

UNITING TO COMBAT NTDs

# Delivering on Promises and Driving Progress





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Two years ago, leaders of many of the world's most important global health and development organizations stood on a stage in London and pledged to work together to control, eliminate, or eradicate 10 neglected tropical diseases (NTDs). These diseases, many of which have afflicted humanity for millennia, affect more than 1.4 billion people. They sicken, disable, and disfigure, keeping people in cycles of poverty and costing developing economies billions of dollars every year.

Until recently, NTDs saw little attention from all but a small handful of dedicated supporters. But as their impact grew clearer, more were urged into action. In January 2012, the World Health Organization (WHO) released a plan to control, eliminate, or eradicate 17 NTDs by 2020, and the global NTD community—including pharmaceutical companies, donor and endemic countries, private foundations, civil society organizations, and others—responded, with each committing to do its part to reach those goals for 10 of these diseases. This informal group was called Uniting to Combat NTDs.

Since that day, Uniting to Combat NTDs has grown into much more: it is now a global movement, based on partnership and accountability, in which people and organizations from all over the world find unique and powerful ways to contribute to progress. Central to the London Declaration is its pledge to report annually on what its collaborators have done to achieve shared targets.

This report, coordinated by the London Declaration Stakeholders Working Group with input from many others, chronicles progress achieved in 2013. It highlights significant momentum, driven by political will in endemic countries, and the commitments of private donors and industry, but it also notes gaps where action is needed. By examining where we stand, we can identify areas of need, engage in coordinated planning, and move forward with clearly defined objectives.

ABOUT THE LONDON DECLARATION  
STAKEHOLDERS WORKING GROUP

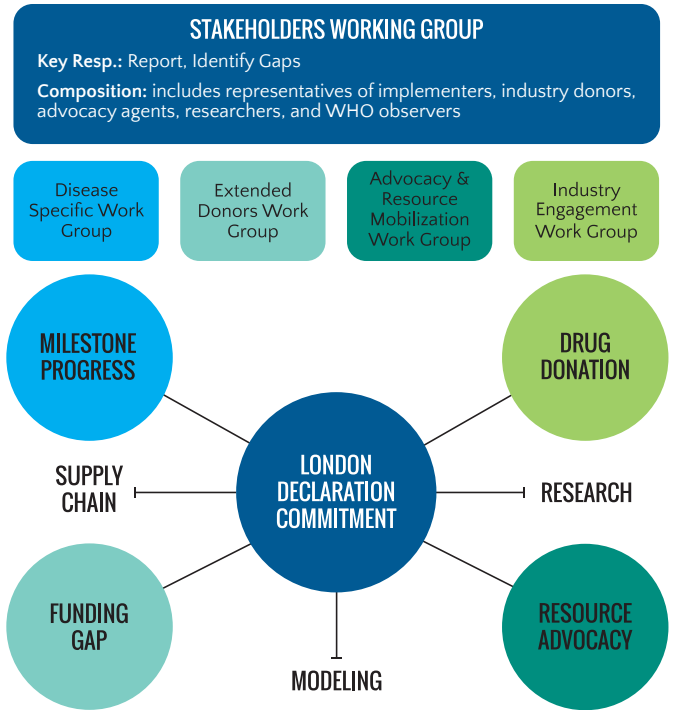
Under the banner of Uniting to Combat NTDs, a varied set of partners came together to provide different dimensions of support toward attaining the WHO 2020 goals for 10 NTDs as documented in the London Declaration. The collective work of Uniting to Combat NTDs complements WHO’s direct collaboration with endemic countries.

The efforts of Uniting to Combat NTDs are coordinated by a Stakeholders Group (see image) that includes representatives from the following organizations or institutions:

- United States Agency for International Development
- The United Kingdom’s Department for International Development
- World Bank
- Partnership for Disease Control Initiatives
- Global Network for Neglected Tropical Diseases
- Coalition for Operational Research on NTDs
- Drugs for Neglected Diseases initiative
- Neglected Tropical Disease Non-Governmental Development Organizations Network
- GlaxoSmithKline (representing industry)
- Bill & Melinda Gates Foundation

With the collaboration of WHO and others, the Stakeholders Working Group has developed a Scorecard and Milestone table that is designed to track progress toward the 2020 targets and London Declaration commitments, serve as a record for shared accountability, and facilitate ongoing problem-solving.

The Stakeholders Working Group thanks the individuals and organizations that have contributed to producing this second progress report of the Uniting to Combat NTDs coalition.



## NTDs REPORT: ACRONYMS AND ABBREVIATIONS

<b>APOC</b>	African Programme for Onchocerciasis Control	<b>J&amp;J</b>	Johnson & Johnson
<b>BWP</b>	Brazil Without Extreme Poverty	<b>LF</b>	Lymphatic Filariasis
<b>CDD</b>	Community-Directed Distributor	<b>MDA</b>	Mass Drug Administration
<b>CIFF</b>	Children's Investment Fund Foundation	<b>MDG</b>	Millennium Development Goals
<b>COMISCA</b>	Council of Ministers of Health of Central America and the Dominican Republic	<b>NGO</b>	Non-Governmental Organization
<b>COR-NTD</b>	Coalition on Operational Research-Neglected Tropical Diseases	<b>NTD</b>	Neglected Tropical Disease
<b>DEC</b>	Diethylcarbamazine	<b>NTDSCF</b>	Neglected Tropical Disease Supply Chain Forum
<b>DNDi</b>	Drugs for Neglected Diseases initiative	<b>OCP/APOC</b>	Onchocerciasis Control Programme
<b>GPE</b>	Global Partnership for Education	<b>PCT</b>	Preventive Chemotherapy
<b>GPELF</b>	Global Programme to Eliminate Lymphatic Filariasis	<b>R&amp;D</b>	Research and Development
<b>GSK</b>	GlaxoSmithKline	<b>STH</b>	Soil-Transmitted Helminths
<b>GTMP</b>	Global Trachoma Mapping Project	<b>TAS</b>	Transmission Assessment Survey
<b>HAT</b>	Human African Trypanosomiasis	<b>UK</b>	United Kingdom
<b>ICT</b>	Immunochromatographic Test	<b>UN</b>	United Nations
<b>ICTC</b>	International Coalition for Trachoma Control	<b>USAID</b>	United States Agency for International Development
<b>IDM</b>	Intensified Disease Management	<b>US\$</b>	United States Dollars
<b>IRS</b>	Indoor Residual Spraying	<b>VL</b>	Visceral Leishmaniasis
<b>ITI</b>	International Trachoma Initiative	<b>WASH</b>	Water, Sanitation and Hygiene
		<b>WHA</b>	World Health Assembly
		<b>WHO</b>	World Health Organization
		<b>WHO AFRO</b>	World Health Organization Regional Office for Africa

## WHO ROADMAP AND THE LONDON DECLARATION DISEASES

WHO has been the global leader in organizing and focusing the world's attention on understanding the devastating impact of NTDs. WHO's January 2012 publication, *Accelerating Work to Overcome the Global Impact of Neglected Tropical Diseases: Roadmap for Implementation*, outlined bold targets for the control and elimination of 17 NTDs by 2020. This document inspired the London Declaration commitments of the Uniting to Combat NTDs partners. Together, these partners have pledged to support the control, elimination, or eradication of the following 10 NTDs by 2020:

- Blinding trachoma
- Chagas disease
- Guinea worm disease
- Human African trypanosomiasis (HAT or sleeping sickness)
- Lymphatic filariasis (LF or elephantiasis)
- Leprosy
- Onchocerciasis (river blindness)
- Schistosomiasis (snail fever or bilharzia)
- Soil-transmitted helminths (STH or intestinal worms)
- Visceral leishmaniasis (VL or kala-azar)

(The seven additional NTDs identified in WHO's 2012 roadmap are: buruli ulcer, dengue, echinococcosis, foodborne trematodiasis, rabies, taeniasis/cysticercosis, and yaws)



The past two years represent a fraction of the time that human-kind has been afflicted by neglected tropical diseases (NTDs), a group of parasitic and bacterial infections that can disable or debilitate, with one in six people worldwide, including half a billion children, at risk. Yet progress has accelerated since the 2012 London Declaration, which brought together a diverse set of partners with new commitments to overcome these diseases. Today, we are progressing on a course to consign many NTDs to history.

The goal of eliminating and controlling NTDs on a global scale is now embraced not only by the generally impoverished communities that bear the burden of these diseases, but by national leaders, policy experts, and donors. They join those who have been fighting NTDs for years: affected communities, frontline health workers, nongovernmental organizations, academic researchers, pharmaceutical companies, and the staffs of national health ministries and the World Health Organization (WHO). Reducing the burden of NTDs is now recognized as a critical component to achieving a range of global development imperatives, including the Millennium Development Goals and the new Sustainable Development Goals, and is a challenge that must be met to provide all people with an opportunity to lead healthy, productive lives. In addition, treating NTDs is cost-effective. In 2013, the report of the Lancet Commission on Investing in Health identified the control of Preventive Chemotherapy (PCT)-NTDs as representing “very good value for money” because of the scale of benefit, the low cost of delivery, and the fact that these medicines are now donated by manufacturers.

*Uniting to Combat Neglected Tropical Diseases: Delivering on Promises and Driving Progress* offers a candid assessment of the progress that has been made in combating NTDs since the London Declaration, as well as the challenges that remain. Marshaling the financial resources, political will, donated drugs, and logistical coordination required to achieve the scale necessary to control and eliminate these diseases remains a tough task, but it can be done.

In the past year, we have seen progress in multiple areas:

### **Endemic-country ownership is growing.**

An increasing number of endemic countries are starting to make long-term commitments of resources and personnel to support mass drug administration (MDA), strengthen health systems to provide screening and treatment, and improve coordination with other sectors like water and sanitation. More than 70 countries have developed national NTD master plans, including high-burden countries such as Nigeria and Ethiopia. Endemic countries have also pledged to hold themselves accountable for progress on NTDs through resolutions adopted by the World Health Assembly, the African Union, and WHO’s African, Western Pacific, and Americas regional divisions.

### **Drug demand is rising.**

The pharmaceutical industry has lived up to its extraordinary commitment under the London Declaration to donate almost all the required drug needed. Nearly 1.35 billion treatments were donated in 2013, an increase of more than 35 percent since 2011 that reflects rising country demand. Of particular note were the doubling by Merck KGaA of the donation of praziquantel, which treats schistosomiasis; a greater than 50 million increase in treatments shipped for both LF and onchocerciasis (by Merck & Co., Inc., GlaxoSmithKline (GSK), and Eisai); and a 38 million increase in treatments for soil-transmitted helminths (STH) (by Johnson & Johnson (J&J) and GSK).

### Funding for NTDs has increased.

Despite a tough global economy, major donors such as the United States Agency for International Development, the United Kingdom through its Department for International Development, the World Bank, and the Bill & Melinda Gates Foundation (Gates Foundation) are providing more resources beyond the initial commitments they announced in 2012 to help strengthen and expand NTD programs. Over the past year, several significant new donors also joined the effort:

- World Bank mechanisms are helping endemic countries allocate more International Development Association (IDA) health funds to regional and national NTD programs. This new funding stream has made US\$120 million available to NTD programs in sub-Saharan Africa.
- The Queen Elizabeth Diamond Jubilee Trust has committed well over US\$60 million toward the elimination of blinding trachoma in Commonwealth countries.
- The Conrad N. Hilton Foundation, a dedicated donor to the elimination of trachoma, has invested an additional US\$12 million.
- Lions Clubs International Foundation (LCIF), along with WHO, committed US\$4 million to trachoma elimination efforts in China, with the goal of certifying the country trachoma-free by the end of 2016. In conjunction with the Carter Center and Sightsavers, LCIF also committed US\$1 million to support Cameroon's work to end onchocerciasis transmission where possible.
- Launched after the London Declaration, the END Fund has mobilized over US\$30 million from individual, foundation, and corporate donors new to the NTD cause to support NTD treatment to over 40 million beneficiaries, fund mapping initiatives, and fill critical programming gaps to scale up integrated treatment efforts.

Governments and philanthropists in endemic countries are also making increased investments in regional and national NTD programs, notably the governments of Brazil, China, India, and Nigeria, and such philanthropic organizations as Mundo Sano in Argentina and MITOSATH in Nigeria.

Several additional donors are making new commitments in April 2014 to coincide with the launch of this report and demonstrate further momentum. To leverage drug donations from both GSK and J&J for STH, the Children's Investment Fund Foundation (CIFF), the Gates Foundation, Dubai Cares, Vitamin Angels, WaterAid, Mundo Sano, the World Bank, the World Food Programme, and the Global

Partnership for Education (GPE) are committing more than US\$120 million and their staff to support programs, partnerships, and research to address intestinal worms. Funding from Dubai Cares and GPE will support school-based health programs to reduce STH while WaterAid will support water, sanitation, and hygiene (WASH) programs linked to STH prevention for a full multi-sectoral approach.

### NTD control and elimination programs are ramping up.

Strong partnerships between governments, nongovernmental organizations, and the private sector are starting to achieve important milestones, including:

- Colombia became the first country in the world to verify the elimination of onchocerciasis.
- Nigeria, Niger, and Côte d'Ivoire were certified as Guinea worm-free.
- Morocco was declared free of blinding trachoma.
- A massive acceleration of the mapping of trachoma across the world using mobile technology, funded by the UK government, cut the number of unmapped endemic districts by half.
- The 47 nations of sub-Saharan Africa endorsed a regional NTD plan which includes a move toward eliminating onchocerciasis.
- The African Programme for Onchocerciasis Control will integrate the treatment of lymphatic filariasis and onchocerciasis into its operations to help achieve the elimination of both diseases.
- Twenty-three countries treated 75 percent of school-age children at risk for STH.

### Important advances in research and development are delivering new tools.

- New rapid diagnostic point-of-care tests for human African trypanosomiasis (HAT) will help dramatically improve screening, and new, low-cost vector control tools will help to interrupt HAT transmission by tsetse flies.
- Clinical trials are now underway for a new oral HAT drug that could be used in all stages of the disease, removing the need for painful lumbar punctures and intravenous treatment requiring specialized facilities.
- A new LF Test Strip produced by Alere has increased stability and no longer requires a cold chain. A group of partners, including Eisai, GSK, Merck & Co., Inc., and the Gates Foundation, will support the rollout of



the test and is working with WHO to improve timely accessibility to endemic areas.

- Progress toward developing a new pediatric formulation of praziquantel, supported by Merck KGaA, can improve the safe and effective treatment of children for schistosomiasis, enhancing disease control and opening a potential pathway to elimination.

These positive gains are cause for optimism, but challenges remain. While pharmaceutical companies are meeting 100 percent of endemic-country requests for drugs, treatments are still not reaching everyone who needs them. We are making measurable progress toward the ambitious 2020 goals laid out in WHO's NTD roadmap; however, we are not yet on target to achieve those goals. Funding shortfalls and constrained human capacity in many endemic countries continue to limit the scale-up of drug delivery. While 700 million people received MDA for one or more NTDs in 2012, only 36 percent of people in need of MDA worldwide received all the drugs they needed. WHO estimates that at least 1.4 billion people need MDA NTD treatment for one or more NTDs—so there is still a long way to go.

The key challenges that global partners must address to meet the 2020 goals include:

**Mobilizing more financial resources to support program implementation.** Assuming that current committed donors such as USAID and the UK government will continue to support NTD programs, more resources are still required to make up the shortfall, achieve program targets, and reach endemic populations. To achieve the global targets, an additional estimated US\$200 million annually will be needed through 2020. These resources will need to be contributed by public and private sector donors and through increased domestic resources provided by endemic countries.

**Doing more to leverage the value of donated drugs.** Due to the significant commitment of companies and the value of the drugs committed, every new dollar invested toward program implementation can release up to US\$10 in donated drug programs.

**Enhancing the impact of existing resources.** The NTD community has identified innovative strategies to integrate treatment, control, and elimination efforts, creating opportunities to do much more with existing resources. Through closer collaboration among donor agencies, country national programs, and supportive implementers, the efficiency, effectiveness, and human impact of NTD programs can be improved.

**Providing technical support to endemic countries to build their capacity and increase impact of their NTD control and elimination efforts.** Stronger national programs can deliver on national master plans and maximize donor and domestic resources. Limited technical knowledge in NTD programs and human resource capacity remain challenges, and logistical problems continue to delay the timely delivery of drugs where and when they are needed. New partnerships to meet these challenges, including a supply chain forum initiated by GSK, are essential to help countries overcome barriers to achieve scale up.

**Increasing collaboration across sectors to scale up programs.** Multi-sector collaboration must be given priority. The NTD community needs to work with partners in: the WASH community to reduce transmission; the education community to strengthen healthy behaviors and school-based delivery in communities; and the nutrition and food security communities to mitigate the impacts of these infections in poor communities.

**Investing in product development and operational research, which must remain priorities.** Leaders in research and development must continue to build on progress and develop new tools to address critical gaps. The Drugs for Neglected Diseases initiative, PATH, and the Foundation for Innovative New Diagnostics have all played important roles in the development of drugs and diagnostics for NTDs. For operational research, the launch of the new Coalition on Operational Research (COR-NTD) is a pivotal step forward. In 2014, COR-NTD will bring leaders from the research community together and will launch an operational research inventory to track operational research progress and identify opportunities. Better links between researchers (both product development and operational) and programs are needed and will only strengthen the value of these contributions to strategies and new tool development to achieve program goals.

In short: Much has been achieved, but more work lies ahead. The control and elimination of NTDs is recognized as one of the best investments that we can make in future development. If the WHO targets are achieved, an initial estimate indicates that 588 million disability-adjusted life years could be averted through 2030 (excluding Guinea worm). The potential impact on individual lives, the health of communities, and the productivity of nations is substantial. We have a roadmap, we have the power of partnership, and we know where we are going. United, we can make a difference.

Fighting NTDs requires a massive, coordinated effort among a variety of partners at the national, regional, and global levels, but no significant progress is possible without firm commitment from endemic countries to an integrated, comprehensive approach. In the past year, country after country in Africa, Asia, and Latin America has demonstrated the political will and sense of urgency necessary to meet control and elimination targets by 2020.

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WORLD

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Led by Côte d'Ivoire, delegates at the World Health Assembly (WHA), the World Health Organization's (WHO) decision-making body, adopted a resolution in May 2013 calling for heightened and integrated measures to defeat all 17 NTDs. The WHA has previously addressed individual NTDs, but this resolution marks the first time the WHA recognized the need for an integrated and comprehensive approach, based on the WHO Roadmap and 2020 targets.

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**Seventy-four countries—roughly two-thirds of all NTD-endemic countries—have now developed national NTD plans to help guide their control and elimination efforts.**

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AFRICA

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At the end of April 2013, African leaders took a major step toward promoting country ownership for NTDs during the Sixth Conference of African Union Ministers of Health in Addis Ababa, Ethiopia. For the first time, African ministers of health collectively acknowledged the need to increase support for NTD control and elimination programs, and African Union Commissioner of Social Affairs, Dr. Mustapha Sidiki Kaloko, called for strong action against these diseases. Follow-through on this action will be essential to building the necessary systems and programs.

Some of the most heavily burdened African countries made national commitments:

- In February, Nigeria launched a national NTD Master Plan with the goal of providing treatment to more than 60 million people annually over the next five years. The launch event was held on the same week as the Presidential Summit on Water, showcasing a critical link between NTDs and water, sanitation, and hygiene (WASH).

- In June, the federal government of Ethiopia launched its national plan during a heavily attended symposium. Ethiopia has the largest trachoma burden in the world, and progress here would significantly impact the global targets for trachoma.
- In September, the 63rd Session of the WHO Regional Health Committee reviewed and endorsed both the Regional Strategy on NTDs for the WHO's Regional Office for Africa (WHO AFRO) and the Regional NTD Strategic Plan 2014–2020. The regional strategy outlines specific disease elimination targets and the overall strategy to achieve NTD goals in Africa by 2020.
  - Morocco, the first country to use azithromycin in a large-scale, nationwide elimination program, declared trachoma eliminated in 2013.
  - Nigeria, Niger, and Côte d'Ivoire were certified as Guinea worm-free, leaving just four endemic countries remaining.

ASIA

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Multiple countries in Asia made progress in achieving elimination targets, most notably for lymphatic filariasis (LF), and expanded treatment programs to reach at-risk populations including preschool-aged children and women of reproductive age:

- In September 2013, the Philippines held its second annual stakeholder meeting on NTDs. All stakeholders signed a “Wall of Commitment,” which serves as a signal and reminder of the country’s commitment to end the six most prominent NTDs in the Philippines by their 2018 deadline.
- In December 2013, India’s Joint Secretary in the Ministry of Health, Dr. Anshu Prakash, reiterated India’s commitment to the London Declaration and endorsed

the WHA resolution on all 17 NTDs. In a public statement, Dr. Prakash said, “India has supported the London Declaration of 2012 and has joined other member nations at the WHA this year to adopt a resolution for controlling, eliminating, and eradicating 17 identified NTDs. The Indian government is working with all stakeholders and the community towards meeting these objectives.”

- Sri Lanka, Maldives, Thailand, Niue, Vanuatu, and Palau all started the process to verify elimination of LF.
- In 2013, Kiribati became the latest country to reach the global target of deworming at least 75 percent of school-age children, joining Bangladesh, Cambodia, Myanmar, Nepal, Tuvalu and Vanuatu, which have already achieved and are maintaining the coverage target.

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LATIN AMERICA AND THE CARIBBEAN

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New demonstrations of political commitment showed the transforming attitudes among policymakers at the regional level and promised increased accountability and sustainability in NTD programs:

- In June 2013, at an Organization of American States meeting, heads of state endorsed the Pan American Health Organization’s 2009 resolution, Elimination of Neglected Diseases and Other Poverty-Related Infections. The resolution calls for endemic countries in the region to use integrated disease treatment efforts to efficiently control or eliminate NTDs in the region by 2015.
- Also in June, during the Council of Ministers of Health of Central America and the Dominican Republic (COMISCA) regional meeting, COMISCA recognized the importance of NTD control and elimination to the 2015 Millennium Development Goals (MDGs) and the 2020 Sustainable Development Goals

Individual countries in the region also made important commitments to NTD control and elimination:

- In July 2013, at an event celebrating WHO verification of its elimination of onchocerciasis, Colombia launched its five-year integrated plan of action to address trachoma and soil-transmitted helminths (STH), becoming the third country in the region to launch a national NTD plan.
- Ecuador has requested WHO verification that it, too, has eliminated onchocerciasis.

- In August, Guatemala launched its multi-year, integrated national plan addressing six NTDs (onchocerciasis, STH, Chagas disease, visceral leishmaniasis (VL), trachoma, and leprosy) from 2013 to 2015.

**COUNTRY-LEVEL MANAGEMENT OF “NTD INTEGRATION” – SUMMARY OF PROGRAM MANAGER INTERVIEWS**

In 2013, 19 NTD program managers in the WHO AFRO Region were interviewed about what works, what doesn’t, and where we can make progress.

- **WHAT WORKS**
  - Strong national coordination committees
  - Integrated PCT programs
- **WHAT’S STILL MISSING**
  - Coordinated mapping
  - Fully integrated drug delivery
- **WHAT’S NEEDED**
  - Flexibility in funding to allow integration
  - Strengthened local monitoring and evaluation capacity
  - Harmonized implementation
  - Best practices established for drug delivery and supply chain management

## COORDINATING SUPPORT FOR LYMPHATIC FILARIASIS AND ONCHOCERCIASIS: APOC REDESIGNED

For many years, the NTD community has been debating how to coordinate support for LF and onchocerciasis treatment because the two diseases are frequently co-endemic within and across country borders. Both programs rely upon the delivery of ivermectin via MDA with the addition of albendazole for areas where LF is endemic.

In co-endemic countries, the connection between LF and onchocerciasis offers logical opportunities to increase the efficiency and effectiveness of limited resources through integrated service delivery. In September 2013, at the 63rd Session of the WHO Regional Committee for Africa hosted by the Republic of the Congo, an accord was reached to enhance international coordination of treatment for the two diseases. All 47 WHO AFRO ministers of health endorsed a regional strategic plan to eliminate LF and onchocerciasis in Africa by 2020 and 2025, respectively, while strengthening cross-national efforts to eliminate other NTDs.

The Onchocerciasis Control Programme/African Programme for Onchocerciasis Control (OCP/APOC), implemented by WHO with fiscal support from the World Bank and more than 40 development partners, is approaching its 40th anniversary. OCP/APOC is widely acknowledged as one of the most successful public-private health partnerships for PCT disease control in Africa, treating 100 million people per year in 31 African countries. Building on this model, APOC will come together with the LF programs and work to support LF elimination efforts in Africa, building on the natural program synergies. Uniting these disease elimination efforts will help to increase efficiency and reach of the elimination efforts as the program aims to accelerate scale-up of high-quality programs and the development of financing strategies, partnership mechanisms, and strong governance structures.

## DRUG DONATION AND DELIVERY

In order to prevent and treat NTDs on a wide scale, access to donated or low-cost drugs is critical. As part of the 2012 London Declaration, industry partners committed to scale up drug supply to address unmet needs in endemic countries. As a part of this agreement, all 10 pharmaceutical companies involved have met or surpassed their annual commitments to match the global requirement to treat and prevent NTDs.

Subsequently, the quantity of drugs reported by drug companies to have been shipped to endemic countries has increased by nearly 36 percent from 2011 (995 million) with nearly 1.35 billion treatments donated in 2013. The generous commitments by industry have led to increased availability of drugs for onchocerciasis (Merck & Co., Inc.), lymphatic filariasis (Merck & Co., Inc., GlaxoSmithKline (GSK), and Eisai), and STH (GSK and Johnson & Johnson (J&J)). Merck KGaA reports providing more than twice as many praziquantel treatments for schistosomiasis in 2013 as in 2012. These treatments will provide much-needed health benefits for school-age children in Africa and other countries. Meanwhile, Eisai's prequalification of

diethylcarbamazine (DEC) provides a new source of this important drug to treat and prevent the transmission of LF.

Awareness of the increased availability of drugs has been reflected in increased demand from country NTD programs. In 2012, there were 55 countries that submitted requests and received NTD preventive chemotherapy (PCT) drug donations—programs that prevent a specific disease via mass drug administration (MDA)—compared to 37 countries in 2011. To simplify this process, WHO launched a joint drug application process in 2013, which will help improve coordination and data collection for monitoring programs. Additionally, four new countries

have made separate applications for azithromycin (trachoma) and two new countries for ivermectin (LF and onchocerciasis) to the International Trachoma Initiative (ITI) and the Mectizan Donation Program respectively since 2011. Seven African countries scaled up their programs and, on average, doubled their requests for ivermectin.

Before increasing orders for drugs, country programs need to secure financial resources for implementation and identify where to deliver these drugs by mapping disease prevalence. Through support from the UK government, USAID, the Bill & Melinda Gates Foundation (Gates Foundation), and others, sufficient resources have been provided to enable countries to complete a global disease map by the end of 2015. So far, seven have newly completed their mapping needs and are now able to create refined NTD master plans and forecast the necessary quantity of drugs needed to address their disease burden.

Due to the dedication of national programs in getting the donated drugs to communities, in 2012 global NTD programs (LF aside) saw a net increase of nearly 60 million treatments over 2011. The majority of this increase (42 million treatments) is due to expanded efforts to reach school-age children with the necessary treatments for intestinal worms. Countries vary in performance across the NTDs and in their level of integration. Among countries with several active NTD programs, there were a handful that achieved high coverage for all: Burkina Faso, Burundi, Cambodia, and Niger.

In the 28 countries that reported distribution of drugs to treat LF, 14 reported scaled-up MDA campaigns with a total increase of approximately 13 million delivered treatments in 2012 over 2011. Twelve countries maintained their programs, many of which are already at full scale; two countries (Bangladesh and Egypt) scaled back as the MDA program was complete in some districts; and two countries (Togo and Yemen) stopped MDA completely and are in post-treatment surveillance. In a number of countries, such as Burkina Faso, Indonesia, and the Philippines, localized success has allowed the scale-back of MDA in some districts.

The total number of treatments for LF declined by 87 million; 77 percent of this (67.3 million treatments) is attributable to issues with DEC supply (which was not yet available by donation in 2012), resulting in Myanmar and several large statewide campaigns in India delaying their 2012 MDA until early 2013.

Distribution results from 2013 are not yet available for all NTDs, but it is anticipated that the data will show that countries have continued to make progress in both expanding MDA campaigns to reach all endemic areas and increasing the coverage of populations at risk. However, the anticipated increase in 2013 is still expected to be small. It is in 2014 and beyond, as NTD mapping is completed and NTD plans are finalized, that the true opportunity for scale-up begins. This will rely on national commitment and increased financial resources to be successful.

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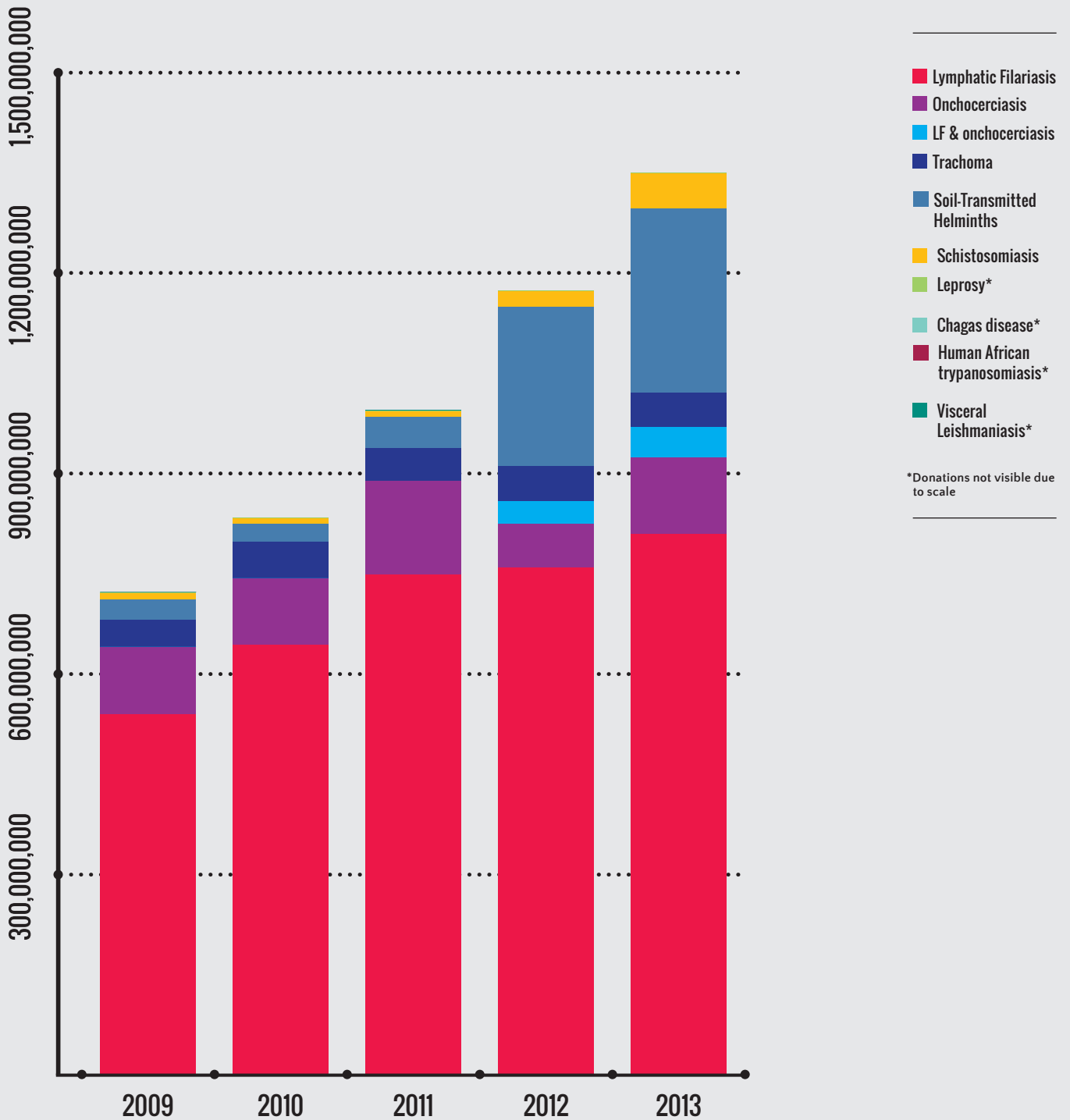
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Diseases that require innovative and intensified disease management (IDM) have unique challenges not faced by the PCT diseases. IDM diseases are not easily preventable and are generally fatal if they remain untreated. Consequently, early identification of patients is vital and access to diagnostics, treatment, and follow-up is essential. Innovative strategies adapted to the epidemiological situation need to be developed to be as effective as possible. Even though new tools need to be developed to facilitate the implementation of control activities, a lot can be done with existing tools.

London Declaration partners made a range of commitments to support IDM diseases. These included drug donations, research commitments, and funding for implementation. Industry partners committed drugs for all four of the relevant IDM diseases included under the London Declaration: leprosy, human African trypanosomiasis (HAT), Chagas disease, and VL (Guinea worm is not treated with drugs). Novartis committed to donate multi-drug therapies for leprosy (rifampicin, clofazimine, and dapson) through 2020. Both Bayer and Sanofi donated treatments for HAT: Sanofi committed to donate eflornithine, melarsoprol, and pentamidine, while Bayer's commitment included suramin and nifurtimox; both commitments were through 2020. Bayer also committed to donate sufficient nifurtimox for treating Chagas disease.

2009–2013

Total Donated Treatments  
by Disease



\*Donations not visible due to scale



Thanks to these commitments, sufficient quantities of donated drugs are now available to treat HAT and Chagas disease. For VL, Gilead made a donation for several countries and agreed to preferential prices for others. The UK government is supporting this program for distribution and implementation. Discussion is underway for extending the donation to additional countries. Countries also are benefiting from preferential pricing for Glucantime (Sanofi), and for miltefosine (Paladin), both for the treatment of VL. Mundo Sano, an Argentinian non-governmental organization (NGO), has supported the development of a new source of benznidazole, a drug for Chagas disease, to supplement existing suppliers.

These are by no means complete solutions, and other innovations in product development and delivery are needed. Strong, comprehensive, and well-organized programs will be essential to obtaining the expected results. Emerging economies such as India, Brazil, and China, with their intersection of available resources, endemic diseases, and vibrant pharmaceutical industries, will be key players.



Photo: Mo Scarpelli

## LEPROSY: INNOVATIONS FOR AN ANCIENT DISEASE

Over 16 million people have been treated for leprosy over the past three decades, substantially reducing the global burden thanks in part to the widespread availability of multi-drug therapy from Novartis since the early 1980s. However, the impact of the current strategy appears to have reached a plateau. Annual incidence for leprosy has fluctuated between 220,000 to 250,000 new cases over the past eight years, implying that transmission is still occurring at a steady rate. A new, practical, and effective strategy is needed for the program to break this cycle.

The current strategy relies on identifying patients and providing treatment. Rigorous tracing and tracking of all those in contact with patients, to monitor for signs of disease and provide early treatment, has not decreased disease incidence and thus a new tactic is needed. A new approach has shown encouraging results: treating family members and other close contacts with a single dose of rifampicin, even if they have

no symptoms. The new strategy has shown a reduction of transmission by 50–60 percent, with a two-year protective effect. This new approach will now be piloted more widely to see if it can be done at scale, and to see if the protective effect is sustained or additional measures are required.

Two new technologies may help in the near future. New diagnostic tests are under development to detect early-stage or sub-clinical infection in close contacts. This could guide early treatment and prevention, improving early case detection to further drive down incidence of disease. Another project is under consideration that will further study the feasibility of using tuberculosis vaccines to prevent leprosy.

Drug contributions are essential to the control and elimination of NTDs, but medicines are only effective when they reach the people who need them. Over the past two years, pharmaceutical companies, implementers, and others have been developing a better understanding of the challenges that surround drug delivery in the “first mile”—when supplies are transferred from manufacturers to national health systems—and the “last mile”—when drugs are ultimately administered to populations. By identifying problems and inefficiencies associated with these transfers, we can maximize the value and impact of commodity contributions.

#### FIRST MILE

The NTD Supply Chain Forum (NTDSCF) was formed in October 2012 with the goal of identifying and addressing impediments to NTD drug and supply delivery. The NTDSCF was established by a coalition of NTD drug supply chain partners, led by GSK and including J&J, Pfizer, Merck & Co., Inc., Merck KGaA, Eisai, and WHO, as well as other partners such as the global logistics company DHL and two NGOs, Children Without Worms and ITI.

The NTDSCF’s current objectives include: a) mapping and documenting supply chain processes from contractual, commercial, and operational perspectives; b) implementing new standard operating procedures for coordinating the ordering and delivery of NTD drugs; c) implementing proactive forecasting, planning, and reporting processes; and d) investing in advocacy.

The NTDSCF’s engagement has led to measurable improvements. For example, drug suppliers traditionally deliver medicines to a customs port of entry in a recipient country, whereupon national programs take possession of the drugs. But customs clearance issues and delays in the subsequent transport of shipments from ports of entry

to central warehouses can pose significant bottlenecks to timely delivery, delaying drug availability for MDA campaigns.

In response, NTDSCF partners piloted a “door-to-door” distribution service under which DHL took responsibility for the delivery of the drugs from the point of release by manufacturers to the point of delivery to national warehouses. The NTDSCF has also piloted a new “control tower” approach to improve communication with national programs about the anticipated arrival time of shipments to allow for better distribution planning.

Most recently, the NTDSCF has expanded its scope to begin to address “last-mile” NTD supply chain issues, coordinating strategy and planning in all phases of the supply chain.

LAST MILE

Last-mile delivery challenges are well known, though establishing effective solutions requires evidence and planning to address specific challenges. John Snow, Inc., with the support of the Gates Foundation, is undertaking a study and assessment of drug distribution within country programs that will be completed by September 2014. A preliminary study of last-mile challenges identified several well-recognized challenges, including:

- First-mile issues that can delay the arrival of drug supplies when they are needed for planned MDA campaigns;
- Storage and transport issues that are created when a surge of drug supply overwhelms local storage and distribution capacities;

- Bottlenecks that are created due to a lack of trained logistics managers who know how to process and deliver inventory efficiently and effectively; and
- The need to update current national drug management strategies to account for the significant increase in drug supply that will be required to achieve WHO's 2020 goals for NTDs.

The project will conclude with specific costed recommendations on how to strengthen last-mile supply chains to meet elimination goals and align with first-mile solutions.

TRACHOMA MAKES GREAT PROGRESS THROUGH EFFECTIVE PARTNERSHIP

With the adoption of a comprehensive WHO-endorsed SAFE strategy for trachoma (surgery, antibiotics, facial cleanliness, and environmental change), an active coalition of committed organizations, and a clear roadmap to achieve elimination by 2020, the trachoma community made unprecedented progress in 2013 with a number of game-changing initiatives. Through the International Coalition for Trachoma Control (ICTC), the trachoma community has collaborated to develop a set of preferred practices and strengthen the technical capacity of national

programs. Through evidenced-based consensus, the ICTC has positioned itself as an innovative platform for shared learning, joint programming, and coordinated advocacy.

Recent successes demonstrate the benefits of this collaboration. Two major achievements marked 2013: a large-scale trachoma mapping project and the successful mobilization of more than US\$100 million from partners. The Global Trachoma Mapping Project has screened more than 1 million people in 900 districts across six countries. Its ultimate goal is to screen 4 million

people across 30 countries by March 2015. In 2014, significant enhancements are anticipated in program delivery to eliminate blinding trachoma through the scaled-up application of best practices for treatment and prevention, including WASH interventions. New resources from the Queen Elizabeth Diamond Jubilee Trust will accelerate progress toward elimination in Kenya, Malawi, Uganda, Mozambique, Nigeria, Tanzania, and Zambia.

Meeting the 2020 goals would, according to a recent estimate, avert up to 588 million disability-adjusted life years through 2030. Following the London Declaration, NTD donors have increased their commitments to implement NTD programs and reach those at risk. However, current commitments are not sufficient to support all the work needed to reach endemic communities and achieve the 2020 goals.

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#### ASSESSMENT OF GLOBAL RESOURCE NEED

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To help understand the remaining resources required for implementation, an in-depth analysis was conducted of the total costs necessary to achieve the 2020 goals for the 10 diseases referenced in the London Declaration. Guided by a Technical Advisory Group consisting of all major NTD funders and leading health economists, the

final report estimates that although there is progress in addressing resource requirements, there remains a need for an additional US\$1.4 billion over the next seven years. This is an average of approximately US\$200 million per year through 2020 to address unmet program needs. These projections only include implementation costs

#### CLOSER DONOR COLLABORATIONS ACCELERATE NTD CONTROL AND ELIMINATION

The United States Agency for International Development (USAID) and the United Kingdom (UK) government have been the stalwarts of NTD funding among traditional donor nations. Increased financial support from the UK government (£195 million/five years) and USAID (\$174 million/two years) has expanded support to 49 countries to eliminate and control LF, onchocerciasis, schistosomiasis, STH, trachoma, Guinea worm, and VL. This scale-up has broadened international coordination and increased country-level support, strengthening and expanding national NTD programs, and putting them on course to achieving the WHO goals.

Since the London Declaration, USAID and the UK government have worked together more closely to look for areas and countries where coordinated programs can achieve more than separate initiatives. This collaboration has improved the impact of each agency's efforts, enabling significant investments in high-burden countries such as Nigeria, Ethiopia, and the Democratic Republic of the Congo, where progress is essential to meeting 2020 targets.

USAID and the UK government's partnership has also supported coordination and facilitation with working groups on monitoring and evaluation, capacity building,

drug access, and disease-specific initiatives. The two agencies have created and distributed guidelines, tools, and other resources to help build a global evidence base.

This support is felt strongly in mapping efforts, which are crucial to reaching all people at risk with treatment. Since 2012, the UK government's Global Trachoma Mapping Project has completed mapping in 746 districts in six countries, and, with USAID support, 594 districts in 13 countries were mapped for the five diseases that use MDA, as well as Loa loa. Support to countries to evaluate elimination efforts has resulted in 144 disease assessments to date; more than 77 million people are no longer at risk for LF and nearly 36 million are no longer at risk for blinding trachoma. At the same time, USAID and the UK government support for increased MDA has enabled 237 million treatments to be distributed to 125 million people.

This kind of collaboration and impact has inspired a broader set of NTD donors to see how they can improve collaboration and reach more communities more efficiently. This group of donors will now meet regularly to brainstorm and provide lessons learned as part of the Uniting to Combat NTDs coalition.

based on current WHO recommendations and do not account for any innovations, new tools, or advances in strategies that may be required to achieve the goals.

Opportunities exist to shrink the gap through better approaches to strategy and planning. Among the most important potential ways to improve efficiency and reach of programs is through integrated delivery. If countries can integrate the delivery of STH and schistosomiasis treatment in schools, or achieve similar integration for STH and LF interventions, the report projects a 40 percent reduction in program costs. This integration is only possible with strong international support and coordination with endemic country programs.

Additional findings from the report included:

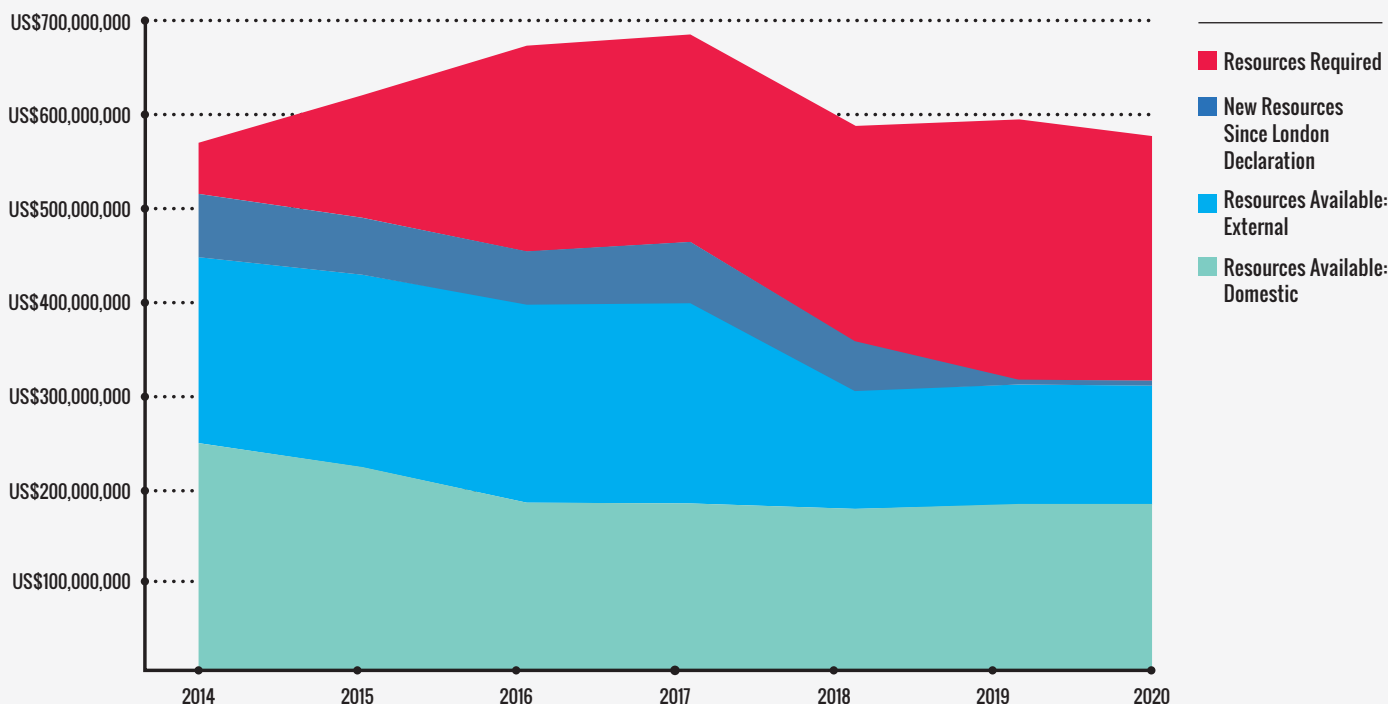
- **Drugs donated by industry represent the largest financial commitment** to the 2020 goals by a large margin. As part of its commitment to the London Declaration, industry donated 2.5 billion NTD treatments in 2012 and

2013. Assuming that programs scale up as projected, this amount will grow substantially through 2020. Using an independent valuation of each drug through published resources, the value of these donations will reach nearly US\$19 billion through 2020. For every US\$1 invested in addressing the current projected resource requirements through 2020 for NTD program implementation and delivery, up to US\$10 in drug value will be leveraged to impact lives in endemic communities.

- The majority (61 percent) of projected costs are associated with the five PCT diseases (LF, schistosomiasis, STH, onchocerciasis, and trachoma), with a total resource requirement of nearly US\$1 billion. The remaining five IDM diseases (VL, HAT, Chagas disease, Guinea worm and leprosy) require an additional US\$300 million through 2020 to implement current WHO strategies.
- Nearly 47 percent (US\$2 billion) of the global costs for NTDs are for implementation in WHO AFRO region, where the largest overlapping disease burden exists.

## 2014–2020

### Current Status of Global Resources Available and Needed to Meet 2020 Goals



Three high-burden countries—India, China, and Brazil—account for 29 percent (US\$1.2 billion) of total NTD resource need. These countries are financing the majority of national program costs with domestic resources, enabling the global community to focus on needs in lower-income countries.

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#### NEW STH PARTNERSHIP

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In children, deworming has been shown to improve physical growth and nutritional status, improve learning and school attendance, and enhance long-term economic earning potential. Since the launch of the London Declaration, there has been progress in reaching more children with deworming medications, made possible through major drug donations from J&J and GSK. But despite these commitments and ongoing efforts, of the 870 million children in need, only 280 million were treated in 2012, posing a major risk to achieving WHO's 2020 goals of 75 percent coverage of children.

Over the last year, researchers, donors, and implementers have actively engaged in re-evaluating the opportunities and challenges in achieving true global scale-up of STH control and progress toward elimination. These discussions have identified opportunities to make significant progress and accelerate impact by scaling up and embracing a true intersectoral common vision.

In April 2014 several organizations stepped forward to expand current efforts to scale up deworming while investing in new approaches and fostering further integration with other health and development sectors, in order to:

- **Catalyze demand** for the drugs that have been donated by J&J and GSK by driving resource mobilization and increased awareness of STH control and scale-up efforts

- **Scale sustainable country-led national programs** through partnership and emphasis on measurement and evaluation to establish and share best practices
- **Facilitate collaboration and coordination across sectors** by emphasizing a multi-pronged approach to STH control including, water, sanitation, education, and more.
- Explore opportunities to further increase health impact and refine policy by **developing and testing a feasible strategy to interrupt transmission.**

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## In April 2014 several organizations stepped forward to expand current efforts to scale up deworming while investing in new approaches and fostering further integration with other health and development sectors

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This initial set of partners has made the following commitments:

- **The Children's Investment Fund Foundation (CIFF)** will commit US\$50 million over five years to fund technical assistance to national deworming programs, including improved monitoring and evaluation and operational research aimed at exploring the possibility of elimination beyond 2020.

### WORLD BANK COMMITS RESOURCES TO ADDRESS NTDS IN AFRICA

In April 2014, the World Bank committed US\$120 million from the International Development Association, their fund for the poorest countries, to NTD control and elimination in low-income countries in Africa, including school-based deworming efforts. In the Senegal River Basin, its support will help treat more than 2 million school-age children and 1 million adults each year over the next five years,

while helping countries improve their data, build delivery systems, and deliver the drugs that will change lives and communities. The World Bank is also working to encourage addressing these problems not just through the health sector, but through smart investments in education, agriculture and other sectors that are key to interrupting transmission.



- **Dubai Cares** will design programs that will integrate nutrition, WASH, and deworming interventions in schools to increase student enrollment and learning outcomes.
- **The Gates Foundation** will commit US\$50 million to explore the feasibility of blocking transmission and mitigating the risks of drug resistance, as well as helping build the evidence base for effective cross-sector approaches.
- **Mundo Sano** will dedicate US\$8 million over five years to test strategies in partnership with local governments for deworming and combination treatments, particularly in the Americas.
- **The Global Partnership for Education (GPE)** will assist governments in low-income countries to improve health and learning outcomes of children and help the education sector deliver deworming drugs to children.
- **Vitamin Angels** will contribute US\$4.5 million to scale up deworming with vitamin A distributions and provide implementation support through local partners to eligible pre-school children.
- **WaterAid** will work with education, nutrition, and health stakeholders nationally and globally to ensure their plans contribute to STH elimination.
- **The World Bank** will use the opportunity presented by the GPE initiative to make International Development Association (IDA) educational resources available for school-based deworming—opening up a new funding stream.
- **The World Food Programme** will work to ensure deworming is provided to millions of children as part of current school feeding programs.

Following this commitment in Paris, Children Without Worms will coordinate the establishment of a Global Partners Plan to bring together a broader set of partners to expand this collaboration around the emerging common vision, define objectives, help clarify roles for all sectors, and ensure that these investments are leveraged as effectively as possible to establish a sustainable program and enable children to be healthy and reach their full potential.

## ARE WE ON TRACK? IDENTIFYING ISSUES AND OPPORTUNITIES TO ACHIEVE GOALS THROUGH A NEW MODELING CONSORTIUM

A key part of the investment case for NTD control, elimination, and eradication is clear, quantitative estimates of what new interventions are likely to achieve. Whereas the 2020 goals are based on high-quality epidemiological evidence and opinion, there has been no systematic effort to support these goals with quantitative modeling to ensure that the various strategies being implemented can be expected to achieve them. Different schools of modeling can take divergent views on the approaches to modeling and what data to include. To solve this, several world-leading modeling groups have formed an NTD Modeling Consortium to address critical quantitative questions. The Consortium is making itself available to the NTD community with the goal of assisting national programs with their strategic planning. The Consortium will bring multiple groups together to analyze the various diseases using the best available epidemiological data and applying state-of-the-art modeling and statistical methods. This will enable a robust scientific understanding of the likely long-term impact of the proposed control strategies. By working together they will be able to reach a consensus on the effectiveness of different strategies and assess the level of confidence on likely timescales for achieving policy goals. Access to a wide network of epidemiological, clinical, and international policy expertise will help to ensure that the modeling addresses the right questions in an effective manner. This information will be used to inform the global debate on what adjustments may be needed, identify areas where new tools or approaches may be required, and any additional investments required to achieve the goals.




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**“I became interested in the distribution of Mectizan because of the importance of what the drug does in helping people not to become blind. I wanted to help my community and the drug distribution seemed a good way to do this.”**

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Sunday Ishaku is a 39-year-old maize farmer in Kaduna, Nigeria. He also works as a volunteer distributing ivermectin and albendazole to prevent onchocerciasis and LF. He is one of over a million Community-directed Distributors (CDDs) who have been trained across Africa. The volunteers undergo a week’s training, supplemented by a refresher course every few years. Their local knowledge provides a vital link in what remains a complex task: ensuring that donated drugs finally reach the people who need them.

“I live in this community so I know people and know who I have treated and who needs treating.” Community members like Sunday have insight into when their co-workers come home from the fields, who is sick, and where and how to offer information and help. Trusted and chosen by their communities, Sunday and his fellow volunteers teach their neighbors about disease control, hygiene, and sanitation, and reassure those who have previously relied on traditional healers that taking the drugs is safe.

The strength of many community networks across Africa has enabled the addition of other health interventions, like albendazole, to that of ivermectin. Beyond Kaduna, community distributors are also now involved in schistosomiasis and trachoma control.

Like all CDDs, Sunday’s contribution of time and effort is a part of the Community-directed Treatment with Ivermectin strategy in which communities select appropriate distributors, facilitating acceptance of their work. “I like doing this for free because I know how much it helps people... We no longer have people in the community who are blind as a result of river blindness [onchocerciasis].” Since 2008, no further cases of onchocerciasis have been verified in Kaduna State.

While existing tools continue to make a major impact for millions suffering from or at risk of NTDs, many NTDs require improved or new drugs, diagnostics, or other technologies to reach the 2020 goals. Companies have supported these goals by opening their compound libraries to outside researchers, including major access agreements between companies, DNDi, and the World Intellectual Property Organization's Re:Search consortium. Several developments in 2013 gave hope that breakthroughs were near for several essential new technologies, while other efforts built the groundwork for progress in the future.

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#### HAT—PROGRESS ON SEVERAL FRONTS

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Three innovations represent potential breakthroughs in the fight against HAT that could accelerate the elimination of a disease that killed millions of people in sub-Saharan Africa during the 19th and 20th centuries. Existing tools for HAT diagnosis and treatment are difficult to deploy in the typical remote, rural settings where the disease remains endemic. The current diagnostic process is complex, cumbersome, and resource-intensive, requiring heavy equipment, electrical power, a cold chain, and trained technicians. Screening, parasite confirmation by microscope, and lumbar puncture for staging are all currently required to determine appropriate treatment.

Moreover, people with advanced cases of HAT must currently be transported to hospitals to receive in-patient treatment. While the current treatment is a great improvement over previous drugs that produced highly toxic side effects, it still requires an intravenous infusion that must be administered by a health professional in a clinical setting and is difficult to transport to patients.

But new tools for diagnosis, treatment, and vector control could change the equation for HAT programs, opening a pathway to elimination that was once unimaginable. Two field-adapted rapid diagnostic tests became commercially available in 2013: the HAT Sero K-SeT, developed by Coris BioConcept and ITM Antwerp; and SD BIOLINE

HAT, developed by the Foundation for Innovative New Diagnostics, ITM Antwerp, and Standard Diagnostics. These tests are as effective as the current card agglutination test for trypanosomiasis test, and they both offer significant advantages. Both collect samples via a simple finger prick, allowing them to be administered and interpreted by minimally trained personnel without the assistance of equipment or electricity. This transformation in the diagnostic process will enable tests to be deployed in remote rural settings and at peripheral health centers, substantially increasing outreach to populations living at risk of HAT.

A new orally administered drug is also under development in partnership between DNDi and Sanofi. Known as fexinidazole, it is a highly promising candidate, with data suggesting that an oral formulation could cure the most common form of HAT (T.b. gambiense) within 10 days. The drug is currently progressing through pivotal phase IIb/III clinical trials in the Democratic Republic of the Congo and Central African Republic. If the remaining trials progress on schedule, licensure is possible in the next few years. Complementary studies will also look at the drug's effectiveness in children, and in the less common form of the disease (T.b. rhodesiense).

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## RESEARCH AND DEVELOPMENT HIGHLIGHTS

### *HAT—Progress on Several Fronts Cont'd*

Finally, there is a new small, low-cost insecticidal tool available that can kill the tsetse fly vector of HAT. Integrating vector control into screen-and-treat

activities could have a profound impact on HAT transmission and help achieve elimination.

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## CHAGAS DISEASE—STUDIES IMPROVING RESEARCH AND DEVELOPMENT STRATEGIES

Recent evidence confirms that all patients living with Chagas disease, both newly infected and chronic sufferers, need treatment with drugs. Yet today, less than 1 percent of patients are receiving treatment. The quality of existing drugs is a major contributing factor, as both available treatments require long treatment regimens and cause serious side effects. The development of better regimens with current drugs, notably benznidazole, and new, safer, more effective drugs is therefore vital.

A 2013 study comparing an experimental drug, E1224 (made by Eisai), to benznidazole showed little efficacy

in the test drug as a single medication, but confirmed the efficacy of benznidazole. The knowledge and data generated by this study are already informing new study plans that will explore combinations of these drugs and shorter, safer treatment regimens with benznidazole. Fexinidazole is also being considered as a possible treatment for Chagas disease.

The rapid diagnostic pipeline is also showing encouraging signs. A study by Médecins Sans Frontières and WHO, aiming to find an effective rapid diagnostic combination for Chagas disease, entered its second phase.

## NEW DEVELOPMENT AND NEW PARTNERSHIPS TO OVERCOME PROGRAM BARRIERS: LF TEST STRIP

As national programs move toward the final stages of elimination, accurate tools for surveillance of a disease become essential to determining success. Since the mid-1990s, the Global Programme to Eliminate Lymphatic Filariasis (GPELF) has recommended two tools for mapping: blood films for microfilaria detection and Alere's BinaxNOW immunochromatography test (ICT). For surveillance, they have recommended BinaxNOW ICT in areas where *Wuchereria bancrofti* is prevalent and Brugia Rapid test (manufactured by Reszon Diagnostics International) in areas where *Brugia* species are prevalent.

Although instrumental in facilitating global progress in eliminating LF, technical issues associated with BinaxNOW ICT—including cost, cold chain requirement, and varied field performance due to the short reading time frame—necessitated reevaluation of the test in the context of programmatic needs. It was clear that national programs and implementers needed a more robust diagnostic tool that could keep up with a global program facing massive need for scale-up and scale-down.

Recently, Alere partnered with the Gates Foundation to develop a new diagnostic, known as the Alere LF Test Strip, which is less expensive and more stable than the BinaxNOW ICT and does not require a cold chain. This new test will dramatically improve mapping and surveillance.

In a unique partnership, GSK, Merck KGaA, Eisai, and the Gates Foundation have committed to supporting scale-up of the LF Test Strip to ensure that national programs can afford it in quantities that will keep pace with their elimination plans. As a part of this arrangement, WHO will coordinate production and delivery logistics with Alere to ensure national programs receive the tests on time.

The LF Test Strip is currently available for use in mapping and is in demonstration trials to compare its performance to the existing BinaxNOW ICT. Trial results are anticipated in mid-2014 and will inform a WHO recommendation of the LF Test Strip for use in GPELF programs while conducting transmission assessment surveys.

LYMPHATIC FILARIASIS AND  
ONCHOCERCIASIS—MACROFILARICIDE

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For LF and onchocerciasis programs, PCT through MDA has been effective in reducing both transmission and morbidity. This progress has been made using microfilaricide drugs, which kill juvenile worms but do not affect the adult worm, which can live for 15 to 20 years. Moreover, microfilaricides must be used with caution in areas co-endemic with Loa loa, as treatment can cause lethal side effects. The development of a macrofilaricide that can kill the adult worm, reducing the need to repeat treatment and addressing co-endemicity problems, is essential to rapidly achieve the global elimination of both diseases.

The year 2013 saw exciting progress on research and development (R&D) for a new macrofilaricide drug. J&J continued development of flubendazole as a macrofilaricide and will pursue further development based on results of its research. In addition, DNDi began

development work on another potential macrofilaricide drug, as well as screening over 7,000 compounds from eight companies.

To accelerate progress in developing a macrofilaricide, partners are also exploring several new tactics to discover, screen, and select promising early-stage candidates. Applying a successful approach from tuberculosis drug development, research organizations, including industry, academia, and others, are considering the establishment of a new macrofilaricide drug accelerator to streamline and accelerate discovery. If a new, safe drug is identified, the world would be much closer to making LF and onchocerciasis elimination possible in all settings.

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SCHISTOSOMIASIS—  
PEDIATRIC TREATMENT

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Praziquantel, the best available treatment for schistosomiasis, is currently available in oral tablets for adults and children over six years old. There are no clinical data to support the use of current praziquantel formulations for children under six years of age, leaving that age group unreached. In addition, the current presentation of the drug is a large tablet that is difficult for young children to swallow because of its size and bitter taste. These untreated children are at high risk for schistosomiasis, accounting for about 10 percent of the global population infected or at risk.

In 2012, a public-private partnership began collaborating to develop an effective pediatric formulation of praziquantel to treat children under six. The program is currently completing the pre-clinical phase, with the first oral-disintegrating tablet prototypes made available, and will begin its first phase I study in 2014.

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CHALLENGES FOR  
THE FUTURE

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Early-stage R&D, often built on repurposed or rediscovered pre-existing drug compounds from pharmaceutical company libraries, is moving forward in these and other areas. But these early gains need to be developed into adequate diagnostics and treatments that can ultimately be delivered in communities. Without government engagement, sustainable and innovative financing, and greater coordination among the many actors in NTD R&D,

we will not be able to turn the fruits of this work into game-changing treatments and diagnostics for patients.

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### WASH AND NTDs

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Water, sanitation, and hygiene, known as WASH, are fundamental determinants of the spread of trachoma, leprosy, STH, Guinea worm, and schistosomiasis. Collaboration with the WASH community is vital if the 2020 goals are to be reached. Safe water provision has, for example, been a key component of the highly successful Guinea worm eradication program thus far.

The London Declaration explicitly calls for greater integration of NTD and WASH programs. A meeting of experts held in December 2012 resulted in an initial publication discussing the opportunities and challenges of bringing the two sectors together to collaborate. Building on this work, in September 2013 such cooperation was given a major boost when the two communities met as part of a Non-Governmental Development Organization Neglected Tropical Disease Network (NND) meeting. The groups proposed the following avenues for collaboration:

- Joint advocacy to develop stronger, coherent, and harmonized messages in support of shared values such as inclusive development and stigma reduction

- Shared collection of mapping data
- A collaborative approach to delivering WASH and NTD programs

The Global Trachoma Mapping Project (GTMP) is a recent example of how sharing data can provide important information on the synergies between WASH and NTDs. In addition to NTD prevalence data, the survey captures data on access to water for face-washing and access to sanitation facilities at a household level. GTMP data has also been standardized with data previously collected by the WASH sector.

In 2014, a new website, [www.washtnds.org](http://www.washtnds.org), was launched to support the integration of WASH and NTDs, giving practitioners a country-specific toolkit to target, implement, and monitor WASH interventions that can reduce NTDs.

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### NTDs AND THE POST-2015 DEVELOPMENT FRAMEWORK

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As the Millennium Development Goals (MDG) deadline approaches, the process for establishing post-2015 goals is underway. The decision to include NTDs in the United Nations (UN) Secretary-General's 2013 High-Level Panel report, expected to inform UN decisions about the post-2015 development framework, provides evidence that the political will to address NTDs is growing. The report marks the first explicit inclusion of NTDs in a development framework. Their positioning alongside other, better-known global health issues is an important milestone for the NTD community. Without decisive action to address these diseases, they will remain neglected and a barrier to ending extreme poverty.

As the 2015 deadline for the MDGs approaches, international policymakers have made "Leave No One Behind" the new focus of a future development agenda. Taking "neglected" out of NTDs will be a fundamental part of this approach. The international community should continue to push for the

inclusion of NTDs in the MDG successor framework and, through the establishment of joint coordinated indicators on WASH and NTDs, underscore their importance to long-term international development objectives.



# **COUNTRY PROFILES & DISEASE-SPECIFIC PROGRESS**

## COUNTRY PROFILE: NIGERIA

Nigeria has the highest NTD burden in Africa, with the highest estimated population at risk of LF and onchocerciasis (120 and 38 million respectively), as well as the world's highest prevalence of schistosomiasis. In the last two years, Nigeria has built on early successes, combining modern approaches to implementation with the political commitment necessary to reach its goals. Efforts at the federal, state, and local government levels, geared toward community-level empowerment, are increasingly harmonized, with regular meetings of the National NTD Steering Committee and the development of state-level Master Plans that align with the national plan. The creation of a national NTD database and the use of an integrated planning and costing guide show a new focus on using hard evidence to guide accurate, timely reporting.

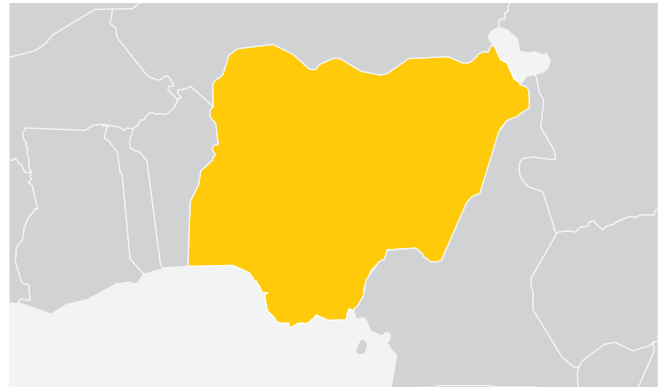
Nigeria's national plan builds on early success in partnership with the Carter Center in central Nigeria's Plateau and Nasarawa states. These states took the lead on NTD control and elimination and are the first to complete mapping of LF, STH, onchocerciasis, schistosomiasis, and trachoma. This work proved the feasibility of integrated mapping, particularly for trachoma and schistosomiasis. Based on these maps, well-designed treatment programs were launched in Plateau and Nasarawa states. They have now demonstrated the impact of these programs and have been able to move into post-treatment surveillance for LF in many areas.

Nigeria is now applying lessons learned from state-level initiatives to develop a national program. In February 2013, Nigeria launched its integrated national Master Plan for NTDs. Effectively integrating and improving oversight of PCT delivery through MDA activities will deliver measurable programmatic benefits, including increased coverage and program quality throughout the country's 36 states.

In enacting this plan, great progress has been made on mapping in Nigeria as a first critical step to reaching and treating endemic populations. By the end of 2013, 94 percent of the country's districts were mapped for LF and 82 percent of trachoma-endemic states have been mapped. Mapping for STH and schistosomiasis are targeted to be completed by the end of 2014. This will allow programs to target MDA to the people in need of treatment and scale up quickly.

Nigeria's national plan will require significant financing—an estimated US\$330 million over five years—but the country is committing domestic funds, and donors are encouraged by the results. Private national-level philanthropy has also

played an important part. Theophilus Yakubu Danjuma has provided strong financial support as an individual donor and advocate, contributing to regional onchocerciasis elimination through the APOC Trust Fund. Nigeria is also supporting its neighbors. Late in 2013, it pledged US\$5 million via the APOC Trust Fund to help support regional NTD initiatives.



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Largest NTD burden in Africa

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Building on successful pilots in Nasarawa and Plateau states

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Close collaboration between Nigerian government at all levels and international partners

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The prevalence of NTDs was long underestimated in Brazil, but that situation changed in 2011 when the national government recognized that NTD control and elimination strategies were essential to achieving the Brazil Without Extreme Poverty (BWP) national plan. Brazil's leprosy incidence is currently the second-highest in the world, and the country is also endemic for trachoma, schistosomiasis, LF, onchocerciasis, and STH.

In the past three years, the ministry of health has created the Leprosy and Diseases under Elimination Program and a 2011–2015 NTD Action Plan, which aims to use integrated, cross-sector plans to achieve the elimination of leprosy, LF, schistosomiasis, onchocerciasis, and blinding trachoma as well as the control of STH.

Based on the three pillars of the Action Plan—active search, timely treatment, and use of MDA where recommended—Brazil took several important steps in 2013:

- **School-based outreach.** Brazil launched an innovative school-based strategy known as the “Combined Campaign 2013” in 852 priority municipalities. In partnership with the Ministry of Education, the Combined Campaign screened 3.7 million children for leprosy in active searches while simultaneously treating nearly 2.9 million for STH. 34 municipalities in 6 states also launched active searches for trachoma, discovering and treating roughly 3,500 cases.
- **Surveillance.** The government identified 715 high-risk municipalities for priority intervention. These municipalities received additional financial resources to carry out surveillance that would guide preventive or treatment action.
- **Integration into BWP Plan:** NTDs were included in the BWP plan. As part of the plan, NTDs became a priority goal in the effort to eliminate extreme poverty in Brazil.

The program's success is rooted in its effective integration of diseases across the federal government's health and education ministries, as well as its focus on providing well-defined roles for national, state, and municipal governments. With strong political commitment and support through the national budget, Brazil plans to build on these successes in 2014, expanding the Combined Campaign to 1,200 priority municipalities and providing further funding to improve surveillance, prevention, and control of leprosy and schistosomiasis in 40 high-burden municipalities.



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### Largest NTD burden in the Americas

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NTD programs completely financed by national government through Brazil Without Extreme Poverty

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School-based outreach combined deworming and leprosy screening

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Since independence in 2002, Timor-Leste has experienced rapid economic growth and development. But with almost 50 percent of the population living below the poverty line, significant health and development challenges exist.

NTDs are endemic in all of Timor-Leste's 13 districts, and nearly all of the 1.2 million people living across the country are at risk of infection. In 2012, the Ministry of Health completed a national prevalence survey for STH and LF. This survey found that an estimated 30 percent of 7- to 16-year old children were infected with STH and approximately 17 percent of the entire population was infected with LF.

In response to these data, Timor-Leste is launching its national integrated NTD program in 2014, with the goal of ending the burden of LF by no later than 2021. This plan was made possible by high-level government commitment, including ownership by Prime Minister Xanana Gusmão and Minister of Health Sergio Lobo, along with support from Nobel Laureate José Ramos-Horta. Exemplifying the level of political commitment, the plan incorporates significant cross-border collaborations with the Indonesian NTD program.

Funding the program requires approximately US\$1.3 million annually. The Timorese Ministry of Health is contributing an initial US\$1.25 million over the next five years, leaving a significant gap. The Isin Di'ak Fund, established by the Sydney Medical School of the University of Sydney to support health in Timor-Leste, partnered with the Rotary Club of Sydney to commit an additional US\$225,000 for the first year, and hopes to extend that commitment through the next five years. To mobilize greater partner support, the Ministry of Health held two workshops in 2013, which brought together several Timorese ministries, as well as academic, NGO, private sector, and bilateral and multilateral organizations to encourage partnership and identify opportunities for additional resources.



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### National integrated program launch in 2014

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### Strengthening cross-border collaboration with Indonesia

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### Mobilizing funds through international partnerships to complement national contributions

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## BURDEN

More than 120 million people are infected, and nearly 1.4 billion people in 73 countries are at risk of infection.

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## WHERE

Tropical and sub-tropical regions of Africa, Asia, the Western Pacific, and Central and South America. Approximately 80 percent of the 1.4 billion people requiring preventive chemotherapy (PCT) live in 10 countries: Bangladesh, the Democratic Republic of the Congo, Ethiopia, India, Indonesia, Myanmar, Nigeria, the Philippines, and the United Republic of Tanzania.

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## PROGRESS

In 2012, nearly 471 million people were treated, which represents nearly 73 percent of the 648 million currently targeted for mass drug administration (MDA). Treatment has stopped in 13 countries and 20 other countries are preparing to conduct transmission assessment surveys (TAS) in more than 300 districts. Several countries have shown success: Togo has stopped treatment and is in a surveillance phase; India is ready to stop treatment in some states; and several Western Pacific countries are completing their TAS surveys. Morbidity control is receiving more attention, with the launch of a new WHO manual for treatment of sequelae (chronic complications) and the development of new strategies for hydrocele and integrated foot care. Of the 73 remaining endemic countries, 29 (40 percent) have reported having morbidity control efforts in place.

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## CHALLENGES

Full-scale MDA coverage remains poor. In 2012, people targeted for MDA represent less than 47 percent of the 1.4 billion individuals estimated to be at risk. The high-burden African countries still need to complete their epidemiological mapping so that MDA can begin in 2015, enabling disease elimination by 2020. The supply and reliability of diagnostics has been a rate-limiting step and has added to a significant backlog of TAS surveys.



Photo: Mo Scarpelli

## TRACHOMA

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### BURDEN

Trachoma affects about 21.4 million people, of whom about 2.2 million are visually impaired and 1.2 million are blind.

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### WHERE

Africa, South and East Asia, Australia, Oceania, Brazil, and Yemen.

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### PROGRESS

In 2013, momentum toward the elimination of blinding trachoma by 2020 continued with a number of key initiatives ensuring targeted and scale-up approaches. In its first year, the Global Trachoma Mapping Project screened more than 1 million people and mapped nearly 900 districts, many in Ethiopia and Nigeria. This initiative represented the largest trachoma mapping effort ever undertaken. The collected data, which are publicly available on [www.trachomaatlas.org](http://www.trachomaatlas.org), will play a key role in ensuring that comprehensive interventions are targeted where they are needed. To support preferred practice in implementation, two key toolkits were launched—one on trichiasis surgery and the other on trachoma MDA. (Both toolkits are available on [www.trachomacoalition.org](http://www.trachomacoalition.org).)

The 17th meeting of the Alliance for the Global Elimination of Blinding Trachoma by 2020 focused member states and partners on the strategic importance of WASH interventions to achieve “F” (facial cleanliness) and “E” (environmental change) objectives. The International Trachoma Initiative and Pfizer donated more than 50 million doses of Zithromax® and celebrated 15 years of partnership. Morocco also celebrated its elimination of trachoma, and the Queen Elizabeth Diamond Jubilee Trust pledged well over US\$60 million toward combating trachoma in Commonwealth countries.

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### CHALLENGES

Common to many other NTDs, the key challenges facing trachoma elimination include scaling up interventions, maintaining quality standards, engaging WASH partners, and achieving the “end game” for surgery, antibiotics, facial cleanliness programs, and environmental change. Moreover, political instability in certain areas is hampering mapping and treatment efforts.



Photo: Bill & Melinda Gates Foundation



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## BURDEN

More than 1 billion people are infected globally, the majority of whom are children. The annual burden of STH is more than 5 million disability-adjusted life years.

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## WHERE

Most lower- and middle-income countries have an endemic STH burden, and PCT is required in 112 countries.

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## PROGRESS

Momentum is building to achieve the WHO goal of providing PCT to 75 percent of all preschool- and school-age children at risk of STH by 2020, as stakeholders rally around World Health Assembly resolution WHA66.12. STH strategy and planning was active in 2013. A new STH collaboration has emerged that is bringing together leaders in STH control, WASH, education, and other sectors to develop a unified strategy, identify specific milestones, and clarify what is needed from the donor community. In 2012, an estimated 285 million children received PCT treatments for STH, including treatments given through LF programs. It is anticipated that new commitments will accelerate the increase in drug coverage and reduce the risk of STH reinfection by defining new strategic approaches and tools.

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## CHALLENGES

To achieve STH control, WHO recommends that countries achieve and maintain 75 percent coverage of those at risk and many countries need to start programs. In 2012, just over half of the countries conducting preventive chemotherapy for STH achieved that threshold, so coverage needs to improve. Scale-up of available drug distribution and implementation capacity is needed. Additionally, the most cost-effective ways to decrease transmission through improved WASH interventions must still be defined. The new collaboration across sectors including education, agriculture, and nutrition will need to be supported with a clear action plan.



Photo: Children Without Worms

## SCHISTOSOMIASIS

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### BURDEN

Approximately 249 million persons were at risk of infection and required treatment in 2012.

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### WHERE

Fifty-one endemic countries in Africa, parts of the Caribbean and South America, the Middle East, China, and Southeast Asia.

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### PROGRESS

During 2013, schistosomiasis control programs prioritized treatment for the rural poor in African countries, as these interventions are highly cost-effective. Eight African countries now have national programs: Burkina Faso, Burundi, Niger, Rwanda, Sierra Leone, Togo, Uganda, and Zanzibar. Eleven other African countries have expanded annual treatment programs: Côte d'Ivoire, Liberia, Malawi, Mauritania, Mozambique, Nigeria, Senegal, Sudan, Tanzania, Zambia, and Zimbabwe.

Although programs have yet to start, commitments have been made and mapping efforts have begun in some of the larger countries. A countrywide mapping project in Ethiopia generated detailed prevalence data for the Ministry of Health that will support its newly launched national master plan, and large mapping programs are underway in the Democratic Republic of the Congo, Angola, and traditionally neglected states of Nigeria.

Merck KGaA, in partnership with USAID, the UK government, and others, will provide enough praziquantel to treat more than 90 million individuals in 2014, up from 70 million in 2013.

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### CHALLENGES

In 2012, only 31 endemic countries (59 percent) carried out needed treatment programs. Of these, only seven achieved the WHO-recommended national coverage rate of 75 percent. Much broader scale-up is needed.

Participation and compliance among non-school-attending children and high-risk adults is the greatest challenge, as patients outside schools infrequently seek out preventive treatment. Moreover, the infection has mostly non-specific symptoms and so is often not recognized until it is too late for effective treatment. Community education is hugely important to ensure infections are treated early.



Photo: Richard Hatzfeld

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## BURDEN

More than 123 million people are at risk, and 37 million are currently infected.

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## WHERE

The overwhelming majority of cases are in Africa, with a few hundred thousand cases in the Middle East (predominantly Yemen) and Central and South America.

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## PROGRESS

Longstanding and effective treatment programs are leading to substantial progress, with many sites across the world nearing or achieving elimination. Geographic coverage, at 95.4 percent in 2012, is the highest of all the PCT NTDs, and approximately 100 million treatments were provided to endemic communities in 2012.

Focal elimination of the disease has likely been achieved throughout the Americas and in at least 12 African countries. In July 2013, Colombia became the first country to have WHO verify the elimination of onchocerciasis, and Ecuador has requested WHO verification as well. Mexico, Guatemala, and some districts in Uganda and Sudan have stopped MDA and entered post-treatment surveillance. Transmission of the disease may have also been stopped in several other African countries, including Burundi, Chad, Central African Republic, Equatorial Guinea, Ethiopia, Malawi, Mali, Republic of the Congo, Senegal, and Tanzania.

The key to success in Africa has been regional coordination through the African Programme for Onchocerciasis Control (APOC) program. All 31 endemic country ministers of health endorsed a regional elimination strategy in 2013.

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## CHALLENGES

- Armed conflict in areas of Central African Republic, the Democratic Republic of the Congo, Nigeria, and South Sudan is affecting program performance.
- With the new target of elimination in Africa, the new areas targeted for treatment will need to be mapped. This process is underway.
- Financial constraints are preventing the remaining scale-up needed to achieve and maintain high treatment coverage in all transmission zones.
- Onchocerciasis and LF elimination efforts need better coordination. The expansion of APOC's mission to include LF is intended to address this gap.
- New diagnostic tests are needed to monitor progress, to identify where treatment can stop, and to enable alternative strategies in areas where Loa loa is co-endemic.



Photo: Olivier Asselin



## GUINEA WORM

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### BURDEN

In 2013, 148 cases were reported, down from an estimated 3.5 million cases in 1986.

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### WHERE

Chad, Ethiopia, Mali, South Sudan, and Sudan.

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### PROGRESS

During 2013, major progress was made toward the possible eradication of Guinea worm. The global Guinea worm eradication program supported active village-based surveillance in more than 7,500 villages or localities. There was a 73 percent reduction in cases, with just 148 cases reported compared to 542 in 2012. Asia was certified as Guinea worm-free. Nigeria, once the most highly endemic country, was certified Guinea worm-free in January 2014. Niger and Côte d'Ivoire were also certified as Guinea worm-free. South Sudan, the most challenging remaining country, has reported zero confirmed cases of Guinea worm from November 2013 through February 2014.

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### CHALLENGES

- New insecurity in parts of South Sudan is a great threat to the program. Similar challenges in Mali and Ethiopia have made access difficult for village-based volunteers.
- Remaining endemic countries have unique problems: in South Sudan, significant and complex population movement complicates program design; in Mali, government support must improve; and in Chad, the transmission epidemiology is atypical and hinders planning prevention strategies.
- Public awareness of the cash awards available to village workers or individuals that report new cases must be expanded.
- Maintaining quality active surveillance systems in Guinea worm-free areas remains weak and risks unknown reintroduction of the disease.
- Case containment—ensuring that the human-to-water-to-human cycle of the worm is broken—remains low. Of the 148 cases reported in 2013, 98 (66 percent) were contained.



Photo: The Carter Center/L.Gubb

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## BURDEN

Annual incidence has plateaued at around 220,000 to 250,000 new cases.

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## WHERE

Africa, the Americas, and Asia.

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## PROGRESS

Case detection and reporting have shown improvement, with a 6 percent increase in the number of cases reported between 2011 and 2012. In 2013, a number of exciting initiatives were developed to pursue more intensive contact tracing and treating exposed family members to reduce the spread of the disease. Development of new diagnostic tests and leprosy-specific vaccines is also gathering momentum. Renewed commitments to leprosy were made by ministers of health at the July Summit in Bangkok and by NGOs and others at the International Leprosy Congress in Brussels in September. The International Federation of Anti-Leprosy Associations has continued its funding commitments and is pledging US\$250 million in new resources for programming and an additional US\$6 million dedicated to research over the next five years.

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## CHALLENGES

Disease transmission is continuing at a relatively stable rate. Maintaining political interest and NGO support will be necessary to garner the resources needed to sustain and surpass current achievements. Ongoing efforts must include treatment needs for people living with leprosy-related sequelae. Development of new tools to detect emerging cases and creation of appropriate treatment strategies remain high on the community agenda.



Photo: Jean Platteau, Damien Foundation

## VISCERAL LEISHMANIASIS

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### BURDEN

An estimated 200,000 to 400,000 new cases of VL occur worldwide each year.

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### WHERE

Over 90 percent of visceral leishmaniasis cases occur in just six countries: Bangladesh, Brazil, Ethiopia, India, South Sudan, and Sudan.

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### PROGRESS

#### *South-East Asia*

The three countries in the Southeast Asia region with the highest incidence of VL (Bangladesh, India, and Nepal) are implementing a regional strategic framework to eliminate the disease by 2015. A recent progress review in these countries showed a decline in incidence and a significant increase in the number of sub-districts that achieved the elimination target of less than one case per 10,000 population. In Bangladesh, the government has adopted a new treatment policy guideline using single dose AmBisome and has started implementation. Incidence in Bangladesh and India dropped between 2012 and 2013 by around 37 percent and 33 percent respectively. The implementation of indoor residual spraying (IRS) and the quality of the IRS campaigns is improving, although more remains to be done. Implementation of active case search has also improved and capacity-building activities have been intensified.

#### *East Africa*

In East Africa, coordinated efforts enabled control of a major VL outbreak in South Sudan. Access to diagnostic and treatment services has increased while incidence declined in all three major endemic countries in 2013. Capacity-building activities have been successfully implemented by training health workers and laboratory technicians.

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### CHALLENGES

Challenges include improving early detection of all cases by scaling up active case search; scaling up safer and more effective treatment options using liposomal Amphotericin B; ensuring quality IRS operations and coverage; and monitoring treatment outcomes.



Photo: Bill & Melinda Gates Foundation



## CHAGAS

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### BURDEN

Seven to eight million people worldwide are likely to be infected with *Trypanosoma cruzi* (the parasite that causes Chagas disease), although firm estimates are difficult to attain given current screening.

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### WHERE

Predominantly in Latin America and the United States.

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### PROGRESS

Chagas disease is transmitted through fecal contamination from infected bugs, transfusions of infected blood, or congenitally to newborns. A series of multinational initiatives across Latin America, supported by the Pan-American Health Organization, has restricted the range of common bug vectors (*Triatoma infestans* and *Rhodnius prolixus*), and transmission by blood transfusion has been substantially reduced throughout Latin America, with 20 out of 21 endemic countries screening 100 percent of donated blood. Completion of several clinical trials provided strong support for wider use of current chemotherapies, despite their shortcomings, and highlighted the need for more effective drugs.

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### CHALLENGES

Advances made in reducing transmission are at risk due to decentralization and reduced funding for surveillance and control programs. Additionally, there are reports of insecticidal resistance, peri-urban transmission cycles, and significant transmission by vector species other than those that have been the targets of previous control campaigns. These new scenarios present additional challenges for vector control and require the use of a wider range of tools. Increased funding and substantial political will is needed to reduce transmission.

Other immediate challenges include identifying and treating infected individuals before they develop clinical disease or transmit the infection through blood donation or pregnancy. Thus, broader screening efforts to diagnose the infection, better access to and wider use of current drugs, and the development of better treatments are all needed. Establishment of accessible and rigorously documented databases of diagnostic screening efforts, vector control operations, and treatment programs are also needed



Photo: Bill & Melinda Gates Foundation

to effectively monitor and quantify progress toward the London Declaration goals.

The movement of Chagas disease to areas previously considered non-endemic, resulting from increasing population mobility between Latin America and the rest of the world, represents a serious public health challenge. Cases have been found in several European countries, Japan, Australia, and the United States. Expertise in Chagas disease must be maintained, updated, and extended.

## HUMAN AFRICAN TRYPANOSOMIASIS (HAT)

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### BURDEN

70 million people are currently at risk of HAT. 7,216 cases were reported in 2012.

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### WHERE

70 percent of cases in the last 10 years occurred in the Democratic Republic of the Congo. The remainder occurred elsewhere in sub-Saharan Africa.

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### PROGRESS

In April 2013, a panel of WHO experts established guiding principles for HAT elimination. As part of that process, WHO endorsed a recommendation for the use of new diagnostic and treatment tools. WHO has updated its estimates on disease distribution and population at risk of HAT, allowing for development of plans and indicators for disease elimination. As the relative risk of HAT varies depending on numerous variables, it is difficult to estimate. However, a new estimate suggests that approximately 70 million people across 24 endemic African countries are at risk of HAT. Efforts are underway to integrate HAT control and surveillance into health systems using the newly developed rapid screening test. These health systems were able to successfully treat 100 percent of cases diagnosed in 2012 using drugs donated by Sanofi and Bayer.

WHO is convening a HAT stakeholder meeting in early 2014 to consider how a new generation of diagnostics first introduced in 2013, as well as improved vector control and oral therapeutic tools targeted for availability by 2016, could be best used to accelerate the elimination of HAT.

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### CHALLENGES

The integration of HAT treatment into health systems is the basis for sustainable elimination. However, the weakness of health systems in rural areas where HAT is endemic threatens this critical approach. Access to some transmission areas has been blocked by civil unrest and security constraints. Further investigation of the role of animal reservoirs and of healthy carriers in transmission of HAT is also needed. The goal of eliminating HAT is reachable, but additional funds will be required.



Photo: Bill & Melinda Gates Foundation

# SCORECARD

The Uniting to Combat NTDs Scorecard is a tool to focus global attention on progress toward WHO 2020 targets for the 10 NTDs included in the London Declaration. It includes three principal areas: Coverage & Impact Milestones, Drug Requests Fulfilled, and Program Support Milestones.

The scorecard, available at [www.unitingtocombatntds.org](http://www.unitingtocombatntds.org), shows that indicators are generally on track, with more than half of the indicators scored green. Global pharmaceutical partners are leading the way, providing enough drugs to meet current demand.

The scorecard highlights areas where additional progress is needed in both STH and schistosomiasis, which each report low coverage and limitations to scale-up. Newly announced investments will help address this for STH, and with effective program integration the commitments could also benefit schistosomiasis. Progress in schistosomiasis was scored red (i.e., not on target for the 2020 goals), as drug supply remains constrained and annual program support milestones have yet to be established. LF is also an area for increased focus; indicators are currently yellow and will go to red if the significant scale-up needed in 2014–2015 is not accomplished.

In several areas, colored purple, indicators for success have not yet been established. The groups responsible for these indicators are currently discussing and developing appropriate and measurable milestones.

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### KEY



Achieved or minor delay; or 90–100% of requested treatments shipped



Delayed, but achievement anticipated; or 80–89% of requested treatments shipped



Delayed, additional action required; or 0–79% of requested treatments shipped



Global Milestones in Development



Not Applicable

**PCT:** Preventive Chemotherapy

**IDM:** Intensified Disease Management

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**Coverage & Impact Milestones (2012):** Scored based upon 2012 global progress made at achieving milestones identified by WHO.

**Drug Requests Fulfilled (2013):** Scored based upon pharmaceutical companies' delivery of requested drug supply for 2013.

**Program Support Milestones (2012):** Scored based upon 2012 global progress made at achieving milestones identified by program implementers. Milestones not available for Chagas, HAT or VL.

**Current Status:** Overall score for progress within each specific disease area based upon review of all available data and discussions by the Uniting to Combat NTDs Stakeholders Working Group.

**Previous Status:** Overall score in previous year's scorecard.

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Data Sources: <sup>1</sup> WHO WER: *Preventive chemotherapy: planning, requesting medicines, and reporting* (21 February, 2014, vol 89, 9 (pp.73–92)); <sup>2</sup> WHO PCT Online Databank; <sup>3</sup> *International Trachoma Initiative 2012 data*; <sup>4</sup> The International Federation of Anti Leprosy Associations; <sup>5</sup> The Carter Center; <sup>6</sup> WHO Focal Person Report

	LONDON DECLARATION NTDs	COVERAGE AND IMPACT MILESTONES (2012)	DRUG REQUESTS FULFILLED (2013)	PROGRAM SUPPORT MILESTONES (2012)	CURRENT STATUS	PREVIOUS STATUS
PCT	Lymphatic Filariasis				<ul style="list-style-type: none"> <li>472 million (M) cases treated in 28 of 60 countries in need of PCT<sup>1</sup></li> <li>33.6% global coverage<sup>1</sup></li> <li>72.8% therapeutic coverage (coverage in planned PCT areas)<sup>1</sup></li> <li>187M fewer people treated than 2011<sup>2</sup></li> </ul>	
	Trachoma				<ul style="list-style-type: none"> <li>48.8M cases treated in 28 of 51 countries in need of PCT<sup>1</sup></li> <li>20.2% global coverage<sup>1</sup></li> <li>73.3% therapeutic coverage (ITI planned PCT areas)<sup>3</sup></li> <li>Major increase in funding for mapping and implementation</li> </ul>	
	Soil-Transmitted Helminths				<ul style="list-style-type: none"> <li>321M cases treated in 65 of 112 countries in need of PCT<sup>1</sup></li> <li>32.6% global coverage<sup>1</sup></li> <li>New partnerships and planned investments in 2014</li> </ul>	
	Onchocerciasis				<ul style="list-style-type: none"> <li>99M cases treated in 27 of 29 countries in need of PCT<sup>1</sup></li> <li>76.2% global coverage<sup>1</sup></li> <li>2,900 new communities added to PCT in 2012</li> <li>Change from control to elimination requires scale-up</li> </ul>	
	Schistosomiasis				<ul style="list-style-type: none"> <li>42M cases treated in 31 of 52 countries in need of PCT<sup>1</sup></li> <li>14.4% global coverage<sup>1</sup></li> <li>Large scale-up needed, drug supply constraints</li> </ul>	
	IDM	Leprosy				<ul style="list-style-type: none"> <li>232,857 new cases detected<sup>4</sup></li> <li>6% increase in detected cases in 2012; more countries reporting<sup>4</sup></li> <li>100% new cases treated<sup>4</sup></li> <li>New strategies, new drug, new dollars</li> </ul>
Guinea Worm					<ul style="list-style-type: none"> <li>542 cases in 2012; 64% contained<sup>5</sup></li> <li>148 cases in 2013; 64% contained<sup>5</sup></li> <li>65% reduction in cases since 2011<sup>5</sup></li> <li>Political unrest blocks access to many endemic communities</li> </ul>	
Visceral Leishmaniasis					<ul style="list-style-type: none"> <li>37,209 cases treated<sup>6</sup></li> <li>62% decrease in cases since 2011<sup>6</sup></li> <li>Funding and drugs having impact in Bangladesh</li> </ul>	
Chagas Disease					<ul style="list-style-type: none"> <li>10,000 cases treated<sup>6</sup></li> <li>18% increase in cases over 2011 due to improved reporting compliance in 2012<sup>6</sup></li> </ul>	
Human African Trypanosomiasis					<ul style="list-style-type: none"> <li>7,216 cases treated (7,106 T.b. gambiense, 110 T.b. rhodesiense)<sup>6</sup></li> <li>100% treated<sup>6</sup></li> <li>7% increase in 2012 cases due to delayed reporting of 2011 cases</li> <li>Forecasts suggest more than 6,000 cases in 2013</li> </ul>	

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This report and the London Declaration Scorecard were compiled by The Uniting to Combat NTDs coalition of private and public sector organizations. These organizations are among those that have endorsed the London Declaration on NTDs.

The Stakeholders Group would like to thank the members of the World Health Organization's Department of Control of Neglected Tropical Diseases for their advice and recommendations.

For more information and for links to other NTD related material, please visit: [UnitingtoCombatNTDs.org](https://unitingtocombatntds.org)

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