is provided in Appendix B.

4.3.2. SCIENTIFIC CONFERENCES AND CONGRESSIONAL BRIEFINGS
The Annual Meeting for the American Society for Tropical Medicine and Hygiene (ASTMH) has become an important annual conference for sharing knowledge and experiences from the field of NTDs. Accordingly, the NTDCP’s participation grew over the life of the project as project staff and host country government officials had more to share with the global scientific community. Additionally, project staff had the opportunity to present program accomplishments on Capitol Hill in 2009 with members and staffers of the Congressional Caucus on Malaria and NTDs. A full list of presentations is provided in Appendix C.
5. RESULTS OF USAID - NTDCP SUPPORT
5. GLOBAL PROJECT RESULTS

The NTDCP’s support for country implementation started in FY07 (corresponding to October 2006-September 2007, also referred to as Year 1). The number of countries supported by the NTDCP increased as additional funding became available. Towards the end of the project, most countries transitioned to successive USAID-supported mechanisms including END in Africa, END in Asia and ENVISION. Definitions of Program Metrics are provided in Appendix E.

TOTAL NUMBER OF PERSONS AND COUNTRIES TREATED WITH USAID NTDCP SUPPORT

In the first year of NTDCP implementation, 16.3 million people were treated for at least one NTD in 114 districts across four countries with USAID support. Due to the readiness and capacity of government programs to scale up integrated NTD control, the NTDCP rapidly increased the number of persons and districts treated, reaching 76.5 million individuals in 684 districts in the project’s fifth year. Over 100 million people were treated with USAID NTDCP support at least once throughout the six years of project implementation.

TOTAL NUMBER OF TREATMENTS PROVIDED PER YEAR WITH USAID NTDCP SUPPORT

In order to capture treating individuals for multiple diseases through an integrated approach, the NTDCP tracked the number of treatments delivered with USAID support. Over half a billion treatments were provided to at-risk individuals during the project, substantially exceeding the life-of-project target of 160 million treatments.
National capacity to implement—and scale-up—integrated NTD control activities was demonstrated through the increasing numbers of treatments provided. For example, Uganda nearly doubled the number of treatments provided, delivering 16.3 million treatments in the first year of NTDCP support in Uganda and 31.0 million treatments in the fourth year. Treatment numbers can fluctuate annually due to the alternate year treatment schedule for schistosomiasis MDA. As countries made progress towards elimination of LF and trachoma and were able to stop MDA, the number of treatments required, and therefore provided, also decreased.

The NTDCP supported training at central, regional, district, and community levels for PCT-related activities such as training, supervision, and drug distribution. Many of these individuals were trained more than once, participating in the MDAs year after year, thereby strengthening the delivery system. This also created cost-efficiencies, as refresher trainings typically require less time than first-time trainings.
Making Progress Towards Elimination of LF and Blinding Trachoma

With technical and financial assistance from multiple partners, including USAID through the NTDCP, countries have made substantial progress towards elimination of LF and blinding trachoma. By the end of the NTDCP, 17 districts achieved the WHO-defined criteria for stopping MDA for LF, indicating a reduction in prevalence to a point below which transmission is no longer sustainable. NTDCP countries were also able to stop district-level MDA for trachoma in 94 districts, resulting from the efforts of the NTDCP and other partners in implementing the SAFE strategy.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM

Programs for SCH and STH were launched in 2004. MDAs for LF (which also overlaps with onchocerciasis) and complementary trachoma interventions as part of the national blindness program were also underway. In fact, before the start of the integrated NTDCP, Burkina Faso had already achieved national coverage for both LF/STH and SCH/STH treatment and had succeeded in virtually eliminating onchocerciasis as a public health problem. For these reasons, it was considered a ‘fast track’ country for USAID. However, no trachoma MDA had been implemented prior to the integrated NTDCP start in 2007.

MOVING TO AN INTEGRATED APPROACH

Building on these successes, USAID’s NTDCP began working with the MOH and other partners to support integrated NTD control by providing funding and technical assistance for the successful implementation of country-wide integrated MDA implementation, program management, advocacy, and training.

The MoH allocated a NTD Focal Point in 2009. This ensured that all disease program managers worked closely together by communicating regularly and planning the NTD program as an integrated unit. Throughout the program, integrated NTD planning meetings were regularly held at the Burkina Faso NTD Control Program office, and both vertical control program staff and senior ministry officials (chaired by the NTD Focal Point) participated. All aspects of the integrated NTD efforts—drug orders, planning, budgeting, management, supervisions, evaluations, and reporting—were done jointly.

Though each of the vertical control program managers still have their own disease control remits, NTD control efforts at the central level are done as an integrated unit (apart from mass treatment campaigns that are now conducted jointly). Efforts to raise awareness about the different diseases, to raise funds for activities outside of the mass treatment, to mobilize populations and gain community buy-in, and gain government commitment are all carried out together.

Through drug donations from the International Trachoma Initiative/Pfizer and financial support from the NTDCP, the national program in Burkina Faso was able to start MDA for trachoma in 2007. By the end of the NTDCP in Burkina Faso, over 6.2 million people were treated for trachoma.

COORDINATION WITH THE MINISTRY OF EDUCATION

The Ministry of Education and the School Health program have worked closely with the NTD Task Force established in 2007 to include NTD prevention in the primary school curriculum. A workshop titled “Strategy for the Improvement of School Health” was held in 2008 where both NTD and other health issues were incorporated into the syllabus. Additionally, teachers played an important role in MDAs, attending trainings and subsequently distributing the NTD medicines in schools.
Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

![Bar chart showing treatments provided from FY 07 to FY 12.](image)

**73,155,532** Cumulative Treatments Provided

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS

![Bar chart showing persons treated from FY 07 to FY 12.](image)
GOVERNMENT CONTRIBUTION AND COMMITMENT

The government has provided funding for LF program activities annually since 2002. Following the inception of the integrated control program, the funds were expanded to include other NTDs (SCH, STH and Trachoma). MoH contributions also include the salaries for all national, regional and district health and education officials that work directly with the integrated MDA, vehicle insurance for all government vehicles used for NTD control efforts, customs tax relief for drugs arriving in Burkina Faso, and hygiene and sanitation efforts in all regions.

PROGRESS TOWARDS CONTROL AND ELIMINATION

Having achieved three rounds of SAFE strategy implementation, trachoma impact surveys were carried out in 2010 to determine whether treatment could cease in Year 5. Findings will be issued in combination with additional surveys planned for 2011 to evaluate whether interventions could cease in these districts in 2012.

2011 marks the year that nine endemic districts will finish the 5th and potentially final phase of treatment for LF. At the end of Year 5 evaluation surveys need to be carried out to find out whether interruption of LF transmission has occurred in these districts. A preliminary transition plan was formulated by the LF control program in collaboration with the WHO and NTD Control Program. This plan explains how to develop an exit strategy and how to determine what number of districts remain endemic above the treatment threshold for LF. A rapid assessment survey of SCH also needs to be carried out in order to focus this treatment in endemic districts only, which is more cost-effective than a countrywide MDA.

LESSONS FROM BURKINA FASO

The successes thus far of Burkina Faso’s NTD Control Program have shown that integrated program coordination is possible if government commitment and leadership, donor funding, partner collaboration, and community buy-in are synchronized.

Burkina Faso has now targeted the entire country and has reached 100% of geographic coverage. The country now must focus on ensuring ongoing treatment in districts that have not yet received all necessary treatment rounds, or have not reached prevalence levels deemed low enough to not be considered a public health issue. Continued technical and financial assistance from international organizations is critical to helping the MOH coordinate an ongoing epidemiological surveillance system to monitor disease prevalence and distribution. This will ensure that the gains made in the first five years of the program are sustained.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM

When the NTDCP began work in Cameroon, substantial NTD control efforts were already underway. The national program for onchocerciasis control was implementing annual MDA in 105 endemic districts using the CDTI strategy. National programs for the control of SCH and STH were treating children aged five to 14 in primary schools across 179 health districts with MBD. PZQ distribution was targeting school-aged children mainly in the northern three regions, integrated with MBD MDA where both drugs were distributed. A national program to fight blindness piloted the SAFE strategy using antibiotic eye drops in one district (Kolofata) from 2008, but no large scale MDA for trachoma was established. Under the onchocerciasis control program, there was one person designated as the LF focal point but there was no national elimination program on LF. LF endemicity and the distribution of the disease was incompletely understood since wide scale mapping had not taken place, and only limited treatment in the Far North had been achieved. As an important note, the central and southern regions of Cameroon are endemic for Loa loa which constitutes a challenge in terms of expansion of LF MDA in non–onchocerciasis endemic districts affected by Loa loa.

MOVING TO AN INTEGRATED APPROACH

Cameroon uses two strategies to reach targeted populations: school-based MDA (for SCH and STH MDAs), and the CDTI strategy (for LF, onchocerciasis, STH and trachoma). All activities including planning, ordering drugs, training, mass distribution, supervision and monitoring, and data collection are done in an integrated manner. For example, school-aged children living in the districts co–endemic for SCH and STH are given MBD and PZQ at school at the same time by the same distributor. The same logistics and data collection tools from the school-based distribution are used to collect information about administration of the two drugs. Integration has been an effective means of facilitating joint planning of the individual programs and co-implementation of MDA in districts where the diseases overlap. NTD programs have also benefitted from logistical support (vehicles, motorcycles, computers, etc.) provided by other health programs.

Integration also helped NTD programs in Cameroon to be more effective in reaching target populations. When IVM and ALB were administered for the integrated treatment of LF, onchocerciasis, and STH, the epidemiological coverage improved in all regions. The wide community acceptance of IVM in onchocerciasis-endemic districts facilitated the introduction of ALB for LF treatment in areas co–endemic for LF and onchocerciasis.

No structure has yet been dedicated to the coordination of NTDs with a full-time staff at the national level. For each NTD program, there is a permanent secretary who provides leadership at the central level. Presently, the Department of Disease Control is coordinating the NTD program and works closely with the national coordinators of each program, the WHO and NGDOs to manage program activities. A policy proposal defining the coordination structure of NTDs was prepared and submitted to the office of the Minister of Public Health. The outcome of this proposal was still pending at the close of the NTDCP.
KEY ACHIEVEMENTS

DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT

65

DISTRICTS MAPPED FOR LF

9

DISTRICTS MAPPED FOR ONCHOCERCIASIS

179

DISTRICTS MAPPED FOR SCH AND STH

42

DISTRICTS MAPPED FOR TRACHOMA

WITH SUPPORT OF NTDCP AND OTHER PARTNERS, CAMEROON MADE GREAT PROGRESS TOWARDS COMPLETING DISEASE MAPPING FOR TARGETED NTDs. OF 136 DISTRICTS NEEDING MAPPING FOR LF, NTDCP SUPPORTED MAPPING FOR 65. NTDCP SUPPORTED MAPPING OF ALL NINE DISTRICTS NEEDING REFINEMENT OF MAPPING FOR ONCHOCERCIASIS. NTDCP SUPPORTED MAPPING OF ALL 179 DISTRICTS NEEDING MAPPING FOR SCH AND STH. OF 50 DISTRICTS NEEDING MAPPING FOR TRACHOMA, NTDCP SUPPORT MAPPING FOR 42 DISTRICTS. AT THE CLOSE OF NTDCP, ONLY 11 DISTRICTS STILL NEEDED MAPPING FOR LF AND EIGHT DISTRICTS NEEDED MAPPING FOR TRACHOMA.

TRAINING WITH USAID NTDCP SUPPORT OF THE MDAS

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

36,537,683
Cumulative Treatments Provided

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS
INTEGRATION WITH OTHER PLATFORMS

Cameroon uses the national school de-worming program for the distribution of PZQ and MBD. Pre-school-age children are also treated for STH through child survival and nutrition days supported by UNICEF and HKI.

In areas where community-based MDAs are carried out, community drug distributors are involved in other community programs, including: social mobilization during Expanded Programs of Immunization (EPI), mosquito bed net distribution and malaria home management. At the regional and district level, logistics and materials are used in an integrated manner. Cars, motorcycles and bed nets used by communities in the fight against malaria are also used to fight against LF (e.g., a motorcycle which was allocated to the health center by the expanded immunization program will also be used to monitor the activities of all other programs including NTDs). Funds for maintenance and purchase of fuel come from funded programs.

GOVERNMENT CONTRIBUTION AND COMMITMENT

The Ministry of Education, the national council of mayors and the Ministry of Health have signed a tripartite agreement to mobilize resources and partners to support the de-worming program in schools. The government also plays a key role in managing and financially supporting MDA drug processing. Since program inception, the government of Cameroon has provided significant support for drug management, storage and transportation.

PROGRESS TOWARDS CONTROL AND ELIMINATION

Cameroon is including guidance for post-elimination activities, where appropriate, in all strategic documents following WHO guidelines. The national strategy for onchocerciasis elimination includes information on monitoring treatment impacts for onchocerciasis and LF, and defines how monitoring will be done once onchocerciasis is eliminated. The national trachoma plan also includes impact evaluation and post-endemic surveillance.

NTDCP supported sentinel site surveys for LF in 112 districts in Cameroon to establish baseline values from which to measure the impact on LF transmission.

LESSONS FROM CAMEROON

Effective management of the drug supply chain has a significant impact on NTD program activities. Effective planning facilitates the procurement process at all levels according to the timeline, and also ensures compliance with the schedule for drug distribution in communities. It also limits delays during the MDAs.

Community participation in MDAs is improved when there is a strong understanding of roles and responsibilities. In areas where community meetings were held, communities adhered better to program activities and mass treatment. In some areas, communities even mobilized resources to encourage community drug distributors.

Partnership was key to Cameroon’s success in fighting NTDs; close partnership with NGOs enabled close monitoring during MDAs in all 10 regions of the country. Integrated national planning and evaluation meetings facilitated sharing of experiences between regions, and facilitated communication between the Ministry of Health staff at various levels of the health system. NGOs worked hand-in-hand with the Government on the NTD program.
Prior to the start of USAID’s NTD control program

The Onchocerciasis Control Program (OCP) was established in 1974 to eliminate onchocerciasis as a public health problem initially through vector control. In 1988, OCP incorporated MDA of IVM in endemic communities. The Ghana Filariasis Elimination Program had completed six rounds of MDA, with treatment coverage at the national level ranging from 70 to 75% and supported morbidity management activities for LF. MDA for trachoma was introduced in 2001 and targeted all 26 districts in the two endemic regions of Northern and Upper West Ghana. Under this program, corrective surgery for trichiasis was also provided, and hygiene education, community mobilization, and sanitation activities were ongoing with support from other partners. An impact assessment of the trachoma program conducted by Ghana Health Services in 2008 showed a reduction in the prevalence of trachoma by a range of 49%-71%. SCH and STH were believed to be widely endemic though no definitive prevalence studies had been done.

Moving to an integrated approach

Ghana Health Services began implementing an integrated NTD control program in 2007 in order to facilitate nationwide scale-up of PC in the most cost-effective manner. Organizationally, the integrated NTD program has one coordinating program manager with disease-specific technical officers who work as a team. The programs work closely by planning and coordinating all activities together. Other planning, monitoring and supervision and reporting activities are integrated into the health system from the national, regional, district and sub-district and community levels. With integration there are now fewer staff undertaking all activities from the national level, with one regional representative coordinating all NTD activities in the region year round.

Coordination with the Ghana Education Service

As a result of SCH mapping supported by NTDCP, Ghana piloted large-scale distribution of PZQ through the public school systems in FY09. The initial pilot was very successful and extended across the country to all endemic districts.

Additionally, in collaboration with the School Health Education Program of the Ghana Education Service, the national NTD Program established a policy to ensure every school-aged child is provided treatment for STH at least once per year.

With NTDCP support, Ghana’s national NTD program started MDA to prevent SCH in school-age children living in endemic communities.
KEY ACHIEVEMENTS

DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT

170
DISTRICTS MAPPED FOR STH AND SCH

NTDCP SUPPORTED MAPPING FOR STH AND SCH IN ALL 170 DISTRICTS WHERE MAPPING WAS NEEDED. AS A RESULT OF THIS MAPPING, GHANA HEALTH SERVICES AND THE NATIONAL NTD CONTROL PROGRAM WERE ABLE TO BEGIN TARGETING PREVIOUSLY UNIDENTIFIED ENDEMIC DISTRICTS WITH PC FOR SCH.

NUMBER OF PERSONS TRAINED FOR MDA WITH USAID NTDCP SUPPORT

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

57,725,279

Cumulative Treatments Provided

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS
After years of consecutive SAFE strategy implementation with support from numerous partners, Ghana has been able to stop district-level MDA for trachoma in all trachoma-endemic districts throughout the country.

GOVERNMENT CONTRIBUTION AND COMMITMENT

The Public Health Division of the Ghana Health Service has maintained a strong leadership role in NTD control throughout the program. All resources, including equipment, vehicles, and staffing, are invested into the overall NTD program in Ghana, contributing to the effectiveness of the program. All program reports and communication are channeled through and certified by the national NTD Program Manager or some higher government official such as the Head of Disease Control, the Director of Public Health or the Director-General of the Ghana Health Service.

PROGRESS TOWARDS CONTROL AND ELIMINATION

An impact survey conducted with support from several partners in August 2009 confirmed the achievement of the ultimate intervention goal for active trachoma in Ghana. Consequently, the country has been able to stop district-level PC for trachoma, but continues to support other components of the SAFE strategy, including trichiasis surgeries.

A Transmission Assessment Survey (TAS) for LF (supported by another partner) confirmed interrupted transmission in four districts in the Central Region. As a result, the last round of LF MDA in these districts was completed in 2011. Eight districts in the Northern Region have achieved an MF rate of less than 1% and are ready for TAS. In total, 15 districts that have completed seven or more rounds of MDA for LF were assessed with night blood surveys in FY2011. In accordance with the national LF exit strategy, districts co-endemic for STH, onchocerciasis and LF will be reassessed for onchocerciasis and STH if LF is eliminated. If districts are found to still need treatment for STH or onchocerciasis, they will be treated as part of MDAs or integrated into other health programs as appropriate when the LF MDA is stopped.

LESSONS FROM GHANA

The work under the NTDCP was integrated with other disease programs and throughout the levels of health systems, ensuring follow-on activities build upon the project’s achievements. With strong support from the Government of Ghana, continued assistance from USAID under the END in Africa project and established coordination mechanisms among donors, the future looks quite positive for NTD control in the country.

With regards to training, while the project initially used a cascade pattern of regional trainings followed by district trainings and sub-district volunteers training, these were very time-consuming and delayed MDA implementation in some cases. In Year 4 in a national planning meeting, regions were charged to undertake refresher trainings for district and sub-district level personnel, and this approach proved effective.

Timely reporting was important not only for USAID, but for informing other stakeholders. Regular donor engagement and prompt reporting on project activities is instrumental in ensuring an integrated strategy with funding sources from multiple donors.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM
The National LF Program supported by the Bill and Melinda Gates Foundation, the CDC and the University of Notre Dame started in 2000 and expanded to cover 24 Communes by 2005. In 2004, a World Bank-supported STH program was also initiated and covered school children in 25 Communes. However, by 2005, both programs were interrupted due to political instability. In 2008, the NTDCP commenced work with the Ministry of Health and Population (MSPP), the Ministry of Education (MENFP) and other partners in Haiti to support the scale-up of NTD control, combining the LF and STH programs for an integrated approach.

MOVING TO AN INTEGRATED APPROACH
LF and STH share a common drug regimen in Haiti (ALB+DEC). Consequently, ‘integration’ was not so much about integrating drug delivery, but rather coordinating the planning, implementation and supervision of programs for two different diseases, each with its own unique challenges. Materials, training, supervision, and reporting have been streamlined to represent both programs.

NTDCP’s integrated approach has allowed for rapid scale up of MDA activities. By combining resources, time, and training to include both LF and STH programs, USAID supported communes expanded from 46 in FY09 to 106 in FY11. With remaining communes supported by the University of Notre Dame and the CDC, Haiti reached national geographic coverage in 2012.

HIGHLIGHTED NTDCP PUBLICATIONS

PARTNERSHIP WITH TOMS
IMA World Health has partnered with TOMS Shoes since 2011 to provide new shoes to Haitian children free of charge to prevent STH. The NTD platform provides the necessary distribution mechanism to reach school children throughout Haiti and the partnership between the International Medical Alliance (IMA), the Ministry of Education, and the NTD volunteers facilitate the task of delivering shoes.

The shoes are delivered in schools during the same month as MDA and the school officials and volunteers ensure that children are fitted correctly and wear the shoes to school. From January to December 2011, hundreds of thousands of pairs of new shoes were delivered in Haiti through the IMA to prevent the spread of hookworm. The long term goal for the program is to revisit the same children and provide a new pair of shoes as they grow each year.
KEY ACHIEVEMENTS

DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT

NO MAPPING WAS NEEDED IN HAITI.

TRAINING WITH USAID NTDCP SUPPORT OF THE MDAS

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.

*Data is not included for FY12 because MDAs were not completed at the close of the NTDCP.*
Data is not included for FY12 because MDAs were not completed at the close of the NTDCP.

26,572,676 Cumulative Treatments Provided

Data is not included for FY12 because MDAs were not completed at the close of the NTDCP.
GOVERNMENT CONTRIBUTION AND COMMITMENT

The Haiti NTD Control Program is coordinated by the MoH and the Ministry of Education (MOE). They both play a vital role in planning, executing and supervising field activities with partners. The program’s leadership is supported by the Malaria/LF Coordination Office as well as the Office of Family Health. Both offices work together and with partners to effectively combat LF and STH jointly. In each department the MoH has an LF and a STH coordinator who ensure the field activities are planned and carried out in a coordinated manner. The MoE has assigned a school inspector who is responsible for the school health activities at the departmental level. All program partners meet twice a year to discuss program issues and plan together. The MoH confirms dates and agenda items for those meetings.

PROGRESS TOWARDS CONTROL AND ELIMINATION

The MSPP and program partners have worked to establish sentinel sites in each department. In 2011, the CDC supported TAS on the island of La Tortue, which was found to have reached the threshold for stopping MDA. Pending sentinel site assessment in 2013, it is expected that TAS will take place in three departments under the USAID-funded ENVISION project. The MSPP and program partners continue to discuss the best strategy to continue deworming efforts once interruption of LF is confirmed in program areas.

LESSONS FROM HAITI

In Haiti, NTD integration has allowed for rapid scale up of activities and achievement of national coverage. Advocacy at all levels has proved important in promoting community participation in MDAs. Use of community leaders, promoters and CDDs to sensitize the population increased community participation in MDA activities. Involvement of the different levels (central, departmental, communal) of the MoH has also increased the participation of the population in the MDA.

Issues relating to water, sanitation and hygiene promotion are important to STH control, and as a result were incorporated into training messages for community volunteers working in support of the MDA.

Finally, the NTD platform has served as a critical distribution mechanism for various primary health care needs, such as hygiene kits, water filters, and shoes.

2010: HAITI HIT WITH CATASTROPHIC EARTHQUAKE

On January 12, 2010, 4:53 PM, a catastrophic earthquake hit the island nation of Haiti. It is estimated that over 230,000 people died, 700,000 in Port au Prince were displaced, and almost 3 million were directly affected. Countless buildings were destroyed, including the Presidential Palace, Ministry offices, and religious landmarks. Among the many souls lost was a cherished friend and colleague of the NTDCP, Dr. Mario Paganel, who worked with Partners in Health in Haiti.

When the earthquake struck, IMA staff were in Port au Prince, the capital city of Haiti—one of the hardest hit areas. They survived without serious injury but suffered incredible loss of family, friends, and property. IMA headquarters personnel who were in town attending the National NTD Control Program partners meeting, were trapped for 55 hours in the fallen rubble from the Hotel Montana before being rescued.

The Haiti NTD Control Program was also impacted. MDA activities scheduled to take place in Cap Haitian that month were cancelled. With many communities entirely displaced, and without the structures and systems through which to access health services, planning and managing resources for an MDA were greatly complicated. As a result of IMA’s tireless efforts to resume the MDA through work with the MSPP, partners, and community volunteers, 271,327 people were treated in Cap Haitian in April 2010. This was a nearly 15% increase from the number of people treated before the earthquake in Cap Haitian.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM

With one of the largest populations at risk, Indonesia has one of the heaviest burdens of NTDs globally. In 2009, an LF MDA reached 19 million people in 30% of known LF endemic districts. Some districts received limited coverage due to limited resources. While LF MDA coverage included 1 million preschool and 3.6 million school-aged children likely at risk of STH, exact figures for other preschool and school-aged children treated for STH through food programs, school health interventions or local government initiatives were unknown. A detailed plan to eliminate SCH, which affects a small area of 20,000 people in Central Sulawesi province, was drafted in late 2010.

MOVING TOWARDS AN INTEGRATED APPROACH

In 2010, the Ministry of Health (MoH) consolidated SCH, LF and STH activities under the Directorate of Vector-Borne Disease Control. That year, the Ministry of Health also worked with an international team led by the WHO to prepare an integrated Plan of Action for five NTDs including LF, STH, and SCH. Having participated in its development, USAID’s NTDCP began working with the MoH and other partners in Indonesia to support implementation of the integrated POA.

A National Task Force exists to oversee LF policy, plans and activities. It consists of MoH staff, ex-MoH staff, and academics, with multilateral agency representatives (WHO, UNICEF) invited as observers. It meets once or twice a year regularly and on an ad hoc basis to discuss specific issues. It is in the process of formally expanding to oversee all NTD activities; in the meantime, it informally reviews issues related to STH and SCH.

Building on previous efforts to integrate NTD control, a 2012 advocacy and training workshop was held in Bogor for representatives of the Provincial Health Offices and the Provincial Planning Bureaus from Sumatra, Kalimantan, and Java. This workshop included information and joint work planning for LF and STH for the first-time.
**KEY ACHIEVEMENTS**

**DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT**

A review of data by the MOH, with NTDCP technical assistance, confirmed that mapping for LF is needed in 155 districts.

---

**NUMBER OF PERSONS TRAINED FOR MDA WITH USAID NTDCP SUPPORT**

In FY2011, the NTDCP supported the training of district staff, health center workers, and health volunteers (cadre) for PC-related activities, including population registration, drug distribution, reporting, and SAE monitoring.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

Cumulative Treatments Provided

5,067,856

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS

Persons Treated

Districts Treated
INTEGRATION WITH OTHER PLATFORMS

NTDCP supported the sub-directorate for LF and STH to develop draft STH policy guidelines in close collaboration with the sub-directorates of child health and nutrition. These new policies stated that: 1) STH MDA will be implemented with Vitamin A campaigns for preschool children, and 2) STH MDA will be implemented through child health programs for school-aged children.

In remote areas of Papua Province, distribution of LF drugs in 2011 from district health centers to community houses was integrated with malaria bednet distribution campaigns, capitalizing on investments of the Global Fund.

GOVERNMENT CONTRIBUTION AND COMMITMENT

The Ministry of Health contributes staff time at all levels—central, provincial, district, and health center—to planning, implementing and monitoring MDA. The central ministry pays for the NTD drug DEC, partial costs of distribution of drugs from central to district levels, some monitoring and evaluation activities, and the printing and distribution of revised guidelines. In districts not supported by USAID, the district health budget is used to implement LF MDA and, in some cases, STH MDA. Provinces can also use their health budget to support training, monitoring and evaluation of NTD activities.

PROGRESS TOWARDS CONTROL AND ELIMINATION

In late 2012, the MoH plans to implement TAS for LF in 25 districts, with support from USAID in 7 districts. In 2013, TAS for LF will be implemented in another 18 districts. In-depth review of TAS eligibility data will be necessary for these districts, in particular as many of them implemented partial MDA, scaling up on a sub-district basis.

STH policy guidelines are in development that will include recommendations to survey STH prevalence at the end of LF MDA and adopt STH-specific MDA if needed. Furthermore, the Ministry of Health is eager to combine TAS with STH prevalence surveys.

LESSONS FROM INDONESIA

Microplanning at the district level in advance of MDA helped to ensure success. With differing budget sources from both the government and private sectors, it was important to develop realistic budgets and MDA implementation plans in advance.

Initial mapping data for NTDs is essential to enable the Ministry of Health to scale up strategies that are strategic and feasible. An important component of the USAID-supported program was reviewing existing LF data district by district to determine which areas still needed mapping. Completion of needed disease mapping will be critical in years to come.

While integration of NTD activities with other NTDs and health programs is a natural outcome at the district and provincial levels, development of national level strategies for integration is more difficult and may take external technical assistance to achieve. In the case of Indonesia, external assistance from USAID was quite effective in encouraging policy change for NTD control at the national level.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM

Prior to the NTDCP in Mali control of NTDs was managed through four national programs under the Ministry of Health with separate planning and implementation for each program. The National Onchocerciasis Control Program (PNLO) implemented community-directed treatment with ivermectin (CDTI) in all 16 districts in three endemic regions. The National LF Elimination Program (PNEFL) implemented MDA in 15 districts out of a total of 59 endemic districts. The national program for SCH and STH (PNLSG) implemented an integrated MDA in 40 endemic districts and the National Blindness Prevention Program (PNLC) implemented a successful trachoma program in 64% of the endemic districts. Mapping of NTD distributions in the country was almost completed, with the exception of SCH in the Kidal region.

MOVING TO AN INTEGRATED APPROACH

With NTDCP support, Mali integrated their NTD control programs in 2007, led by the Ministry of Health through the National Directorate of Health (DNS) and coordinated under the Division of Disease Control and Prevention (DPLM). A National Strategic Plan for integrated control of NTDs (2007-2011) was developed, which led to NTD programs starting to work together in a coordinated manner. At the community level, the NTD program became an integral part of local primary health care services. Community health center workers became actively involved in planning, training, supervision and reporting. The existing and new CDDs were trained to deliver different drug packages to increase the coverage for each targeted NTD.

To ensure strong coordination, a Steering Committee for NTD control was established which meets twice a year. Additionally, a Technical Coordination Committee for NTD control was established which meets every month.

The integrated approach has proven to be more effective, since all existing control programs benefited from each other’s implementation platforms. The approach improved NTD control at the community level, streamlining social mobilization activities as well as training, supervision and evaluation processes. Focusing on several NTDs for each of these areas instead of only one required less time and less human and material resources to accomplish the same tasks. Additionally, integration facilitated the commitment of national and local authorities to NTD control since they were able to address a number of diseases at the same time. Local leaders could raise awareness of the importance of MDA that addressed a number of diseases. The integrated program achieved 100% geographical coverage for all the targeted NTDs in 2009 and this was maintained in subsequent years until 2012, when northern regions became inaccessible due to insecurity.
KEY ACHIEVEMENTS

DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT

VIRTUALLY ALL MAPPING HAD BEEN COMPLETED WHEN THE NTDCP BEGAN WORK IN MALI. IN FY12, 4 DISTRICTS WERE IDENTIFIED IN NEED OF SCH MAPPING. THIS COULD NOT BE ADDRESSED DUE TO INSECURITY IN NORTHERN MALI. NO MAPPING WAS SUPPORTED UNDER NTDCP.

NUMBER OF PERSONS TRAINED FOR MDA WITH USAID NTDCP SUPPORT

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
USAID supported treatments in Mali increased from 11 million in FY2007 to 27 million in FY2011.

114,588,067

Cumulative Treatments Provided

Persons treated with USAID NTDCP support in Mali increased from 4.6 million in FY07 to 11.8 million in FY11. National coverage was reached in 2009.
GOVERNMENT CONTRIBUTION AND COMMITMENT
The Government of Mali supported the national NTD program through full salary support, providing office space, equipment and logistics for the program and national-level program oversight. Additionally, information concerning NTDs was integrated into Mali’s national health information system which indicates that these diseases are a priority for the Malian government, and marks the first step in integrating this program into the national health system, work plans and budgets.

PROGRESS TOWARDS CONTROL AND ELIMINATION
In early 2012, the MoH in Mali developed a new five-year strategic plan (2012-2016). The Strategic Plan describes plans for post-endemic surveillance for each targeted NTD, and also includes other NTDs such as guinea worm, human African trypanosomiasis, leprosy, buruli ulcer, dengue fever and snake bites. With 100% geographical coverage and satisfactory program coverage for all five targeted NTDs, Mali made great strides towards control and elimination. Impact studies on LF and trachoma showed that program objectives for each disease are being met. Additional research-based impact studies on onchocerciasis, SCH and STH have also demonstrated significant progress in meeting objectives for each of these diseases.

CIVIL UNREST IN MALI AND NTD CONTROL
On March 22, 2012, a military coup d’état ousted President Amadou Toumani Toure and indefinitely separated the three northern regions (Gao, Kidal, Tombouctou) from the southern part of the country. As a result, all USAID funding was suspended. In order to avoid any interruption in annual MDAs, HKI worked with the MOH, WHO, USAID, RTI, the Carter Center and Sightsavers to continue interventions and secure necessary funding support from the End Fund. FY12 MDA and M&E activities are set to begin in October 2012.

LESSONS FROM MALI
Coordination mechanisms established by the Government were critical to ensuring integrated programming. In the case of Mali, coordination mechanisms were established at all levels: at the national level with an NTD steering committee, at the regional and district level with regional and district NTD focal points, and at the community level with community health center chiefs who are NTD focal points.

Community participation in MDAs was significantly improved by the active participation of members of community health associations and coordination with civil society associations, leaders of districts and religious leaders.

Many of the community drug distributors were unable to properly record treatment data in their registers due to low education levels. In 2012, tally sheets were created to simplify the process and ensure accurate data collection.

The role of the Regional Health Directorate should be enhanced, particularly before MDA. Regional Health Directorates should plan and propose the budget for MDA, and then receive approval from national level. This would increase ownership and ensure a more detailed-level of planning ahead of MDA.

Mali provides an excellent example of how to successfully build on the experience of existing NTD control programs and establish an integrated national program with strong government ownership. The recent political insecurity will present challenges to the NTD program in Mali, yet the foundation of trained MoH staff, community-level involvement and established coordination mechanisms will be invaluable as Mali implements its strategic plan for 2012-2016.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM

Before the NTDCP commenced, programs for LF, STH and trachoma were managed vertically and the potential benefits of integration of the programs were not yet explored. The Epidemiology and Disease Control Division (EDCD) of the Department of Health Services (DoHS) within the Ministry of Health and Population (MoHP) was responsible for LF activities which were implemented in 30 districts. STH prevalence is very high, especially among school age children. Deworming was included under the National Nutrition Policy and Strategy with the objective to reduce STH infections among children and pregnant women to less than 10% by the year 2017. Eye care programs were not yet included in the government system. An NGO, Nepal Netra Jyoti Sangh (NNJS) managed the National Trachoma Program (NTP). While mapping was still to be completed, MDAs supported by the International Trachoma Initiative were ongoing in ten districts and other SAFE activities were supported by additional partners.

MOVING TO AN INTEGRATED APPROACH

The government of Nepal has established an NTD Steering Committee and an NTD Technical Working Group under the chairmanship of the Director General of the Department of Health Services who is responsible for coordination among NTD stakeholders. The NTDCP worked with partners and government counterparts to develop a Plan of Action for integrated NTD control. The Government of Nepal approved the plan in April 2010.

The NTDCP worked in close collaboration with all stakeholders (including government institutions) and provided support for planning and review meetings of central, regional and district-level officials. These meetings helped to improve existing planning, monitoring and reporting practices. The NTDCP also supported revision of the National LF guidelines, development of training and IEC materials, as well as training of health workers and volunteers for LF, STH and trachoma MDAs. Project support for health care provider training in management of serious adverse events and training of managers in media management were also important in ensuring LF MDA success.

Integration of MDA took place in districts where LF and STH are co-endemic. The NTDCP worked with both the Child Health Division and EDCD to determine that districts receiving DEC+ALB for LF MDA should receive only one additional round of ALB for school-aged children. Previously, the programs were running in parallel. As a result, children in many districts received ALB three times per year. The NTDCP also supported district-level trainings to educate health workers and volunteers about the ALB administration policy change. Since this change was implemented, monitoring for STH coverage was integrated with LF in co-endemic districts. This saved valuable staff time and lowered the costs of implementation and drug procurement.

COORDINATION WITH SCHOOL HEALTH PROGRAMS

The STH control program for school-aged children is jointly implemented with the Ministry of Education and Sports. School management committees coordinate STH MDAs in the schools. Students are also taught about the importance of personal hygiene and sanitation in order to prevent all three NTDs present in Nepal. Support for teacher and female community health volunteer training programs that promote personal hygiene and sanitation activities in schools and communities is a priority for long term sustainability.
KEY ACHIEVEMENTS

DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT

No mapping was supported by the NTDCP. At the close of the project, three districts needed mapping for LF. Eight districts needed mapping for trachoma.

NUMBER OF PERSONS TRAINED FOR MDA WITH USAID NTDCP SUPPORT

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoHP staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

52,264,717
Cumulative Treatments Provided

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS
GOVERNMENT CONTRIBUTION AND COMMITMENT

Nepal is uniquely positioned to make major advances to reduce—and in some cases eliminate—NTDs given the demonstrated commitment and strong programmatic experience of the government and development partners working in NTD control. Strong willingness and commitment exists in Nepal to reach national coverage of LF MDA with the goal of LF elimination by 2015. The government supports this commitment through its purchase of DEC for MDA, as well as through funding for districts implementing MDA. Elimination targets for blinding trachoma were also established, and control of STH is a goal of the MoHP.

Currently, the Government of Nepal outsources eye health services to NNJS. In the long term, the MoHP is planning to bring eye care services into the health system. As a step in this process, the Government plans to hold community level health worker trainings in primary screening and referral of eye diseases (including trachoma) to private eye hospitals for treatment. Similarly, in the districts where trachoma MDA has stopped, government agencies like DWSS and health offices are taking a leading role in improvement of personal hygiene and sanitation for continued trachoma prevention through the SAFE strategy.

The government is providing training to doctors for LF morbidity management and is planning to develop a strategy for morbidity management in collaboration with hospitals managing other diseases like leprosy. This strategy will also include approaches for community-based care for LF.

PROGRESS TOWARDS CONTROL AND ELIMINATION

The NTDCP conducted an STH survey in four district sentinel sites to monitor worm load in school-aged children. Overall, the prevalence was found to be moderate. As for LF, the Government of Nepal (with support from the WHO and the NTDCP) carried out TAS in five districts that had completed five or more rounds of MDA. Prevalence in all five districts was found to be below the cut-off point, and MDA has already stopped in these districts. The national program conducted trachoma impact surveys in five districts where three rounds of MDA were completed. Prevalence of active trachoma was found to be below the cut-off level. As a result, MDA ceased in these districts.

LESSONS FROM NEPAL

The absence of a NTD secretariat and full time national coordinator with authority in the MoHP limited the opportunities for coordination and rational mobilization of resources. This also contributed to delays in decision-making and implementation of planned activities, and limited integrated planning and budgeting.

Serious adverse events must be investigated and given full consideration by the government and partners in order to maintain community trust and participation in the MDAs. Following a number of serious adverse events which took place in the 2011 LF MDA, there was an investigation by the MoHP and the WHO, with assistance from RTI, to determine whether the SAEs were related to administration of DEC + ALB. While the eight deaths that occurred during the MDA were determined not to have resulted from MDA but rather from other health issues, the MoHP took a number of steps to prevent SAEs in future. Additional training for community drug distributors emphasized who was ineligible to receive MDA and what to do in the case of an adverse event. RTI worked with EDCD to conduct trainings for physicians about SAEs related to administration of DEC+ALB. In contrast to 2011, coordination with and participation of these stakeholders during the 2012 LF MDA played an important role in re-establishing community trust in MDA activities. Community members were advised to go to hospitals if they experienced any side effects. When these AE cases went for treatment in Morang and other program districts, physicians provided proper counseling and treatment. This increased the confidence in health providers as well as in community members.
Prior to the start of the integrated control program in 2007, MDA for SCH and STH was being implemented across all eight regions of Niger. The National Blindness Prevention Program (PNLCC) was addressing trachoma in the most endemic regions before the arrival of the NTDCP, but was not yet at national coverage. Niger had succeeded in virtually eliminating onchocerciasis as a public health problem by the start of the integrated NTD control program. LF mapping had been completed but MDAs had not commenced due to lack of resources.

Moving to an Integrated Approach

In 2006, the Niger Ministry of Health (MoH) developed an integrated Plan of Action for NTDs (2007-2010). The goal of this plan was to reduce the prevalence of NTDs throughout the country to a level where they no longer constitute a public health problem.

An NTD Task Force was established, and included NTD control program members, MoH officials, and representatives from international organizations such as the WHO, UNICEF, SCI, the Carter Center and HKI. In 2009, an NTD Focal Point was established by the MoH to chair the planning and evaluation meetings with the NTD Task Force. Throughout the program, integrated NTD planning meetings were regularly held at the Niger NTD Control Program office, and both vertical control program staff and senior ministry officials (chaired by the NTD focal point) participated. All aspects of the integrated NTD efforts—drug orders, planning, budgeting, management, supervisions, evaluations and reporting were jointly conducted.

The Niger NTD Control Program has consistently followed a well-organized and well-managed phased approach to integrated mass treatment. By 2010, the MDA expanded to cover the entire country. The NTDCP covered the regions of Dosso, Tillabery, Tahoua, Maradi and Niamey, and funding from the Carter Centre supported two districts in Zinder and the 3 districts of Diffa. MoH funds supported the remaining three districts of Zinder and three districts of Agadez.

Coordination with the Ministry of Education

The Ministry of Education and the school health program worked closely with the NTD Task Force to include NTD prevention in the primary school curriculum. A workshop titled “Strategy for the Improvement of School Health” was held in 2008, during which both NTD and other health issues were incorporated into the syllabus. It is also important to highlight the teachers’ participation in the NTD MDA through their attendance at training courses and subsequent assistance with drug distribution in schools.
KEY ACHIEVEMENTS

DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT

THE MAJORITY OF MAPPING NEEDS FOR LF AND TRACHOMA WERE ADDRESSED BY OTHER PARTNERS IN NIGER. USAID’S NTDCP SUPPORTED MAPPING FOR TRACHOMA IN 2 DISTRICTS. AT THE END OF THE NTDCP, 1 DISTRICT NEEDED MAPPING FOR LF.

DISTRICTS MAPPED FOR TRACHOMA

NUMBER OF PERSONS TRAINED FOR MDA WITH USAID NTDCP SUPPORT

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

Cumulative Treatments Provided

65,491,369

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS

Persons Treated

Districts Treated
GOVERNMENT CONTRIBUTION AND COMMITMENT
The government of Niger provided leadership for all program activities. As in previous years, the MoH continued to provide contributions. This support included salaries for all national, regional and district health and education officials working directly with the integrated MDA, vehicle insurance for all government vehicles used for NTD control efforts, customs tax relief for drugs arriving in Niger and hygiene and sanitation efforts in all regions.

The commitment of the national government also increased over the course of the NTDCP, resulting from advocacy that leveraged partner inputs. At the beginning of the program, the government commitment was limited to health worker salaries—by the end, 50 million CFA were committed to NTD control by the government.

PROGRESS TOWARDS CONTROL AND ELIMINATION
In 2009, the NTDCP supported trachoma impact surveys that demonstrated prevalence of TF less than 10% in 18 districts of Niger, demonstrating progress towards achieving its goal of eliminating blindness from trachoma by 2015.

In 2011, Niger aimed to finish the fifth round of treatment in order to eliminate LF. As a result of reduced prevalence of SCH in certain areas following several rounds of treatment, biennial PZQ treatment will replace annual MDAs with the exception of ten hyper-endemic districts along the Niger River Valley (Tillabery, Dosso and Niamey), where annual treatment will be maintained.

LESSONS FROM NIGER
As MDAs continued and advocacy initiatives were supported, endemic communities increased their commitment and efforts to control and eliminate these diseases. As they realized the benefits of MDA for their health, some communities started to mobilize funds for petrol so that CDDs could visit hard-to-reach community members.

In Niger, four to five years passed between the completion of LF surveys and the start of MDA. When the NTDCP established LF sentinel sites at the commencement of control activities, it found dramatically decreased levels of LF in areas that had very high prevalence at the time of the LF surveys. This is believed to be a result of a large distribution of insecticide-treated bed nets that was carried out for malaria vector control during that time, and also benefitted the LF program.

In order to develop integrated IEC materials, IEC specialists from the LF, schistosomiasis and trachoma programs met to identify joint messages common to all the disease programs. Clean water and sanitation, improved hygiene and MDA were all identified as primary themes and used to guide the development of integrated materials.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM
In Sierra Leone, NTD activities had been limited to onchocerciasis control in the 12 endemic districts using the community-directed treatment with ivermectin (CDTI) approach with funds from APOC and Sightsavers International. In 2007 there was one round of integrated treatment for LF with CDTI+ in six health districts funded by APOC. The Ministry of Health and Sanitation (MoHS) did not target other NTDs beyond onchocerciasis and LF. However, there were ad hoc provisions of MBD or ALB for STH control in school-aged children by some non-governmental organizations and UNICEF.

Mapping of onchocerciasis (in 2002-2004) and LF (in 2005) was completed before the start of the integrated program. Epidemiological surveys for LF were also conducted in six districts, establishing the baseline before the start of the integrated program. There had been no mapping for SCH, STH or trachoma.

MOVING TO AN INTEGRATED APPROACH
With the support of the NTDCP, NTD control was integrated using a CDTI+ approach, targeting LF, onchocerciasis and STH in 12 health districts with the help of community drug distributors. As a result, an increasing number of people were treated for LF and STH. Because more people were treated even in hypo endemic onchocerciasis communities (prevalence < 20%) co-endemic for LF, due to integrating the onchocerciasis and LF programs, APOC is now considering elimination of onchocerciasis instead of only control.

In fact, geographic coverage increased significantly for all targeted NTDs. Coverage for SCH increased from zero to seven in highly to moderately endemic districts. Geographic coverage for school-aged children receiving a second dose of STH treatment increased from six to cover 12 districts by 2010, seven of which were supported by NTDCP. The LF MDA expanded to include the Western Area with an improved strategy for the urban/non-rural communities and treatment for SCH expanded from school-aged children only to include at-risk adults and the eastern chiefdoms of Bombali district.

Part of the national strategy was the establishment of an NTD Task Force to coordinate NTD control activities involving a number of stakeholders, including the MoHS, HKI, the WHO, Sightsavers, PLAN, the University of Sierra Leone and Njala University. Integrated training manuals, guidelines and monitoring and evaluation tools were developed. A five-year NTD Master Plan (2011-2016) was developed to consolidate the achievements made and to plan for the future.

INTEGRATION WITH OTHER PLATFORMS
In the Western Area, MDA is implemented through the National Immunization Day approach using community health workers. Treatment for SCH and a second dose of STH treatment for school-aged children is conducted through a school-based approach using school teachers as drug distributors while the treatment of special at-risk adults is done by health workers.

Integration with other health interventions such as malaria campaigns and mother and child health weeks has been a challenge, especially at the national level. However, in some cases, integration of activities has occurred at the district level. During FY10, the distribution of Long Lasting Insecticide Treated Nets (LLITNs) was integrated with MDA for LF in the districts of Bo, Bonthe, Moyamba, Koinadugu, and Kono. Because of the free bed nets that were distributed (each household received 3 bed nets) alongside the NTD drugs, people came forward very early to collect the bed nets and also take the drugs. In these districts, community participation was found to be higher as compared to districts where no integration took place.
Key Achievements

Disease Mapping Completed with USAID NTDCP Support

With NTDCP support, 12 districts were mapped for sch and sth. Five districts were mapped for trachoma. All NTD mapping has been completed.

Number of Persons Trained for MDA with USAID NTDCP Support

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoHS staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

30,836,712 Cumulative Treatments Provided

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS
After two years of NTDCP support for MDA, Sierra Leone achieved national scale of integrated MDA for all targeted endemic NTDs (LF, onchocerciasis, SCH and STH).

GOVERNMENT LEADERSHIP

In Sierra Leone, the NTD control program is fully integrated into Sierra Leone’s primary health care system. There is stable commitment on the part of the Government for NTD control, as well as indications that the MoHS will continue its leadership of NTD control in the event of donor exit. MoHS senior-level staff have been highly engaged in technical aspects of the program, further demonstrating Government leadership.

PROGRESS TOWARDS CONTROL AND ELIMINATION

Results from a third round LF impact assessment conducted in 12 districts in FY11 showed a significant reduction in prevalence and intensity from the 2007-08 baseline survey. In FY13, a post-fifth round LF impact assessment will be conducted in 12 districts and a post-third round will take place in the Western Area to determine whether a TAS should be conducted to assist a policy decision about cessation of MDA and commencement of disease surveillance.

LESSONS FROM SIERRA LEONE

Through an integrated approach, cost efficiencies were achieved in a number of areas, including the development of an integrated training manual, integrated IEC materials, integrated training of health workers and community drug distributors, and joint monitoring and supervision on all aspects of NTD control implementation. For example, the cost of training of community drug distributors to distribute IVM to control onchocerciasis in hyper- and meso-endemic communities is almost the same as the cost involved to train the same number of individuals to distribute both IVM and ALB to treat for onchocerciasis, LF and STH in the same communities. Likewise, the cost of training health workers to supervise the distribution of IVM alone is almost the same as the cost involved to train the same number of health workers to distribute both IVM and ALB to treat for onchocerciasis, LF and STH in the same communities.

To ensure awareness of basic information about NTDs, the project used various forms of communication extensively, including print media, radio and social media. Post-war Sierra Leone has a strong radio-listening public. Besides the numerous radio stations in the Western Area and three radio stations in every provincial head quarter town, every district also has at least one community radio station. The extensive use of commercial and community radio stations to disseminate information and respond to phone-in questions and SMS messages about the PC LF and STH campaign was crucial to achieving desired coverage. In addition, the use of standard basic information in the form of “FAQs” to explain disease transmission, control, and prevention were adapted from PC Western Area in FY10 and used for all social mobilization events. This proved to be very useful in standardizing information disseminated by all media and helped avoid misconceptions as a result of false information. The LF campaign in the Western Area disseminated information through the Internet, using social media such as Facebook and Twitter (@hkislv) to reach the country’s growing youth population who were at risk for NTDs.

During the last round of MDA for LF in the Western Area, the National Expert Committee on Adverse Drug Reactions was recruited to assist the NTDCP and DHMT-Western Area to monitor and report on common and serious side effects. Chaired by the Director of Disease Prevention and Control, the committee met in four sessions and organized five mobile teams to monitor the five-day PC-LF campaign and for a further five days after its completion. In total, 478 common side effects and seven serious adverse events (including cases of severe diarrhea and vomiting) were reported to the WHO and national authorities. This initiative by the MOHP and HKI helped insure appropriate monitoring of the MDA, strengthening the national capacity for oversight and reporting.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM

After 20 years of war and few efforts at control, NTDs are a major public health problem in South Sudan. Limited capacity and limited government resources required partners to take the lead in organizing efforts to control NTDs. In large part, NTDs have been managed vertically by implementing agencies with little cross-disease coordination and limited management by MoH representatives to leverage resources and harmonize approaches. Through its South Sudan Guinea Worm Eradication Program (SSGWEP) village platform and resources, the Carter Center has supported the MOH in implementing the SAFE strategy including yearly distributions of azithromycin for trachoma control in areas within Jonglei and the Eastern Equatoria States since 2006. Mobile distribution teams conduct this activity in a campaign-like system, largely due to access and literacy issues in target communities. APOC supported onchocerciasis control activities. The Malaria Consortium supported control of SCH and STH with activities limited in scope. LF elimination activities were not undertaken, although LF is endemic in South Sudan.

NTDCP supported the development and dissemination of an NTD Situation Analysis and National Strategic Plan for NTD Control.

MOVING TOWARDS AN INTEGRATED APPROACH

With NTDCP support, the NTD program was able to make significant strides towards development of a comprehensive NTD control system. It placed into the public domain the situation of NTDs in South Sudan, which was previously unreported. The post-war development of institutions to manage the public health structure, the lack of experienced managers, lack of financing, and overreliance on vertically orientated NGOs to conduct activities hampered efforts to develop a robust and coordinated integrated NTD program. Moreover, in the high operating cost context of South Sudan, there was a lack of funded agencies to undertake activities.

HIGHLIGHTED NTDCP PUBLICATIONS FOR SOUTH SUDAN


KEY ACHIEVEMENTS

DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT

28 COUNTIES MAPPED FOR LF
27 COUNTIES MAPPED SCH AND STH
14 COUNTIES MAPPED FOR TRACHOMA

NTDCP SUPPORTED MAPPING IN 28 OF THE 78 COUNTIES REQUIRING MAPPING FOR LF, IN 27 OF THE 78 COUNTIES REQUIRING MAPPING FOR SCH AND STH, AND IN 14 OF THE 65 COUNTIES REQUIRING MAPPING FOR TRACHOMA. AT THE CLOSE OF THE NTDCP, 50 COUNTIES STILL REQUIRED MAPPING FOR LF, 51 COUNTRIES REQUIRED MAPPING FOR SCH AND STH AND 46 COUNTRIES REQUIRED MAPPING FOR TRACHOMA.

NUMBER OF PERSONS TRAINED FOR MDA WITH USAID NTDCP SUPPORT

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA.
**TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN THOUSANDS**

237,489

Cumulative Treatments Provided

**PERSONS TREATED WITH USAID NTDCP SUPPORT, IN THOUSANDS**

**SOUTH SUDAN**

- **ALB/MBD**
- **PZQ**
- **Zithro+Tetra**
The government did form an NTD Technical Committee that met quarterly through 2009. It was comprised of the various NTD stakeholders, and provided programmatic updates and helped coordinate any activities where there was overlap. With NTDCP support, the government also organized two large-scale stakeholder meetings. The first was organized in January 2009 and the second was organized in February 2010. The meetings allowed all interested parties from the international community (drug donation programs and the WHO) to meet with local officials, organizations and their senior representatives from home offices. Recommendations from the 2010 meeting generally focused on improving coordination, data sharing and awareness of lesser-publicized diseases such as Buruli ulcer.

GOVERNMENT CONTRIBUTION AND COMMITMENT
Coordination of the PC NTD control programs remains the responsibility of the National Integrated NTD Control Programme Technical Committee, primarily through the Endemic Disease Control Program Section. Some coordination of morbidity management and clinic-based treatments and some MDA activities for Trachoma Control are coordinated by the Eye Care Services Section.

Leadership remains a significant challenge in the nascent Ministry of Health. Weak coordination of actors and activities was the greatest constraint faced by the integrated NTD Control Program. With the appointment of a new Minister of Health and independence for South Sudan, a newly stabilized MOH will be able to provide the NTD programs with stronger management and centralized oversight.

PROGRESS TOWARDS CONTROL AND ELIMINATION
South Sudan’s first sentinel site for LF was established with assistance from the NTDCP. In December 2010, sentinel site testing was conducted with the assistance of four laboratory technicians from the Ugandan Ministry of Health Vector Control Division and two Southern Sudanese State Ministry of Health laboratory technicians, trained by the Ugandan technicians. LF infection was measured by testing microfilaria levels present in the blood only in the late evening to early morning, when the mosquito vectors take their blood meal. In total, 539 individuals were tested for LF, with 19% testing positive. The data collected will serve as an important baseline comparison to future testing as LF infection levels are monitored following consecutive annual MDAs.
LESSONS FROM SOUTH SUDAN

Significant opportunities for NTD integration (particularly for SCH and STH) exist with other health platforms, such as the Community Case Management programs for malaria, pneumonia and diarrhea in under-five children.

 Longer term LF elimination could be integrated with onchocerciasis control, as most areas are co-endemic for onchocerciasis, STH and SCH, but careful administration would be required as many southwestern areas of South Sudan might be co-endemic with Loa loa, and the risk of adverse events from treatment is high. Conversely, LF elimination could be used as a platform to continue SCH/STH MDA or integrate trachoma into the treatment strategy. LF elimination could begin in earnest in counties in Eastern Equatoria (Kapoeta East, North, and South) and Central Equatoria (Terekeka) if integrated into the SSGWEP where Loa loa has not been reported.

The overall lack of adequate human resources will continue to be a challenge for program implementation. States lack resources to pay the salaries of their health workers, and the MoH RoSS does not provide funding for NTD control.

Drug donations should be linked to distribution plans developed by a national program with demonstrated capacity to implement and guarantee funding. Despite significant efforts made by the Malaria Consortium, the USAID mission, and UNICEF to administer and/or redistribute the drug, some of the donated PZQ expired in 2012 before it could be administered.

Accurate information regarding the population, demographics and delineation of village/boma/payams remained limited. This complicated estimating drug quantities and other supplies required for successful MDA rounds. Ongoing collection of population and demographic data as part of MDA rounds will improve planning of future rounds in the same areas, but adds significant time to conducting a house-to-house MDA campaign.

Existing community-based drug distribution networks experienced increased attrition as CDDs requested payment for their work. Post-war development of a market economy has provided access to consumer goods and employment opportunities, undermining the previous reliance on volunteerism.

Recent campaign work supported under UNICEF demonstrated that PZQ/ALB distribution at scale is both feasible and desired by local communities.
Prior to the start of USAID’s NTD control program

LF MDAs were implemented in the regions of Mtwara, Lindi and Pwani for several years, though without consistent monitoring. After much discussion on how to integrate the PC NTD programs and activities in regions where the diseases overlapped, the Ministry of Health and Welfare (MoHSW) began using an integrated approach in the Tanga region of Tanzania, combining the LF MDA with the onchocerciasis program’s CDTI in 2004. In 2009, integrated control expanded to 36 districts across the five regions of Mbeya, Iringa, Ruvuma, Morogoro and Tanga. Tanzania was one of the first countries worldwide to pilot the implementation of the World Health Organization-recommended SAFE strategy for trachoma control, beginning interventions in 1999.

Moving to an integrated approach

In order to facilitate integration, the MoHSW placed all of the PC NTD programs under the leadership of one NTD Coordinator who oversees all matters related to NTDs in the country. With all disease programs represented, this Central NTD Coordinating Unit plans regular meetings with in-country and international stakeholders to discuss program needs, successes, challenges, and technical issues. NTDCP supported the capacity of the NTD Unit by seconding three positions to support administration/finance, M&E, and supply chain logistics. The MoHSW also directed all districts and regions to nominate one person to assume the position of regional or district NTD control program coordinator. This replaced the former system where each region or district had several coordinators representing each of the disease programs.

Disease-specific information has now been integrated so that IEC materials and trainings include information about all PC diseases. Advocacy activities at the regional and district-level were also carried out in an integrated manner. Reporting and M&E efforts were standardized for diseases and are maintained at the NTD Unit. Integrated training for the distribution of the two community-based drug packages enabled training of more CDDs using less resources. Training more CDDs has helped the program reach more people in need of treatment. CDDs used by the NTD program have also been used as resource persons in other health interventions such as the distribution of mosquito nets under the malaria control program.

With NTDCP support for this approach, Tanzania successfully expanded their integrated NTD program, adding three regions in 2010 and reaching a total of 13 regions in 2012.

With NTDCP support, Tanzania’s national NTD program was able to scale up integrated MDA to an additional 34 districts, increasing the number of persons treated for at least one NTD by 4.6 million people.

Government contribution and commitment

The Tanzanian NTDCP is maintained under the leadership of the Government of Tanzania. The MoHSW has played a key role in developing the strategies for soliciting support through advocacy efforts, planning program implementation, and working with multiple stakeholders. A Tanzania NTD Master Plan was drafted in 2012.
Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoHSW staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

Cumulative Treatments Provided

11,083,714

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS
District councils have shown great support to the NTD control program activities through different mechanisms, including: provision of vehicles during the activities, involvement of all council management teams in the training of front line health workers, community mobilization at the ward level and coordination of all NTD-related activities at the district level.

PROGRESS TOWARDS CONTROL AND ELIMINATION

The Tanzanian NTDCP is working towards elimination of LF and trachoma. Plans are in place to conduct TAS eligibility surveys in five regions where districts have received at least five rounds of treatment. The program is also preparing for trachoma impact surveys in districts that have implemented at least three years of the SAFE strategy.

LESSONS FROM TANZANIA

Supportive supervision at all levels of the program was critical to successful implementation. With an acute shortage of human resources at the district level, close monitoring and supervision by the NTDCP was necessary.

In Tanzania, NTDCP capitalized on regions with experience in NTD control. For training activities, it was helpful to combine regions with experience in NTD control with new regions, allowing for transfer of skills and experiences. Representatives from new regions were able to hear testimonies from people who have implemented the program, and avoid pitfalls in implementation.

Proper advocacy meetings conducted with local decision-makers at the regional and district levels increased the level of commitment and resource allocation towards NTD control-related activities by these people in their respective regions. For example, district councils have shown commitment by including NTD activities in their respective Council Comprehensive Health Plans.

Having a person dedicated to dealing with drug issues and developing strategic operating plans on steps needed for drug clearance, ordering and general documentation is key to the success of the program. It greatly improves drug management leading to rational use of donated drugs.

The success of integrated NTD programs is dependent largely on the strength of the central NTD coordination unit. In the case of Tanzania, the central unit was very strong. Furthermore, coordination was ensured at the regional and district level with one individual appointed to coordinate all NTD-related activities in his or her respective region/district.

PROMOTING GREATER PROGRAM EFFICIENCIES FOR NTD CONTROL

For years, the MoHSW in Tanzania has worked to develop web, mobile and desktop software to allow census, drug inventory and other important information to be collected and saved in a central location. Working with Rain Concert-India, the National Institute for Medical Research (NIMR) Tanzania, and the Imperial College-London, NTDCP helped the national NTD program to conduct a pilot study as part of its MDA using mobile phones for data collection. All locations in the study reported data with successful real-time results.

Census data collected via mobile phone allows for more accurate estimates of medicine needed during MDA. Coverage rates can be reported in real time during MDA, allowing managers to take appropriate action where needed by tracking medicine consumption at the village level. As a result, the MDA was conducted more efficiently, drug supplies are used rationally and the program overall was more effective. Based on this initial success, the MoHSW hopes to expand the use of mobile phone technology for use in upcoming MDAs.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM

Togo successfully piloted integrated NTD control in one district several years before USAID assistance began. The country had worked for over five years to develop an integrated NTD program, and USAID assistance made it possible to expand the successful pilot nationwide. Prior to the integrated program, LF transmission was successfully interrupted. The national SCH program and the national program for preventing blindness (responsible for trachoma control, and separate from the onchocerciasis control program) were unable to implement activities due to lack of funding. There was no national program for STH control.

MOVING TO AN INTEGRATED APPROACH

The National NTD Coordinating Mechanism and Committee manages the National Plan for the Integrated Control of NTDs in Togo. Most members of this team have collaborated since 2005 to plan the NTD integrated control program. The National Coordinator for NTD Control leads the national coordinating committee. This committee is responsible for developing policy, leading national and international advocacy efforts, ensuring inter-ministerial and interagency coordination, ensuring availability and mobilization of resources, and tracking the progress of control activities. The committee has a dedicated secretariat for planning and implementation of the program, which is comprised of the National Coordinator for Integrated NTD Control, a deputy coordinator, the head of IEC Services, a manager, a statistician, an accountant and a secretary. The National Coordinator for Integrated NTD control works in partnership with individual NTD control programs and is a colleague of, but does not oversee, the individual program managers; the individual program managers retain control of their individual program activities, particularly those unrelated to integrated activities. In this structure, the individual NTD program managers are on par with the National Coordinator for Integrated NTDs. It allows a truly collaborative approach that promotes true integration through contributions from all involved parties.

While the onchocerciasis program had conducted twice-yearly MDA for decades, there had been no funding available for SCH MDA and no formal national STH program. Through integration, these under-funded diseases were included in the national MDA. The success of the integrated MDA has also led to plans to integrate STH treatment into the second round of MDA for onchocerciasis in hyper-endemic foci.

With the technical and financial support of the NTDCP, Togo completed mapping for all targeted NTDs.

INTEGRATION WITH OTHER PLATFORMS

Togo has worked with NTD and child health partners to integrate the MDAs for onchocerciasis, SCH and STH with UNICEF’s nutrition program for children under five. As a result, pre-school age and school-age children are reached with ALB, and pre-school aged children also receive vitamin A. In 2011, the MDA included distribution of bednets for malaria prevention.
KEY ACHIEVEMENTS

DISEASE MAPPING COMPLETED WITH USAID NTDCP SUPPORT

WITH USAID NTDCP SUPPORT, 29 DISTRICTS WERE MAPPED FOR STH AND SCH. 15 DISTRICTS WERE MAPPED FOR TRACHOMA WHICH CONFIRMED THAT THERE IS LITTLE ACTIVE TRACHOMA IN TOGO. MAPPING HAS BEEN COMPLETED.

29 DISTRICTS MAPPED SCH AND STH
15 DISTRICTS MAPPED FOR TRACHOMA

NUMBER OF PERSONS TRAINED FOR MDA WITH USAID NTDCP SUPPORT

Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
TREATMENTS PROVIDED WITH USAID NTDCF SUPPORT, IN MILLIONS

Cumulative Treatments Provided

PERSONS TREATED WITH USAID NTDCF SUPPORT, IN MILLIONS
GOVERNMENT CONTRIBUTION AND COMMITMENT

The establishment of a national NTD coordinating mechanism and committee and focal point for integrated NTD activities has allowed the government to provide strong leadership for integrated NTD control activities. The Government of Togo has demonstrated impressive and competent leadership in coordinating a complex nationwide MDA for NTDs in coordination with distribution of bednets, and ALB and vitamin A for children under five years of age. More than 15 different participating programs and organizations are involved in this effort. The Government of Togo also provided some funding for advocacy, social mobilization, training, and MDA costs.

PROGRESS TOWARDS CONTROL AND ELIMINATION

Togo has eliminated LF and now has a comprehensive post-elimination strategy for LF. This includes outreach to persons affected by lymphedema and providing education and supplies for lymphedema management. Post-elimination surveillance includes monthly screening of nighttime blood slides for microfilaria; these are taken from patients being treated for malaria and are collected at 41 laboratories in the 35 districts of Togo. Additionally, in border areas not served by these laboratories where the risk of LF is higher due to its presence in neighboring countries, specially trained nurses at peripheral health centers will, four times per year, collect blood spots on filter paper from 20 adults living in the area and forward them to Lomé for analysis.

Analysis of national STH prevalence data from the 2009 mapping demonstrated significant rebound of STH in areas where LF MDA was stopped. As a result, Togo began implementing MDA for STH, and starting in 2012, this will include treatment of school age children twice during their primary school years in areas with prevalence above 20%. Togo also is planning impact surveys that will help identify areas of rebound of STH where MDA is less frequent.

LESSONS FROM TOGO

Togo has demonstrated that integrated control of NTDs is a feasible, cost-saving approach that expands both the number of diseases and the number of people who can be reached beyond what can be achieved through vertical programs alone. These efficiencies are even greater when combined with other public health programs that use the same mass distribution platforms. However, there are logistical challenges associated with integration, and more extensive integration means greater challenges. Several significant delays arose related to the complexity of the planning and coordination, as well as from supply chain delays for some of the partners. Some of these delays were part of the learning curve for Togo during its first nationwide integrated MDA. Others perhaps could be avoided through more advanced planning and better understanding of supply chain management. Togo’s greatest success was the impressive leadership from the Ministry of Health, which led and directed the coordination of numerous partners. This invaluable experience has demonstrated Togo’s ability to eventually manage these NTD activities independently.

Challenges do remain concerning next steps. Togo has conducted twice-yearly MDA for onchocerciasis for over 30 years, but there are little data and guidance on monitoring and next steps. Togo has demonstrated that there is significant rebound of STH once MDAs are stopped. However, there is no guidance on how best to monitor this rebound or how to address STH in the long term. We are aware that there are ongoing studies examining when and how best to transition from control to surveillance activities for onchocerciasis, soil transmitted helminthiasis, and other diseases, and these data and any guidelines arising from them will be highly valuable to Togo as it gains control of these diseases through its integrated NTD program.
PRIOR TO THE START OF USAID’S NTD CONTROL PROGRAM

In Uganda, several longstanding and successful NTD control programs were implemented as part of the Vector Control Division of the Ministry of Health (MoH). MDAs to control onchocerciasis, the oldest of NTD programs, started in 1993 with support from APOC, the River Blindness Foundation/The Carter Center and Sightsavers. MDAs for SCH and STH began in 2003 with support from SCI and funding from the Bill and Melinda Gates Foundation, and had expanded to reach all high-risk communities. The Program for the Elimination of Lymphatic Filariasis (PELF) had been treating in some districts since 2002. While some trachoma mapping was completed, comprehensive SAFE strategy activities were not yet supported (including MDA).

MOVING TO AN INTEGRATED APPROACH

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. Co-location at the Vector Control Division (VCD) naturally facilitated communication and collaboration between the disease programs. With NTDCP support, MDA for trachoma began for the first time in 2007. With the first integrated MDA also taking place that year, the program began integrating training manuals, field guides, register and tally sheets, advocacy, and training of district trainers, supervisors, teachers and CMDs. Messaging for IEC and, sensitization and social mobilization was integrated for all targeted NTDs, as was registration of communities, MDAs and post-MDA monitoring.

With drug donations from International Trachoma Initiative/Pfizer and financial support from the NTDCP, the Ministry of Health in Uganda was able to start MDA for trachoma in 2007 and scale up to 80% geographic coverage of known endemic districts by 2011.

INTEGRATION WITH OTHER PLATFORMS

NTD programs aim to implement activities as part of the Child Days Plus Program, a MoH-led platform to promote maternal and child health services that also includes Vitamin A distribution. Child Days Plus are month-long events scheduled twice a year which provide a platform for trained teachers to distribute NTD drugs to children in attendance.

GOVERNMENT COORDINATION AND COMMITMENT

The development of the national plan for integrated control of NTDs was a priority for the MoH. After the plan was developed, the Government set up the NTD Secretariat, which brought together all of the vertical Programs and relevant partners. It is headed by an Assistant Commissioner representing the Director General of Health Services of the MoH.

Together with WHO and partners, the MoH’s National Master Plan aims to significantly reduce the burden of 11 NTDs (including those treated through PC) in all affected districts in Uganda to a level where they are no longer of public health importance by 2016. The government of Uganda continues to demonstrate its commitment towards control and elimination of NTDS through its support of key government staff, facilities, clearance and delivery of drugs, and investment towards vector control strategies in the Northern Regions.
Each year, the NTDCP supported the training of individuals at central, regional, district and community levels for PC-related activities, including MoH staff, trainers, supervisors, teachers and community drug distributors in preparation for MDA. Many of these individuals were trained more than once participating in the MDAs year after year, as part of refresher trainings. The vast majority of persons trained are community drug distributors, thereby building community participation and ownership of NTD activities.
TREATMENTS PROVIDED WITH USAID NTDCP SUPPORT, IN MILLIONS

Data is not included for FY12 because MDAs were not completed at the close of the NTDCP.

108,468,109
Cumulative Treatments Provided

PERSONS TREATED WITH USAID NTDCP SUPPORT, IN MILLIONS

Data is not included for FY12 because MDAs were not completed at the close of the NTDCP.
**PROGRESS TOWARDS CONTROL AND ELIMINATION**

After several years of consecutive annual MDAs, disease assessment surveys for LF, onchocerciasis, SCH and trachoma have been implemented in certain districts to determine if they met the criteria for stopping MDA. In LF sentinel sites in Amuria and Katakwi, antigenaemia rates are now below 1%—the cut-off point for stopping MDAs—although further review and approval is required before MDAs stop. Sentinel site surveys will continue to be implemented to determine TAS eligibility in districts that have carried out at least 5 effective MDAs, and plans are underway to implement TAS in the eligible districts.

In certain foci, onchocerciasis transmission has been interrupted; vectors have disappeared and prevalence rates dropped to zero. This includes the western region (Kabarole, Kamwenge, Kyenjojo and Kibaale Districts); eastern regions Mt. Elgon area (Mbale, Sironko, Manafwa Districts); and Wadelai Focus in Nebbi District. The MoH has finalized the guidelines for certification of elimination and post-treatment surveillance (PTS) in line with WHO guidelines, and established the Uganda Onchocerciasis Elimination Expert Advisory Committee. The Committee is responsible for guiding the elimination and declaration of elimination. PTS is implemented in foci where onchocerciasis transmission has been interrupted.

In low endemic areas, including foci in the districts of Nakasongola, Soroti, Dokolo, Lamwo, Mubende and others, MDAs for SCH occur once every four years. In these districts, other partners provide diagnostics and drugs (PZQ) at Health Units. At the close of the NTDCP, impact assessment surveys for SCH were to take place in several additional districts.

Trachoma impact assessments are being planned in twelve districts that have maintained high coverage during MDA and conducted four of more years of SAFE strategy interventions.
LESSONS FROM UGANDA

Coordinating outreach to communities during Child Days Plus has its advantages by targeting multiple health interventions. The approach, however, also creates a more inflexible timeline for implementation and presents additional challenges for successful collaboration when delays occur for a particular program.

Despite the interruption of onchocerciasis transmission in several areas of Uganda, communities continue to demand that MDAs continue, likely due to the de-worming benefits of Mectizan® but also due to the recognition that service outreach is enhanced for other health issues during MDA.

Advocacy efforts from the central to the district level benefited the program. Public support for NTD control efforts from elected officials resulted in increased financial commitments from local governments, increased media coverage and overall improved awareness of NTDs and efforts of the national government to control them. Similarly, buy-in at the district level helped the program to gain support at the community level.

Whereas some districts integrated very well and implemented smoothly, other districts with less capacity had more difficulty with coordination and keeping schedule with planned drug distribution, MDA and reporting. Supportive supervision provided at the district level is critical to be able to monitor and prevent potential delays.

Clearing and distributing NTD drugs to districts through the National Medical Stores (NMS) at times caused extensive delays and insufficient deliveries. Targeted discussions with NMS improved communications and early preparations to avoid future delays. The use of alternative drug supply systems may provide solutions to the existing problems, but can only be implemented with government agreement.
6. CHALLENGES AND LESSONS LEARNED
6. CHALLENGES AND LESSONS LEARNED

Because the NTDCP was tasked with a conceptually new, ‘integrated’ approach to NTDs, several challenges were met over the life of the project. Some were more global in scope—with solutions requiring international consensus—and some were more focused at the national program level. This section describes the lessons learned in facing challenges over the life of the project.

NEED FOR GLOBAL NTD TARGETS AND GUIDELINES

Because there had been little focus on NTDs in the years prior to the NTDCP, program guidelines or algorithms for their effective control or elimination had either never been formulated or had been developed only recently and were minimally tested. As the NTDCP started and support for wide-scale program implementation was available, the countries’ need for guidelines became more critical. The challenge for specific guidelines was most acute for SCH and STH programs as well as for onchocerciasis elimination in Africa (a new program target). Similarly, packaging the USAID-targeted NTDs for an integrated approach to was totally new at the time NTDCP began, and the guidelines for achieving this integration were evolving. Different programs used different indicators for monitoring programs, for evaluating them, for assessing their impact, and as metrics of program success. In order to harmonize results across countries and programs, the challenge was to establish an agreed set of indicators that could be shared by all. The programs of the NTDCP prompted the international community (led by the WHO) to work faster to set targets, define algorithms, create indicators and provide the guidelines necessary for successful program function.
PROMOTING ‘INTEGRATION’

As the NTDCP was tasked with promoting integration of disease-specific efforts, one major challenge was to define ‘integration’. Essentially, it has been the enabling of NTD programs (with multiple disease-specific components) to carry out similar activities in the most efficient and cost-effective manner. The NTDCP sought to identify which activities could and should be linked, to assess the effectiveness of the integration implemented, to encourage separate teams to sacrifice some independence to make long-term program gains, and to ensure that the individual needs of each disease-specific component were satisfied. Challenges arose when other diseases that were not already among those targeted by preventive chemotherapy—but which affect the same ‘neglected populations’—were seen as candidates for integration. Similarly, opportunities existed for integrating NTD programs not only with other health programs, but also with education or development activities. The donor community in which the NTDCP operated had enormous influence on guiding individuals’ and programs’ efforts to integrate their activities. Indeed, in many instances it had been the lack of donor enthusiasm for integration that inhibited coordination of program activities by managers who recognized the opportunities missing for efficiencies to be achieved.

The challenges became greater as different sectors and different types of organizations became involved, but it also became clear that these new stakeholders brought with them great opportunities to expand the impact of the NTD programs. One solution the NTDCP identified to part of the ‘integration problem’ was to organize the donor community to support this concept fully and practically. Program managers, once encouraged by their donors, worked creatively together to find the efficiencies that resulted in win-win situations. Opportunities extended to other programs involved in mass distribution of products or services, including, amongst others, the IDM (Intensified Disease Management) NTDs, other vector-borne diseases, to immunization, etc. Active efforts towards promotion of integration has required working with donors to promote the concept across multiple diseases, supporting program managers to increase their efficiencies, encouraging efforts to initiate cross-sector coordination, and promoting operational research efforts to identify how best to integrate on-going health, education and development efforts with those of NTD programs.

Active efforts towards promotion of integration has required working with donors to promote the concept across multiple diseases, supporting program managers to increase their efficiencies, encouraging efforts to initiate cross-sector coordination, and promoting operational research efforts to identify how best to integrate on-going health, education and development efforts with those of NTD programs.

8. The diseases include, among others, Buruli ulcer, Chagas disease, human African trypanosomiasis and leishmaniasis.
ENSURING COMPLEMENTARITY OF PARTNER SUPPORT

The success of NTD programs and the increased global attention paid to them has created a challenge at the global and national levels that did not exist even six years ago when the NTDCP began. More organizations are now coming into the ‘NTD space’—which is excellent and necessary for the success of these programs—but there has also been a significant global need to create a coordinating mechanism that will allow for effective and efficient use of these new resources with maximal satisfaction for donors, implementers and engaged countries. NTDCP experiences showed the need to coordinate donor support in such a way as to be complementary and not duplicative, both in diseases targeted and in geographic areas assisted.

One solution employed by the NTDCP was to focus on greater in-country coordination among partners supporting national NTD programs. Annual stakeholder meetings were found to be critical for coordination and gradually became a regular part of national program activities. Annual work-planning sessions, while initially segregated by donor, increasingly included other stakeholders as well and gave program managers the opportunity to plan for their national program as a whole. Annual all-partner work-planning sessions permitted open discussion and comfortable negotiation of areas of potential overlap or special interest among the national program staff and its supporters. In addition, by its close, the NTDCP aimed to meet at least twice annually with other major donors and partners to ensure that plans for countries with shared support can be harmonized at the international donor level.

LINKING PROGRAMMATIC ‘UNCERTAINTIES’ WITH OPERATIONAL RESEARCH OPPORTUNITIES

Not surprisingly, NTD program managers faced many technical uncertainties. These ranged from how to deal with LF and onchocerciasis in areas where Loa infection makes current treatment options unsafe, to reaching poorly compliant populations, to having accurate diagnostic tools, to knowing when to stop MDA activities, and many more. The broad challenge for the NTDCP was both to identify the potential program barriers and to engage the research community in creating solutions to overcome these barriers. Just as the new integrated NTD programs were responsible for driving the development of global program management guidelines, so they also drove the need for operational research, since the programs need answers in order to succeed. Conveniently, they not only have the greatest need for these answers but also the greatest opportunity to facilitate the population-based studies required to address them. Fortunately, the NTDCP was well linked with the NTD operational research community (the CDC, the Task Force for Global Health, Noguchi, NMRI Tanzania, the Bill & Melinda Gates Foundation, CNTD, the WHO and others). These connections presented opportunities for the NTDCP-supported country programs to link with the research community to identify practical solutions to pressing program needs.
7. NEXT STEPS IN MEETING 2020 GOALS FOR NTD CONTROL AND ELIMINATION
7. NEXT STEPS IN MEETING 2020 GOALS FOR NTD CONTROL AND ELIMINATION

During the course of the six-year NTDCP project, many advances were made in global and national approaches to NTD control and elimination. The very first WHO report on NTDs, “Working to Overcome the Global Impact of Neglected Tropical Diseases,” was launched on October 14, 2010, giving evidence that the interventions implemented by its member states were improving the health and quality of life of the populations affected. At the first anniversary of that report, the WHO provided updated figures and maps of progress towards NTD elimination and control. In January 2012, WHO Director-General Margaret Chan presented a WHO Roadmap for Implementation, “Accelerating work to overcome the global impact of Neglected Tropical Diseases”, at a gathering of public and private partners in London. These partners included endemic countries, pharmaceutical companies, donors, and non-governmental organizations. They signed on to a “London Declaration on NTDs” that committed to a new, coordinated push to accelerating progress towards elimination and control as outlined by the WHO. Global momentum has been building, as the NTDs are less ‘neglected’ and become understood and known as a source of global health focus and importance.
It can be argued that the programs of the NTDCP helped drive the international community (led by the WHO) to set targets, define algorithms, create indicators and provide the guidelines necessary for successful program function. The NTDCP supported the development of new ways of addressing and thinking about NTDs. It resulted in unprecedented scale-up of many national NTD programs, and enabled them to begin realizing real progress towards control and elimination. In addition, the rollout strategy, now considered a ‘best practice’ approach, provided much-needed guidance for countries adopting an integrated approach to NTD control and elimination.

Building on that experience and leveraging the many lessons learned, USAID support for NTD control and elimination will continue through the End Neglected Diseases in Africa project (2010-2015) and End Neglected Diseases in Asia (2010-2015) both led by FHI360 as well as the ENVISION project (2011-2016) led by RTI. These projects will continue the work started under the NTDCP to reduce the burden of seven of the most prevalent NTDs so they are no longer a public health problem.

Summarized below are the critical focus areas that NTD endemic countries, donors and partners—including the programs benefiting from USAID support—will need to address in order to continue this important work and reach the global NTD control and elimination goals for 2020.

GLOBAL AND NATIONAL COMMITMENT

As their name would imply, NTDs have historically received little attention or support for efforts targeting their control or elimination. This is largely because citizens of the developed world are not familiar with either the magnitude of their impact on the world’s most underserved populations or the very small cost (for very large benefit) of programs targeting the NTDs. Effective advocacy for NTDs has increased since the NTDCP began, along with an increase in global and national commitment for programs targeting these diseases. Part of the success of this advocacy stems from increased awareness of these diseases, but an important part also comes from the success of the NTDCP itself—the relatively small investment of the United States government being effectively translated into very large health gains.

A principal challenge for the NTD community going forward will be to increase the commitment to target these diseases. It will be key to raise awareness of this ‘best buy in global health’ both at the global level among international donors and development agencies, and at the national level within ministries of health, education and development. To meet this challenge advocacy is required at all levels, first to raise awareness of the NTDs and then to propose specific solutions.

MEETING THE NEED FOR DISEASE MAPPING

It is impossible to plan NTD programs—globally or nationally—without knowing the extent of the NTD problem. Mapping must be completed and remains a challenge, particularly for the SCH and STH programs, and most especially in Africa. Over the past years, the NTDCP has contributed much to geographic mapping of the NTDs as well as to development of a common mapping database that can be shared by the drug donation programs, the WHO and others. The actual geographic mapping that still remains to be done will be undertaken through a WHO-coordinated, USAID- and DfID-supported global initiative that aims to complete all mapping for NTDs in the next three years.
EXPANDING NTD PROGRAM ACTIVITIES BEYOND MDA
Each of the targeted NTDs has specific clinical manifestations that require medical management. However, many NTD programs (including the NTDCP) have elected to approach them principally through an MDA strategy that targets their greatest susceptibility and can successfully prevent their spread. This focus on preventive chemotherapy alone brought early criticism from some, since WHO guidelines actively promote attention to NTD morbidities. The challenge for NTD programs is to determine how to be appropriately attentive to these clinical manifestations that cause appreciable suffering in affected individuals in the endemic populations, while still carrying out effective measures to decrease disease transmission. This is most notable with hydroceles and lymphedema in patients with LF, and the trichiasis in patients with trachoma.

TECHNICAL ASSISTANCE AND CAPACITY BUILDING
During the course of the NTDCP, the need for enhanced technical assistance and training support for national program implementation became clear. NTD programs undertake a wide range of activities; in-country training and capacity building are critical to ensuring the proper program implementation at all levels as global guidelines evolve. The NTDCP was groundbreaking in helping national programs develop best practices that can be applied to other countries. This technical expertise should be made accessible to other NTD programs and their partners worldwide by request. During the course of the NTDCP, capacity building also became a clear need and a priority for the WHO—this is evidenced by the newly-established Working Group on Capacity Strengthening under the WHO Senior Technical Advisory Group for NTDs. It will be important for courses on NTD program management, monitoring and evaluation, disease impact assessments, and other program management tools to be developed under the WHO’s leadership. Development and dissemination of key documents in all needed languages will further serve to strengthen national program management. The global community will need to take stock of existing training tools and courses, refine them to standardize knowledge shared, as well as define common approaches and guidelines to implementation. Specific objectives will be to: (1) identify existing capacity building efforts; (2) recognize gaps in capacity strengthening efforts and prioritize needs; (3) advise, standardize and support the implementation of training curricula to strengthen technical capacity; and (4) harmonize efforts to increase contributions to fill identifiable gaps and needs.

HARMONIZING INDICATORS AND AGGREGATING AND SHARING NTD DATA
Global NTD guidelines are still incomplete, but the process has begun to build a consensus on disease-specific goals and guidelines. Different programs have used different indicators for monitoring programs, for evaluating them, for assessing their impact and as metrics of program success. In order to harmonize results across countries and programs, the current challenge is to establish an agreed set of indicators that can be shared by all. Work has already begun by the NTDCP and the WHO to create a standardized Indicator Compendium modeled after those already available for other diseases (HIV, TB, etc.). This compendium should be completed with a standard set of indicators ‘required’ to be collected by all programs, and a set of optional indicators that can be used to meet the needs of specific donors or others.
As NTD support has increased globally and donors and international organizations have progressively supported countries to establish and expand integrated NTD programs, there is a need to coordinate the different databases housing NTD data. The challenge is to create a common framework where an agreed dataset can be established for use by the implementing countries and their appropriate partners. Such a resource would minimize duplication of effort and maximize data consistency and reliability for use by all partners. Steps toward resolution of this difficult challenge have begun through efforts of both the WHO/AFRO and the WHO/Hq with the support of the NTDCP. Though there is an understandable reluctance for each organization to ‘give up’ its own approach to handling the data it needs, there is recognition among all of the partners that a common data platform will benefit all in the long run.

NEED FOR MODERN DATA COLLECTION TOOLS

NTD programs, when carried out properly, rely on and generate massive amounts of data. The tools for collecting and recording that data in almost all countries require updating and modernization. Original data collection strategies generate massive amounts of paper, are subject to human error at many points of the system, and result in long delays between the time of data collection and its availability at the central level for planning purposes. Given the enormous advances in digital technology, the challenge that NTD programs faced was to reform the current data capture techniques to take advantage of the advances in available digital technology. The NTDCP was actively engaged in the efforts to standardize the databases where results from NTD programs could be captured and used by the many partners needing that information. Similarly, the NTDCP was involved in the early efforts of the WHO and others (notably, the Task Force for Global Health) to improve data capture and management techniques through the use of mobile phone and tablet technology. The long-term solution to the challenge of improving data capture and management lies in the extension of the early, successful prototype studies to large, program-scale implementation.

GLOBAL GUIDELINES FOR ELIMINATION AND DEMONSTRATING IMPACT

Although national NTD control programs made considerable progress following the existing WHO guidelines, as implementation expanded, issues were identified that require ongoing policy discussions at a global level to further refine and expand norms, standards, and guidelines. Although several areas are urgently in need of policy and guideline development, additional technical issues certainly will be identified as NTD programs continue to expand. There will be a need to convene panels of experts to reach consensus on appropriate responses to data collected, and to provide recommendations for establishing or updating policies and guidelines. Capturing and translating lessons learned into global policy and guidelines will improve program implementation if program managers are trained to use these new standards.

As a result of NTDCP assistance, multiple countries have successfully implemented and scaled-up integrated NTD control programs by: establishing national structures to facilitate integration; rolling out integrated approaches; and reaching thousands of communities with packaged interventions. Activities supported include PC, training, community and social mobilization, information, education and communication, monitoring and evaluation, and supply chain management. There will be a continued need to build national capacity to address NTDs, strengthen surveillance systems, and build capacity to assess progress toward elimination and status post-elimination.

In the future, partners will need to support national programs to conduct disease-specific assessments in line with WHO guidelines to assess changes in disease burden and progress toward control and elimination. National surveillance structures will need to be established, and program managers will need clear guidance on how to prepare dossiers for certification of elimination and control as defined by the WHO.
8. CLOSING
8. CLOSING
Following the London Declaration on NTDs on January 30, 2012 and the USAID Event in Washington, D.C. on September 19, 2012, there is unparalleled momentum and unity among global partners addressing NTDs. The WHO's Department for Neglected Tropical Diseases has put out a 'roadmap' for control and elimination, “Accelerating Work to Overcome the Global Impact of Neglected Tropical Diseases”. It provides a framework to guide member states and global partners in their efforts. The pharmaceutical company partners are providing record donations of products and access to proprietary compound libraries for the development of new medicines. Furthermore, there is unprecedented support for NTDs from bilateral organizations like USAID and DfID and donors like the Bill & Melinda Gates Foundation. These pledges are building on more than a decade of groundbreaking work and research to prove that the integration of NTDs and the unification of previously separate efforts can be successful. It will be our challenge moving forward to maintain the enthusiasm and commitment to coordination, transparency, and dedication to achieving our goal of NTD elimination and control.
APPENDIX
## APPENDIX A: PROGRAM EXPENDITURES

<table>
<thead>
<tr>
<th>Core Management ($)</th>
<th>Year 1 9/1/06-9/30/07</th>
<th>Year 2 10/1/07-9/30/08</th>
<th>Year 3 10/1/08-9/30/09</th>
<th>Year 4 10/1/09-9/30/10</th>
<th>Year 5 10/1/10-9/30/11</th>
<th>Year 6 10/1/11-9/30/12</th>
<th>Total 9/01/06-9/30/12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,957,847</td>
<td>1,528,276</td>
<td>3,139,859</td>
<td>3,798,448</td>
<td>2,512,742</td>
<td>2,653,078</td>
<td>15,590,250</td>
</tr>
<tr>
<td>Country Program ($)</td>
<td>2,643,358</td>
<td>10,884,351</td>
<td>8,857,689</td>
<td>15,167,086</td>
<td>20,130,731</td>
<td>17,340,655</td>
<td>75,023,870</td>
</tr>
<tr>
<td>Drug Procurement ($)</td>
<td>2,137,456</td>
<td>2,521,370</td>
<td>2,407,029</td>
<td>1,864,345</td>
<td>1,864,345</td>
<td>1,864,345</td>
<td>7,521,370</td>
</tr>
<tr>
<td><strong>Total NTD ($)</strong></td>
<td><strong>4,601,205</strong></td>
<td><strong>12,412,627</strong></td>
<td><strong>14,135,004</strong></td>
<td><strong>21,486,904</strong></td>
<td><strong>25,050,502</strong></td>
<td><strong>21,858,078</strong></td>
<td><strong>99,544,320</strong></td>
</tr>
</tbody>
</table>

| Cost Share ($)      | -                      | 10,397,250              | 477,050                 | -                       | -                       | -                       | 10,874,300               |

| Core Management     | 42.6%                  | 12.3%                   | 22.2%                   | 17.7%                   | 10.0%                   | 12.1%                   | 15.7%                   |
| Country Programs & Global Support | 57.4% | 87.7% | 77.8% | 82.3% | 90.0% | 87.9% | 84.3% |

| Funding Obligation as of 09/30/12 ($) | $13,000,000 | $4,850,000 | $12,878,320 | $21,236,000 | $33,030,000 | $4,550,000 | $99,544,320 |
APPENDIX B: PROJECT-SUPPORTED PUBLICATIONS

2012


2011


2010


• Hodges M., Smith S.J., Fussum D., Koroma J.B., Conteh A., Sonnie M., Sesay S. and Zhang Y. High coverage in mass drug administration for lymphatic filariasis in the urban Western Area, Sierra Leone. Parasites and Vectors 2010; 3: 120.

2009


APPENDIX C: SCIENTIFIC CONFERENCE PRESENTATIONS AND CONGRESSIONAL BRIEFINGS

- Presentation: Prospects for Elimination of Lymphatic Filariasis. E. Ottesen
- Presentation: NTD Mass Drug Administration in Post-Earthquake Haiti: Challenges And Achievements. A. Direny


November 2010. ASTMH Annual Meeting, Atlanta, GA.
- Presentation: Expansion of the USAID NTD Control Program: 2010 and Beyond. A. Weaver, M Linehan, C Hanson, A Kabore, K Zoerhoff, A Goldman, S Torres, M Baker, E Ottesen

November 2009. ASTMH Annual Meeting, Washington DC.
- Clinical Pre-Meeting Course: The Highly Prevalent Neglected Tropical Diseases: Update on Clinical Aspects and Novel Approaches to Control
- Symposium: Implementation and Evaluation of Neglected Tropical Disease Control in Sub-Saharan Africa with presentations on Lessons from the field: Two years implementing an integrated program for NTDs in Niger. A Garba, N Kabateraine, F Fleming, J. Webster, J Kolaczinski.

- Briefing entitled, Controlling Deadly Neglected Tropical Diseases: Opportunities to Expand the U.S. Impact. M Linehan presented on successes of integrated NTD control. Other speakers included representatives from Drugs for Neglected Diseases Initiative (DNDi) and Doctors Without Borders (MSF).

December 2008. ASTMH Annual Meeting
APPENDIX D: DEFINITIONS OF PROGRAM METRICS INCLUDED IN FINAL REPORT

Districts treated: Number of endemic districts (or equivalent 2nd administrative level unit) treated through MDA for at least one NTD with USAID NTDCP financial and/or technical support.

Persons Treated: Number of at-risk individuals treated through MDA for at least one NTD with USAID NTDCP financial and/or technical support, recorded in MDA registers/tally sheets for each round of PCT. An individual is only counted once, even if he/she receives multiple treatments for multiple diseases. Calculated by determining the maximum number of persons treated across drug packages.

Treatments Provided: Age and height appropriate dosage of an NTD-specific drug administered to an eligible person in a defined geographic area with USAID NTDCP support. Each drug dose is counted as a single treatment such that an individual may receive multiple treatments if treated for multiple diseases and with multiple drugs. Calculated by summing the number of drug doses provided each year.

Donated Drugs Delivered: Value of donated drugs delivered to USAID NTDCP-supported countries during reporting period; includes drugs donated through global pharmaceutical donation programs, USAID, and other donations. Value of drug donations determined by pharmaceutical companies for drugs provided by major donation programs. Value of drugs donated by USAID through procurement determined by procurement price (drugs donated by global pharmaceutical companies typically account for ≥99% of total value of donated drugs delivered).

Persons Trained: Number of individuals trained at central, regional, district, or community level with USAID NTDCP support for efforts to eliminate/control targeted NTDs (includes MoH central-level staff, supervisors, trainers, drug distributors, and other).

Districts Mapped: Number of districts (or equivalent second administrative level unit) that have been mapped according to disease-specific treatment thresholds based on WHO guidelines. A district may be counted multiple times if mapped for multiple diseases.

Districts Achieving Criteria for Stopping MDA for LF: Number of districts in USAID NTDCP countries that achieve the criteria for stopping MDA for LF. Criteria for stopping MDA for LF include:

- Conducted ≥5 effective rounds of PCT (“effective” indicates ≥65% epidemiological coverage each round).
- W. bancrofti or Brugia spp. Mf prevalence <1% in each sentinel and spot check site survey implemented at least 6 months after 5th effective round. (Mf prevalence of both parasites should be <1% in areas where both parasites exist.) (In sentinel and spot-check sites where surveys were conducted using ICTs, W. bancrofti Ag<2% in each survey implemented at least 6 months after 5th effective round.)
- District is included in Evaluation Unit (EU) that successfully passed the transmission assessment survey (TAS) implemented according to WHO guidelines.

Districts Achieving Criteria for Stopping District-Level MDA for Trachoma: Number of districts in USAID NTDCP countries where the criteria for stopping district-level MDA for blinding trachoma have been achieved. Criteria for stopping district-level MDA for trachoma include:

- Conducted a minimum of 3 effective rounds of PCT (“Effective” indicates ≥80% epidemiological coverage each round. Number of rounds required depends on baseline prevalence); and
- TF prevalence in children aged 1-9 years <10% at district-level, as assessed through population-based prevalence surveys.