World Health Organization

Hidden successes,
Emerging opportunities"

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A letter from the Director

Neglected tropical diseases have afflicted humanity since time immemorial and, in their long histories, have acquired notoriety as disabling and deforming diseases. In the past, their serious impact on health and productivity led to considerable knowledge about the diseases, and effective control tools were developed for many. In addition, as living conditions improved, opportunities for transmission were drastically reduced. As a result, these diseases are now rarely seen in populations that enjoy good access to health services and a reasonable standard of living.

Today, neglected tropical diseases are a symptom of poverty and disadvantage.

Today, neglected tropical diseases are a symptom of poverty and disadvantage. Those most affected are the poorest populations often living in remote, rural areas, urban slums or in conflict zones. With little political voice, neglected tropical diseases have a low profile and status in public health priorities. Lack of reliable statistics and unpronounceable names of diseases have all hampered efforts to bring them out of the shadows.

Although medically diverse, neglected tropical diseases share features that allow them to persist in conditions of poverty, where they cluster and frequently overlap. Approximately **1 billion people** – one sixth of the world's population – suffer from one or more neglected tropical diseases. Conflict situations or natural disasters aggravate conditions that are conducive to the spread of these diseases.

Under extremely challenging conditions, dramatic achievements have been made.

Nonetheless, under extremely challenging conditions, dramatic achievements have been made in recent decades: **14.5 million people** have been cured of leprosy; the number of people infected with guinea-worm disease has dropped **from 3.5 million to just 10 000**; more than **25 million hectares** of land previously infested with black flies leading to river blindness are available for resettlement and cultivation; millions of people are now protected from lymphatic filariasis. Schistosomiasis has been effectively controlled in Brazil, China and Egypt and eliminated from the Islamic Republic of Iran, Mauritius and Morrocco. Intestinal helminths have been eliminated in the Republic of Korea and are under control in many endemic countries. These successes demonstrate that interventions against neglected tropical diseases are technically feasible, immediate, visibly powerful and highly cost effective.

The strategy against neglected tropical diseases would help achieve some of the Millennium Development Goals as it is pro-poor and enhances human capital.

During meetings in Berlin and Geneva in 2004 and 2005, WHO with its partners developed a conceptual framework to move away from a purely disease-centred approach to an integrated one tackling selected neglected tropical diseases as a group. WHO will take this agenda forward using a three-pronged approach: **broader coverage with rapid-impact interventions** (especially against helminth infections), **strengthened vector control** to reduce transmission of several diseases, and **improved surveillance and high-quality care** of diseases such as leishmaniasis and sleeping sickness. WHO will also address the particularities and obstacles of **neglected tropical disease control in humanitarian emergencies**, where mortality and morbidity are higher than usual. Research and development, including operational research, will underpin activities in all areas.

Such an approach would permit the rapid expansion of currently limited access to existing safe and effective treatments that can be given to tackle a number of infections often afflicting the same individual. It would be carried out on a proactive basis targeted at the poor population at risk, protecting them from the irreversible effects of these infections in adulthood. It would reduce burden to locally manageable levels. It will make the most efficient use of human and financial resources and existing infrastructures.

This population-based approach is compatible with a **human rights agenda as it is non-discriminatory and ethical**. The strategy would help achieve some of the Millennium Development Goals as it is pro-poor and enhances human capital by protecting millions of people from debilitating diseases, with considerable collateral benefits on education and productivity.

We now need to urgently work together with endemic countries and the international community to improve neglected communities' access to the rapid-impact interventions and quality care to protect them from neglected tropical diseases and to ensure their human and social development. The need to do so is incontestable from all perspectives: moral, human rights, economic and global public good. The task is feasible and must be done.

Dr Lorenzo Savioli
Director
Department of Control of Neglected Tropical Diseases
World Health Organization, Geneva

Key features of neglected tropical diseases

- Neglected tropical diseases affect an estimated 1 billion people, primarily poor populations living in tropical and subtropical climates.
- They frequently cluster geographically and overlap; individuals are often afflicted with more than one parasite or infection.
- 100% of low-income countries are affected by at least five neglected tropical diseases simultaneously.
- More than 70% of countries and territories that report the presence of neglected tropical disease are low-income and lower middle-income economies.
- Infections are attributable to unsafe water, poor housing conditions and poor sanitation.
- Children are most vulnerable to infections of most neglected tropical diseases.
- Neglected tropical diseases kill, impair or permanently disable millions of people every year, often resulting in life-long physical pain, social stigmatization and abuse.
- Many can be prevented, eliminated or even eradicated with improved access to existing safe and cost-effective tools.

WHO is currently focusing on 14 neglected tropical diseases:

- **Buruli ulcer**
- **Chagas disease**
- **Cholera/Epidemic diarrhoeal diseases**
- **Dengue/dengue haemorrhagic fever**
- **Dracunculiasis (guinea-worm disease)**
- **Endemic Treponematoses (yaws, pinta, endemic syphilis…)**
- **Human African trypanosomiasis**
- **Leishmaniasis**
- **Leprosy**
- **Lymphatic filariasis**
- **Onchocerciasis**
- **Schistosomiasis**
- **Soil-transmitted helminthiasis**
- **Trachoma**

Successes at a glance

- Of 122 countries endemic for the disease, 116 have eliminated **leprosy** as a public health problem over 20 years. Since 1985, the prevalence of leprosy has fallen by more than 90% and 14.5 million patients have been cured of the disease through multidrug therapy.
- In 2005, only about 10 000 people were infected with **guinea-worm disease** in 9 endemic countries compared with an estimated 3.5 million in 20 countries in 1985.
- **Onchocerciasis** has been eliminated as a public health problem and as a disease of socioeconomic importance from 10 west African countries. Control of blindness and skin disease will have reached 50 million people via donated ivermectin by 2010.
- In 2005, millions of people were protected from **lymphatic filariasis**. Transmission has been arrested in several countries and is no longer a public health problem in Costa Rica, the Solomon Islands, Suriname, and Trinidad and Tobago.
- Domestic transmission of **Chagas disease** has been controlled in five South American countries, providing economic rates of return of around 30% on the investment in vector control. Transmission of the disease by blood transfusion has also stopped.
- The prevalence of **schistosomiasis** has been reduced dramatically in many countries over the past years: a 90% reduction was achieved in both China and Egypt using sustained control efforts with praziquantel. In Brazil, sustained control efforts since 1979 have led to a 56% decrease in mortality and a 43% decrease in severe pathology (needing hospitalization) in 1997. Morocco eliminated urinary schistosomiasis in 2005.
- The estimated number of cases of **human African trypanosomiasis** (sleeping sickness) has fallen dramatically to between 50 000 and 70 000 compared with 300 000 in 1995. Increased surveillance activities have led to a substantial reduction in the number of new cases reported, from 37 193 in 1997 to 15 877 in 2005.

Neglected
Tropical

Neglected tropical diseases debilitate, deform, blind and kill ...

diseases

Map 1. Global burden of neglected tropical diseases

The burden of tropic
divides the world in two

Approximately

1 billion people

are affected with one or more neglected tropical diseases. Yet these diseases remain neglected at all levels.

A symptom of poverty and disadvantage

en of tropical diseases
e world in two.

Map 2. Population earning less than US$ 1 a day

Neglected tropical diseases persist under conditions of poverty and are concentrated almost exclusively in impoverished populations in the developing world.

Unsafe water, lack of access to health services, inadequate housing, malnutrition and poor sanitation all increase vulnerability to infection.

Approximately 1 billion people are affected with one or more neglected tropical diseases. Yet these diseases remain neglected at all levels.

Neglect at community level

Neglected tropical diseases such as leprosy, lymphatic filariasis and leishmaniasis are feared and the source of strong social stigma and prejudice. As a result, these diseases are often hidden – out of sight, poorly documented and silent.

Neglect at national level

Neglected tropical diseases tend to be hidden below the radar screens of health services and politicians because they afflict populations that are often marginalized, with little political voice. Although frequently causing severe pain and life-long disabilities, these diseases are generally not major killers. Under resource-limited conditions, high mortality diseases such as HIV/AIDS or tuberculosis are prioritized to the detriment of neglected tropical diseases.

Neglect at international level

Neglected tropical diseases do not travel easily and thus do not pose an immediate threat to western society. Moreover, they are tied to specific geographical and environmental conditions. The development of new diagnostic tools has been under-funded largely because neglected tropical diseases do not represent a significant market.

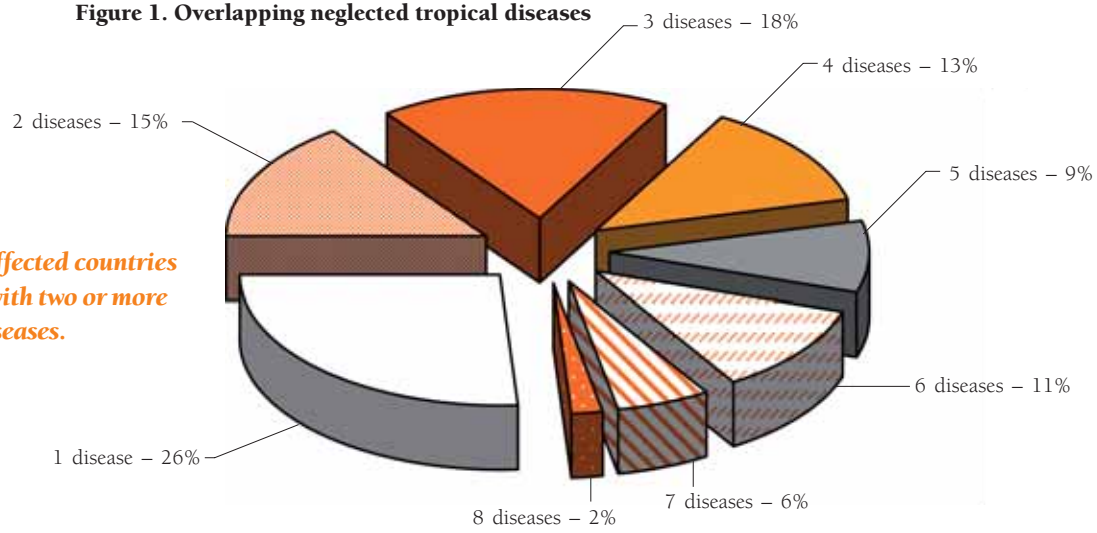
Less than 1% of the 1393 new drugs registered during 1975–1999 was for tropical diseases. Less than **0.001%** of the US$ 60–70 billion went towards developing new and urgently needed treatments for tropical diseases.

Overlapping threats to neglected populations

Neglected tropical diseases tend to cluster geographically and overlap because they also share some common features.

For instance, insect vectors spread Chagas disease, dengue, leishmaniasis, lymphatic filariasis and onchocerciasis. Schistosomiasis and soil-transmitted helminthiasis, and trachoma are closely associated with poor environmental hygiene and sanitation.

Figure 1. Overlapping neglected tropical diseases



***74%** of affected countries are facing with two or more diseases.*

- **149** countries and territories are affected by at least one neglected tropical disease.
- More than **70%** of them are affected by two or more diseases.
- **28** countries are afflicted by more than six diseases simultaneously; most of them are low-income economies under humanitarian emergencies.

Box 1. Neglected tropical diseases and humanitarian emergencies

A chapter of suffering: neglected tropical diseases and humanitarian emergencies

Humanitarian emergencies, caused by conflict or natural disasters, are frequently characterized by the displacement of large numbers of people. Those affected are often resettled in temporary locations with high populations densities, inadequate food and shelter, unsafe water and poor sanitation. All of these conditions have enabled communicable diseases, either alone or in combination with malnutrition, to emerge as major killers.

Death rates of up to 10 times those of the local population have been reported among refugee and displaced populations, and more than three-quarters of these deaths may be caused by communicable diseases alone.

In conflict-affected countries, neglected tropical diseases can pose a major burden due to collapse of disease control programmes and surveillance systems. Patients often have poor access to health care, thereby prolonging suffering from preventable and treatable diseases.

In Angola, as control programmes for human African trypanosomiasis (sleeping sickness) collapsed due to a 40-year civil war, the number of identified cases rose exponentially, increasing from zero per year in the early 1970s to over 8000 per year in the late 1990s. In some provinces, sleeping sickness affects up to 50% of the population, with mortality rates greater than those of HIV/AIDS.

WHO responds to communicable diseases in humanitarian emergencies by

- developing standards, guidelines, and new tools to address communicable disease control, including neglected tropical diseases
- providing field operational support for control of communicable diseases, including neglected tropical diseases, in priority countries
- building capacity for communicable disease surveillance and control, including monitoring of the neglected tropical disease burden.

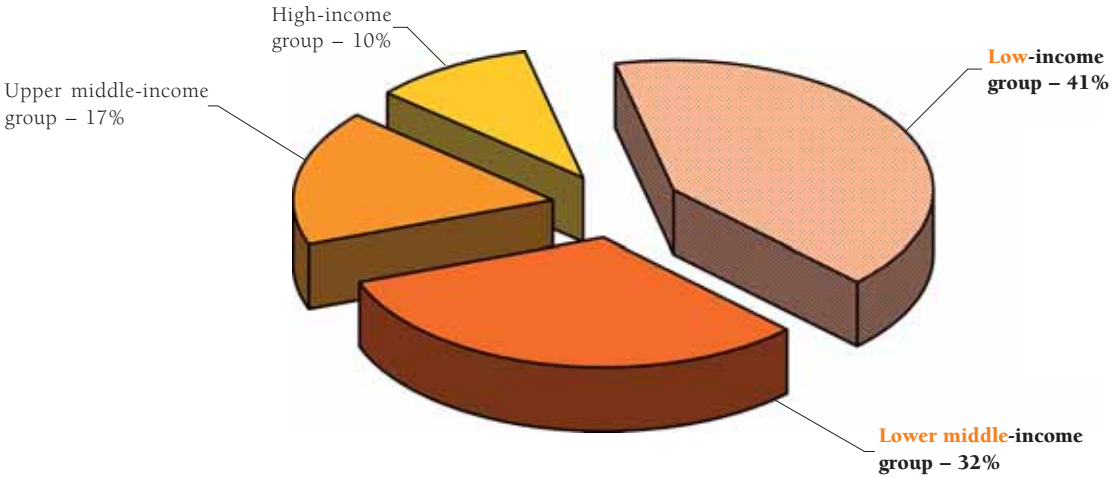
Priority conflict-affected and post-conflict countries being targeted include Afghanistan, Angola, Burundi, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Liberia, Sierra Leone, Somalia, Sudan and northern Uganda.

The poorest of the poor: the victims of neglected tropical diseases

Neglected tropical diseases typically affect the poorest in communities, usually the most marginalized and those least able to demand services.

Concentrated almost exclusively in impoverished populations, neglected tropical diseases form a group, with more than 70% of affected countries in low-income or lower middle-income economies.

Figure 2. Countries affected by neglected tropical diseases, by income group



Many of the neglected tropical diseases can be cured with drugs that cost as little as US$ 0.02–$1.50. This figure is cheap for OECD countries with an average GDP per capita of US$ 28 500[1] but unaffordable for people earning less than US$ 1 per day. An estimated 1.1 billion people live on less than US$1 a day and more than 2.7 billion live on less than US$2 a day[2] : they are at higher risk of neglected tropical diseases.

[1] USD, using current PPPs, 2004 (OECD fact book 2006, OECD)
[2] World Development Indicators 2005 (World Bank)

Furthermore, most countries are affected by more than one disease at the same time. International support is essential for scaling up control programmes against neglected tropical diseases.

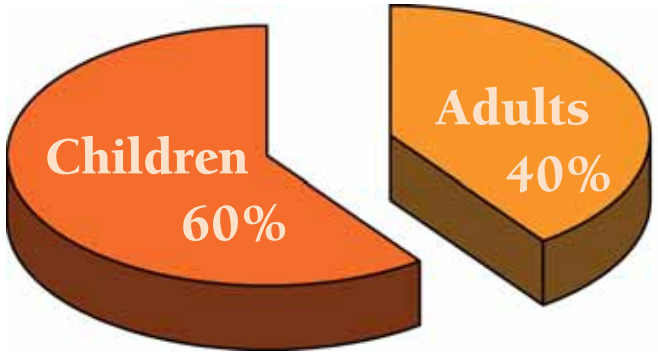
Women and children are more vulnerable

Women, children and ethnic minorities, as well as those living in remote areas with restricted access to services, are most at risk of infection.

In general, women are more exposed to communicable diseases than men – in terms of both morbidity and mortality. Women also face additional barriers to seeking, and often receiving, treatment. The consequences of stigma attached to many neglected tropical diseases are often more severe for women within their families and wider social life.

Nearly 70% of all deaths and 75% of all disability-adjusted life years (DALYs) from communicable diseases globally occur in children aged under 14 years. This also applies to neglected tropical diseases as children are much more exposed to infections.

Figure 3. Victims of soil-transmitted helminthiasis



The high price of neglect

Most neglected tropical diseases cause severe and permanent disabilities but rarely kill.

Their low mortality despite high morbidity places them near the bottom of mortality tables and, in the past, they have received low priority.

However, the price of neglect is too high; neglected tropical diseases have consequences for affected individuals, families and entire communities in terms of burden of disease, quality of life, loss of productivity and aggravation of poverty.

Neglected tropical diseases are a devastating obstacle to human settlement and socioeconomic development of already impoverished countries.

Neglected tropical diseases debilitate, deform, blind and kill

Debilitate

Neglected tropical diseases can help guarantee that the next generation remains anchored in poverty. Guinea-worm disease and schistosomiasis have a serious impact on school attendance rates. Sleeping sickness can permanently impair mental function and may cause mental retardation, even in children who are cured. Impaired childhood growth and cognitive development are associated with schistosomiasis and soil-transmitted helminthiasis.

Deform

Deformities associated with neglected tropical diseases such as leprosy, leishmaniasis and lymphatic filariasis can become so severe that patients are banished from their communities as well as the work force. These are the severely enlarged limbs of elephantiasis, the faces eroded by mucocutaneous leishmaniasis or leprosy and the limbs of small children that are amputated to save their lives from aggressive Buruli ulcer infection.

The price of neglect is too high ...

Blind

Occurring as it does in rural areas, blindness caused by onchocerciasis and trachoma can jeopardize food security and cause dramatic changes in patterns of land use.

On the river Koni, in the Bani basin of Mali, a staff member spent the morning with a blind couple who had been brought to a field by a child and who spent the long day slowly picking out the unwanted grass from between the millet, differentiating the two by the feel of their leaves. These images, multiplied by a hundred thousand, are the human face of onchocerciasis.

Kill

Untreated, human African trypanosomiasis (sleeping sickness) and leishmaniasis are killers. Sleeping sickness invariably progresses to body wasting, somnolence, coma and death. Visceral leishmaniasis damages the internal organs such as liver, spleen and bone marrow. Left untreated, it is usually fatal within two years.

Box 2. Coinfection with visceral leishmaniasis and HIV

A deadly synergy: visceral leishmaniasis and HIV coinfection

Coinfection with visceral leishmaniasis and HIV is becoming an ominous global trend.

Leishmaniasis is transmitted by the bite of the sandfly infected with leishmania protozoa.
The parasite can reside for decades in asymptomatic individuals. However, cases quickly evolve to severe visceral leishmaniasis among persons who are immunosuppressed.

In persons infected with HIV, leishmaniasis accelerates the onset of AIDS by cumulative immunosuppression and by stimulating replication of the virus.
Sharing of needles by injecting drug users spreads leishmaniasis as well as HIV, which occurs in Europe.
AIDS increases the risk of visceral leishmaniasis by 100–1000 times in endemic areas.

Leishmaniases are endemic in 88 countries on four continents – Africa, Asia, Europe and America.
WHO estimates that 350 million people are at risk of leishmaniasis, 12 million are currently infected and around 1.5–2 million new infections occur each year.
Due to coinfection, visceral leishmaniasis is no longer restricted to endemic areas and the number of cases of visceral leishmaniasis and HIV coinfection will continue to rise.
In southern Europe, for example, up to 70% of adult cases of visceral leishmaniasis are associated with HIV infection. In some areas of Ethiopia, 35% of all leishmaniasis patients are coinfected with HIV, and the trend is spreading to neighbouring countries such as Sudan.

A surveillance network is urgently required in order to monitor the evolution of leishmaniasis/HIV coinfection.
Mapping of coinfection and analysis of trends in epidemiology will give a tool for developing a strategy for disease

Sound reasons for being optimistic

Most neglected tropical diseases can be prevented and even eliminated if affected communities have timely access to existing effective tools. The challenge at hand is to scale up coverage and access to these tools on a proactive, preventive basis.

High pay-off, low-cost tools

In several cases, population-wide interventions, such as vector control and mass drug administration, are powerful enough to interrupt transmission. For most neglected tropical diseases, safe, effective and low-cost technologies are currently available. A dramatic reduction in communicable diseases could be achieved at the minimal cost of about US$ 0.40 per person per year. Community or school-based deworming through mass drug administration is another highly cost-effective intervention at US$ 6–33 per DALY gained.

Table 1. Cost-effectiveness of treatment for neglected tropical diseases

Neglected tropical disease	Unit cost per treatment (US$)
Onchocerciasis	0.10–0.20*
Lymphatic filariasis	0.03–1.50*
Soil-transmitted helminthiasis	0.02
Trachoma	0.30*
Schistosomiasis	0.20–0.30
Vitamin A deficiency	0.02
Total estimated range of chemotherapy package of annual treatments for all above diseases	**Circa $0.40**

* Pharmaceutical companies have committed large-scale donations of these drugs.

Population-wide interventions do not discriminate among the poor or further marginalize excluded groups, and this has ethical appeal as a poverty reduction strategy.

An integrated approach to vanquishing diseases

An integrated framework to tackle multiple diseases affecting the same communities needs to be urgently adopted. This would combine vector control, heavily reliant on **judicious use of pesticides**, and preventive chemotherapy to all populations at risk of infection. Core activities such as service delivery, logistics, and monitoring and surveillance can be pooled for use across various diseases, with evident savings and efficiencies.

Feasible in resource-poor settings

Control of many neglected tropical diseases relies on simple interventions that can be carried out by non-specialists, for example schoolteachers, village heads and local volunteers.

Local ownership

Neglected tropical diseases have the advantage of being a high priority for affected communities. This creates an opportunity for a head-start by relying on principles of local ownership, health education and community-based preventive action.

"In our village, people are very happy to take the drugs and welcome us".

Dr Heba Mohamed Amin, Egypt, National programme to eliminate LF

In some parts of the world, interventions that produce immediate results – pain relief, elimination of household insects, expulsion of intestinal worms – increase acceptance of control programmes in affected communities and stimulate local demand.

Box 3. Judicious use of pesticides

Global leadership in standard setting and evaluation of public health pesticides

As a cross-cutting programme housed in the Vector Ecology and Management team, the WHO Pesticide Evaluation Scheme (WHOPES) supports United Nations agencies, WHO programmes and Member States on safe and effective use of pesticides and in development of international standards for quality control and trade. WHOPES functions through the participation of representatives of governments, manufacturers of pesticides and pesticide application equipment, WHO Collaborating Centres and other research institutions, as well as other WHO programmes, notably the Programme on Chemical Safety. Supporting Member States in sound management of pesticides is a high priority for the programme, given the reliance of most vector-control programmes on use of insecticides in an integrated approach to vector management. The programme seeks guidance from different expert panels and advisory groups, and through a unique public–private partnership, the Global Collaboration for Development of Pesticides for Public Health. Since 2001, WHOPES has tested and evaluated 14 pesticide products for public health use, and developed and published quality standards for 23 pesticide compounds.

Hidden

Local successes and the need to scale up

Ambitious targets have been set for many tropical diseases, and impressive progress is being made. The last decades of the 20th century saw the start of positive trends, and these trends are continuing in unprecedented ways.

Never before have such large numbers of people been protected or cured from these devastating diseases.

Country experiences clearly demonstrate the decisive power of commitment and determination to bring victory, even under circumstances that are far from ideal.

successes

Brazil demonstrates power of vector control against Chagas disease

The Brazilian Chagas disease programme proves the great power of vector control for interrupting transmission of vector-borne diseases such as Chagas disease.

2400 municipalities covered with regular insecticide spraying

Chagas disease causes fatal damage to the heart and digestive tract, and death, especially in young children. Parasites are transmitted to humans in three ways: by blood-feeding "assassin bugs", which live in the cracks and crevices of poor-quality houses; through transfusion with infected blood; or congenitally from an infected mother to her fetus. As more than 80% of human disease is transmitted by domestic triatomine bugs, control of these vectors is crucial.

In 1983, Brazil began a global attack against Chagas disease by covering all the 2400 municipalities of endemic areas with regular insecticide spraying.

Interruption of transmission

During the past two decades, transmission has been virtually interrupted in 10 of 12 endemic states in Brazil, and the number of deaths attributed to Chagas disease has dropped from 5 per 100 000 inhabitants in the early 1980s to 3.5 per 100 000 in recent years. Brazil was certified for interruption of transmission of Chagas disease by *Triatoma infestans* in July 2006.

Vector control in Brazil has achieved better results then ever in the Southern Cone, encouraging other countries to join initiatives against Chagas disease.

Integrated control of Chagas disease

Since there is an animal reservoir of Chagas disease, transmission will continue. Constant surveillance and integrated control of the disease are therefore required. Achievements in vector control must be accompanied by the development of a medical care system for those already infected, improvements in housing and active control of blood banks to eliminate transmission via transfusion.

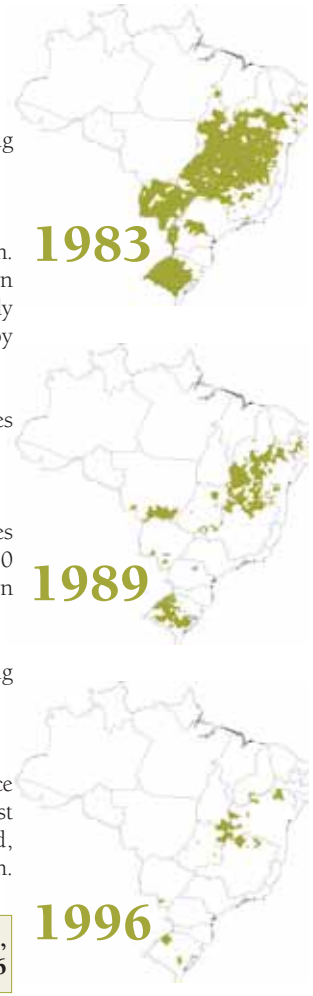


Figure 4. Areas infested by *Triatoma infestans*, Brazil, 1983–1996

Burkina Faso proves one week is sufficient to attack an ancient scourge

Schistosomiasis is endemic throughout Burkina Faso. In some communities at highest risk, 100% of the children are infected.

Drugs free of charge

International commitment with drug donations and financial support has made a significant contribution for Burkina Faso to successfully conduct the National Schistosomiasis Control Programme; since its launch in May 2004, 3 322 564 children, equivalent to more than 90% of the 5–15-year-old population have received both praziquantel for schistosomiasis and albendazole for soil-transmitted helminthiasis.

Schoolteachers and community-based drug distributors

Both schoolteachers and communities are involved in distributing anthelminthic drugs to children. Teachers treat their own pupils at school, while community-based drug distributors play a crucial role in reaching children out of school, who constitute the majority of the school-age population.[1]

Such a combined approach has made it possible for Burkina Faso to achieve nationwide coverage in a short time, just 18 months after the start of the programme.

Encouraging message from Burkina Faso

The Ministry of Health kick-started the national control programme by dedicating a week in both 2004 and 2005 to the deworming campaign. The two rounds were carried out entirely by national staff using local expertise and the existing infrastructure.

The National Schistosomiasis Control Programme has demonstrated that a fight against neglected tropical diseases can achieve great success even under extremely challenging conditions – such as in the case of Burkina Faso, which ranks 175th out of 177 countries on the Human Development Index.[2]

A second treatment round is planned in Burkina Faso for October 2006.

[1] Burkina Faso has a low school enrolment rate; in 2002–2003, the primary school net enrolment rate was 36% (*Country profile: Burkina Faso, 2005*. Paris, United Nations Educational, Scientific and Cultural Organization, 2005).

[2] *Human development report 2005. International cooperation at a crossroads: aid, trade and security in an unequal world*. New York, United Nations Development Programme, 2005.

Cambodia reaches 2010 global target ahead of time

Five years ago, more than 70% of Cambodian children were infected with intestinal worms. Today, 100% of the school-age population is protected from soil-transmitted helminths thanks to regular anthelminthic treatment.

Political commitment and financial support

A child needs only 1 tablet of mebendazole or albendazole for soil-transmitted helminths; praziquantel for schistosomiasis requires an average of 2˚ tablets per year. The cost of treatment with either mebendazole or albendazole is only US$ 0.02; treatment with praziquantel costs US$ 0.20. However, setting up a comprehensive control programme is a financial challenge for many developing countries.

The strong commitment of the Government of Cambodia supported by international partners and donors has made the deworming programme a remarkable success story.

Distribution of drugs and health education

1. The deworming programme is carried out by trained teachers through the school system.
2. Two rounds of treatment take place every year in all 24 provinces.
3. Mebendazole is used – thus the dose is simply one tablet per child in each round.
4. A school kit is provided for educating children.

In 2003, Cambodia treated 2 186 483 children, and the number had increased to reach the entire school population in 2005. Cambodia succeeded also in eliminating schistosomiasis.

In July 2004, Cambodia became the first country to reach WHO's goal; to regularly treat at least 75% of all children at risk of morbidity from schistosomiasis and soil-transmitted helminths by 2010.

Keeping future generations healthy

The deworming programme focuses on the distribution of drugs and education through the school system in order to benefit future generations of children.

Cambodia's control programme is a national triumph as well as an exemplary model for other countries.

Egypt shows best evidence for lymphatic filariasis elimination strategy

Lymphatic filariasis has been endemic in Egypt for possibly as long as the pharaohs. The disease resurged in the 1970s following changes in water levels and agricultural practices after construction of the Aswan High Dam. An estimated 250 000 people were infected by 1990 and 2.5 million people were at high risk, mostly in the Nile Delta Region and in Giza.

National programme based on the WHO strategy

In September 2000, the Egyptian Ministry of Health and Population initiated a national programme to eliminate lymphatic filariasis in line with the global programme launched by WHO.

The plan called for mass drug administration (MDA) in all known filariasis-endemic areas with five annual treatment rounds of single-dose diethylcarbamazine citrate (DEC) plus albendazole.

House-to-house drug delivery

MDA was distributed by local health teams on a house-to-house basis, with directly observed ingestion of the drugs when possible, to protect 2.5 million people living in 181 endemic villages.
In 2004, 98.63% of the total eligible population[1] ingested drugs against lymphatic filariasis.

After five rounds of MDA

After five annual treatment rounds of MDA, lymphatic filariasis has been eliminated as a public health problem in Egypt. This success demonstrates that one of the most widespread, disabling and stigmatizing diseases can be eliminated with effective tools and strong political commitment.

Several countries now approaching the end of five years of MDA could be reporting a similar success to that observed in Egypt.

Since 2000, the Global Programme to Eliminate Lymphatic filariasis has scaled up to include over half of the 83 endemic countries.

[1] Pregnant women and children aged under 2 years were excluded from the MDA.

Sri Lanka triumphs over leprosy through social marketing

Discriminatory attitudes and prejudices contribute to the spread of neglected tropical diseases and worsen their impact on those affected.

Mass public awareness campaign for eliminating stigma attached to leprosy

For a long time, leprosy was considered shameful and people hid their symptoms for fear of ostracism despite free and effective multidrug therapy. The disease was therefore detected only at a late stage after irreversible disabilities had set it.

In 1990, the Ministry of Health, assisted by international support, launched a powerful and broad-based advertising campaign to change the public image of leprosy. By portraying leprosy as just another treatable disease, the campaign hoped to encourage people with suspicious lesions to come forward for early diagnosis and cure free of charge.

Hope and cure towards a treatable disease

The campaign virtually eliminated the stigma attached to leprosy. The image of leprosy has moved from one of fear and loathing to one of hope and cure. Since the start of the campaign, more than 20 000 patients have been detected and treated.

In less than a year, case detection had increased by 150%. In the year before the campaign, only 9% of new cases were self-reported; that figure rose to 50% by 1991 and has remained high in subsequent years.

Leprosy has been eliminated at a national level since 1996

In 1995, the national prevalence rate dropped below 1 per 10 000 population. Leprosy has been eliminated in Sri Lanka since 1996. Since 2002, leprosy control activities are now fully integrated into general health services to maintain the country's triumph over leprosy.

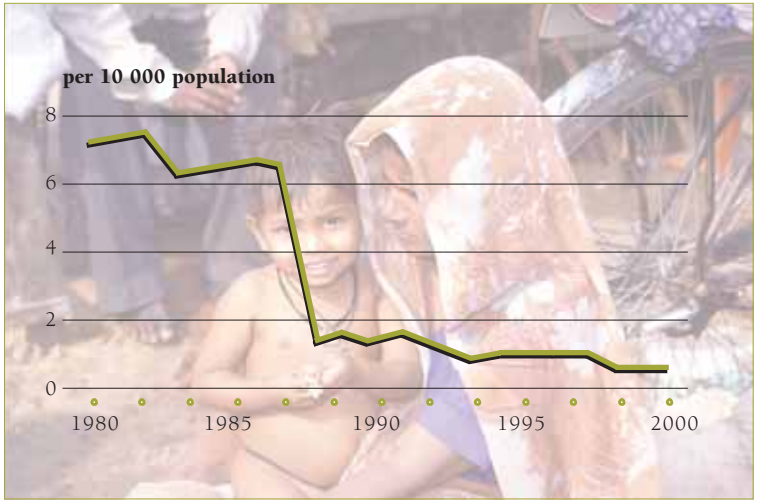


Figure 5. Leprosy prevalence, 1980–2000

Box 4. Coordinated use of anthelminthic drugs

WHO recommends coordinated use of anthelminthic drugs in control interventions

The public health agenda now needs to deal with helminthiasis and other neglected tropical diseases by means of broad-based interventions that are no longer concerned with one disease at once. Preventive chemotherapy aims at using anthelminthic drugs either alone or in combination as a public health tool for preventing morbidity due to more than one form of helminthiasis at once. Preventive chemotherapy considers how best to use the available drugs for the control of helminthiasis in general rather than concentrating on specific forms of helminthiasis in need of drug administration.

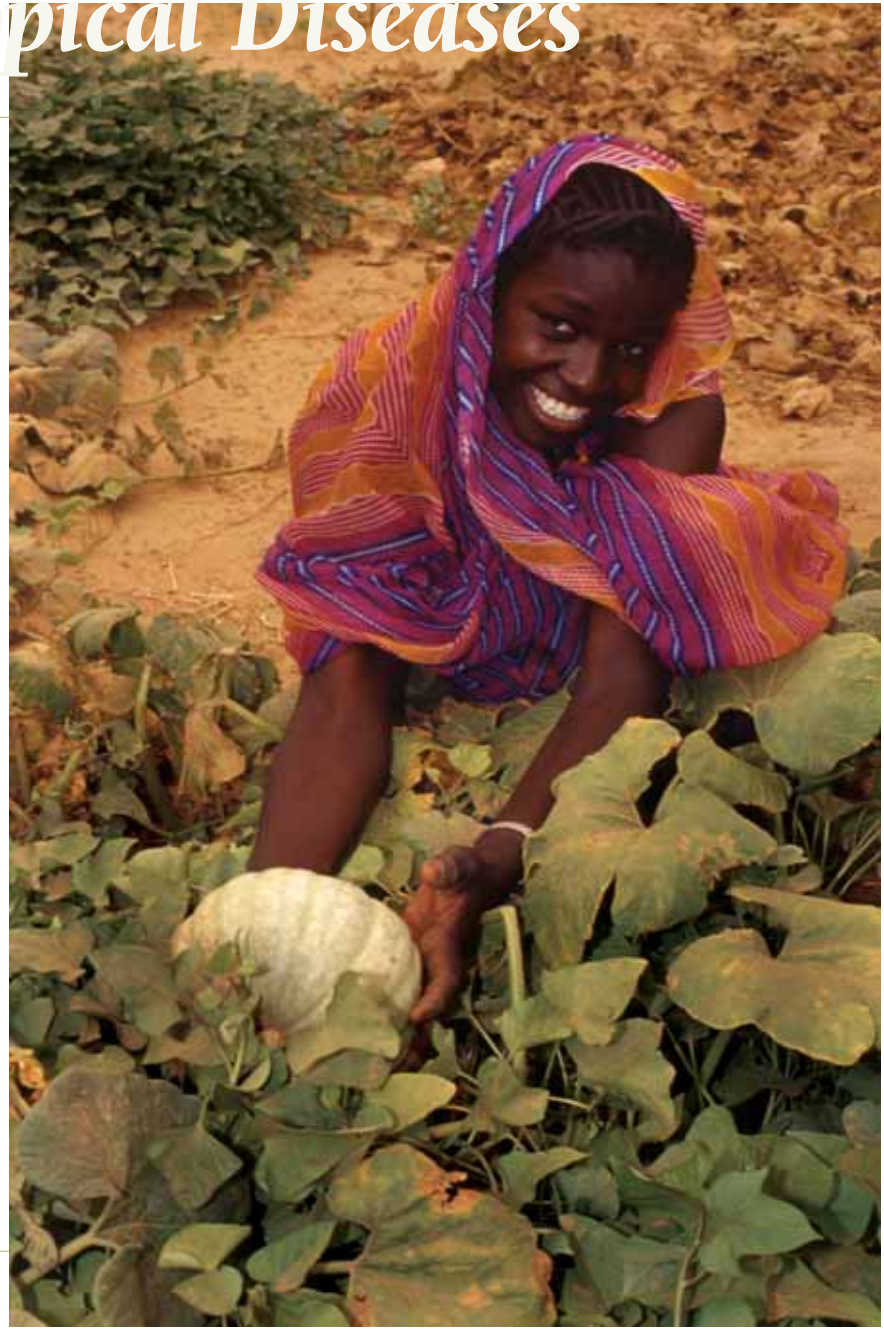
The greatest challenge is to expand regular anthelminthic drug coverage as a public health intervention to reach all at risk of morbidity due to helminth-induced diseases. Preventive chemotherapy should therefore begin early in life and take every opportunity to reach at-risk populations. WHO is advocating the use of a coordinated approach using chemotherapy to tackle what is now recognized to be a significant public health problem as well as a major impediment to poverty reduction. At the same time, because the numbers of affected people are so large and often hard to reach, innovative ways to expand coverage must be found. The result will be gains in the health, education, economic and social well-being of entire populations. Such advances will help to provide a solid foundation for improvements in maternal health and the development of children into adults free of the burden of disabling disease.

Reducing the burden of morbidity and impaired development that characterizes human helminthiasis depends on policy decisions taken by ministers of health, ministers of education and their advisers. Efforts to reduce morbidity will depend upon the dedication of health professionals as well as the support of partners who have committed resources to helminth control.

WHO has developed a manual to guide the coordinated implementation of regular, systematic, large-scale anthelminthic drug treatment as a core component of interventions to control helminthic diseases such as lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis. The preventive chemotherapy component needs to be built into comprehensive control or elimination strategies according to the prevailing regional, national and local context and the resources available.

Dramatic achievements and tremendous potential

Enormous progress has been made towards the control and elimination of several neglected tropical diseases. Never before have so many of these diseases been targeted for action with time-limited goals, typically through the creation of public–private partnerships. This has changed the health landscape dramatically. Provision of drugs free of charge is a striking feature of such partnerships, with the mobilization of additional resources for country-level activities to make treatment more accessible to patients.



Lymphatic filariasis

Leprosy

Sleeping sickness

Buruli ulcer

Dracunculiasis (guinea-worm disease)

Cholera

Dengue/dengue haemorrhagic fever

Onchocerciasis

Human African trypanosomiasis

Schistosomiasis

Soil-transmitted helminthiasis

Leishmaniasis

Guinea-worm eradication is in sight

Launched in 1982, the initiative to eliminate guinea-worm disease (dracunculiasis) paved the way for the 1997 World Health Assembly resolution, which "urged all Member States, international and nongovernmental organizations and appropriate entities to continue to ensure political support and the availability of much-needed resources for completion of eradication of dracunculiasis as quickly as technically feasible and for the International Commission for the Certification of Dracunculiasis Eradication and its work."

No vaccines and no drug treatment, but eradication is possible

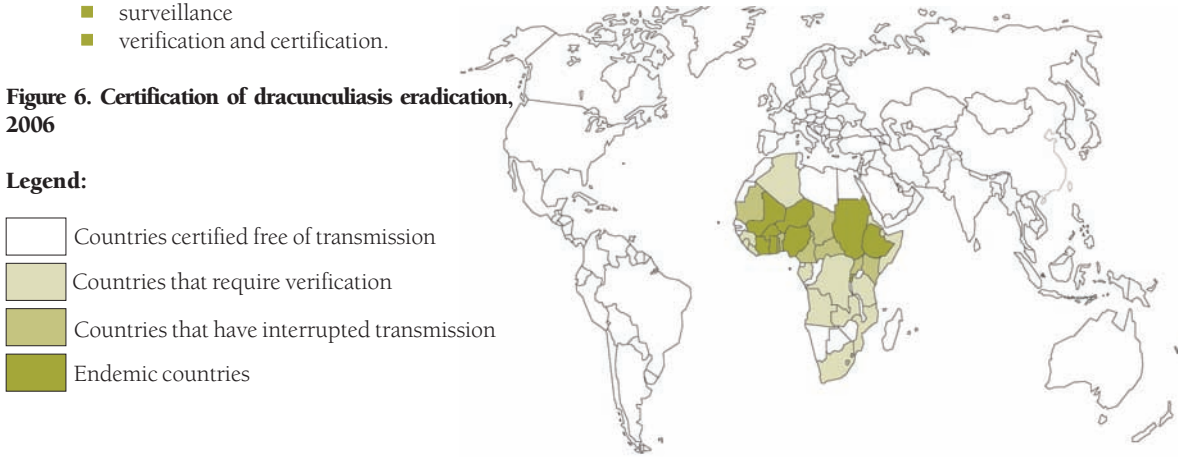
Guinea-worm disease is transmitted exclusively by drinking infested water and thus typically affects the poor in rural areas who rely on unsafe water sources for drinking. The disease was widespread at the start of the 20th century and today has become the first parasitic disease targeted for eradication.

In the absence of effective drugs or vaccines, the core element of the strategy requires sustained behavioural change, namely that of filtering drinking-water before use.

The WHO strategy is based on:

- interrupting transmission through health education, provision of safe drinking-water (including through filtering of water and applying chemicals), and early detection and containment of cases
- surveillance
- verification and certification.

Figure 6. Certification of dracunculiasis eradication, 2006



Guinea-worm eradication is in sight

During the past 20 years, the number of cases has fallen by 99% and 168 countries or territories are now certified free of transmission. The strong commitments of all countries and partners in the guinea-worm eradiation programme have made it possible.

Remarkable progress

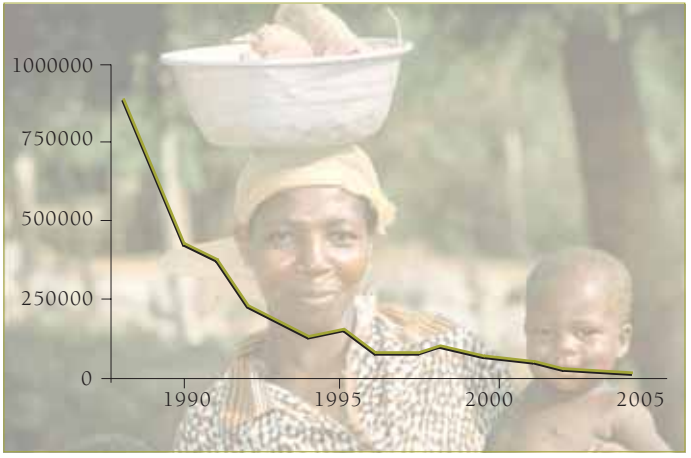
Guinea-worm disease, one of most ancient known tropical diseases, is likely the first disease to be eradicated without a vaccine or specific drug treatment.

- **99%** reduction in cases, from 892 055 in 1989 to 10 674 in 2005.
- **168** countries and territories certified **free of guinea-worm transmission**.
- Transmission is now confined to just **9** African countries out of 20 endemic countries at the beginning of the initiative.
- The burden is concentrated mainly in three countries (Ghana, Mali and Sudan), which account for **96%** of the global case-load.

Continuous efforts in providing clean water and in strengthening the health system for surveillance and adequate funding will accelerate completion of guinea-worm disease eradication.

Figure 7. Number of guinea-worm cases reported globally, 1989–2005

Identifying the last patients in an endemic area is increasingly difficult. Reward systems can be introduced to encourage infected individuals to report their infection.



Leprosy is poised for elimination

Leprosy, one of the most feared and disabling diseases of humankind, is on the verge of elimination as a public health problem from all countries in the world. The availability of a highly effective cure – multidrug therapy – led to the vision of a world without leprosy.

Multidrug therapy yields unprecedented achievements

Today, 116 of 122 endemic countries have eliminated leprosy as a public health problem.

Since the introduction of multidrug therapy in 1985:

- more than **14.5 million** patents have been cured of the disease.
- the global prevalence rate has dropped by more than **90%**, from 21.1 per 10 000 inhabitants to less than 1 per 10 000 inhabitants in 2000.
- about **2–3 million** people have been protected from developing deformities.
- the number of new cases detected globally has declined consistently by about **20%** per year since 2001.

A winning strategy: easy access to diagnosis and highly effective treatment

The leprosy elimination strategy has two components: improved access to diagnosis and provision of effective drugs free of charge.

- Access to diagnosis and treatment through integration of leprosy services with existing public health services.
- Simplifying diagnostic and treatment guidelines (clinical diagnosis, standardized and fixed duration of treatment).
- High-quality treatment in blister packs free of charge for all patients globally starting in 1995.

High-level political support and social marketing campaigns to change the image of leprosy have also significantly contributed to the elimination of the disease.

A continuous fight

The global disease burden has decreased dramatically from 5200 000 million cases in 1985 to 286 000 cases at the end of 2004. The final challenges are to detect the last patients in the remaining endemic areas and provide access to free treatment.

Greater attention should also be paid to patients who face human rights violations and who require help for their physical and socioeconomic rehabilitation.

WHO has called for further strengthening of efforts to combat leprosy through a coordinated intersectoral approach, substantial funding and greater participation of NGOs and foundations.

*More than **14.5 million** patients have been cured of the disease through multidrug therapy.*

*The global prevalence rate has dropped by more than 90%, from 21.1 per 10 000 inhabitants to less than **1 per 10 000** inhabitants in 2000.*

*The number of new cases detected globally has declined consistently by about **20% per year** since 2001.*

*About **2–3 million** people have been protected from developing deformities.*

*Greater attention should also be paid to patients who face **human rights violations**.*

Lymphatic filariasis is being defeated through rapid-impact interventions

A silent scourge

Lymphatic filariasis, or elephantiasis, remains silent for a long time after infection mostly acquired in childhood. Once the outward signs of the disease are visible, patients become gradually disfigured and disabled. Damage to the lymphatic systems, kidneys, arms, legs or genitals, especially in men, causes a huge amount of pain and discrimination.

Figure 8. Lymphatic filariasis endemic countries and territories, 2006

***1.3 billion** in more than **80** countries.*

- Lymphatic filariasis puts at risk **1.3 billion people** in more than 80 countries.
- Over **120 million** have already been affected.
- Over **40 million** patients are seriously incapacitated and disfigured by the disease.
- One third of the people infected with the disease live in India, one third in Africa and the remainder in South Asia, the Pacific and the Americas.

Global Programme to Eliminate Lymphatic Filariasis

Launched in 2000, the Global Programme to Eliminate Lymphatic Filariasis (GPELF) aims to eliminate the disease as a public health problem by 2020 by protecting the whole at-risk population. The number of people exposed to infection is currently 1.3 billion.

The strategy to achieve this objective is twofold:

- primary prevention of new cases: delivery of once-yearly, single-dose, two-drug treatment or diethylcarbamazine citrate (DEC) fortified salt to all individuals in at-risk populations;
- secondary and tertiary prevention of patients' morbidity associated with the disease: access to effective surgery for hydrocele and education of hygiene and self-care to prevent attacks of acute inflammatory adenolymphangitis (ADL).

The strategy: preventive mass drug administration

Mass drug administration involves treating the entire at-risk population once a year with two drug combinations: DEC plus albendazole or albendazole plus ivermectin. This should keep the levels of microfilariae in the blood below those necessary to sustain transmission. Alternatively, regular use of DEC fortified salt has been made.

Progress to date

- **442 million doses of albendazole tablets** donated to WHO, which were supplied to 42 countries.
- **399 million ivermectin tablets** donated to WHO, enabling 120 million treatments, which were supplied to countries in the African region and the Eastern Mediterranean region.
- **499 million DEC tablets** procured by WHO from prequalified manufacturers and supplied to 13 countries.
- Approximately **610 million people** reached in 42 countries by 2005, representing 50% of the at-risk population.
- Efforts are under way also to provide increased access to hydrocele surgery at district level and lymphoedema management training for community home based self care.

Onchocerciasis control is an ongoing success story

OCP guarantees success of large-scale vector control against river blindness

Onchocerciasis, or river blindness, is a parasitic disease caused by a worm that is transmitted to humans through the bites of blackflies that breed in fast-flowing rivers. The disease causes severe visual impairment including permanent blindness, and can shorten the life expectancy of its victims by up to 15 years. Another devastating effect of onchocerciasis is the skin lesions (itching, nodules, dermatitis, depigmentation, etc.). Severe itching alone is estimated to account for 60% of the disease burden.

In 1975, the Onchocerciasis Control Programme in west Africa (OCP) started large-scale vector control operations using helicopters for weekly spraying of larvicides over the vector breeding sites in river rapids. Since 1989, large-scale treatment with ivermectin has been introduced. The OCP, which covered 11 countries in west Africa, has been very successful and ended in December 2002. Although some residual and localized vector control activities have continued in four countries by a restricted team, onchocerciasis has been virtually eliminated as a problem of public health importance and an obstacle to socioeconomic development in the original programme area. Surveillance of the disease remains an ongoing activity in all the countries and directly under the responsibility of the countries themselves.

The wide-ranging benefits of this achievement include:

600 000 *cases of blindness have been prevented.*

18 million *children born in the controlled areas have been spared from the risk of river blindness.*

25 million *hectares of land have been made safe and available for cultivation and resettlement.*

Figure 9. Onchocerciasis Control Programme in west Africa

Current disease status

Onchocerciasis is still endemic in 30 countries in Africa, 6 countries in the Americas, and in Yemen. More than 100 million people are at risk of infection and some 18 million people are estimated to be infected. Over 99% of them live in Africa. The principal strategy for the control of onchocerciasis in Africa is by annual community-directed treatment with ivermectin (CDTI) of eligible populations in the endemic areas.

African Programme for Onchocerciasis Control ensures ongoing success

Building on the knowledge and experience gained from the OCP, the African Programme for Onchocerciasis Control (APOC) was launched in December 1995 to set up structures and define strategies within a period of 15 years (up to 2010) to combat the disease in 19 other African countries. Operations in APOC countries are nearly exclusively based on CDTI, and eradication of the disease is not envisaged. However, the development of a macrofilaricidal drug (a drug that will sterilize or kill the adult worm) and other intervention tools are a high priority.

APOC aims to reach 65 million treatments per year by 2010.

APOC activities have already enabled:

- the treatment of more than **35 million per year** with ivermectin,
- the relief of intolerable itching for severely infected individuals,
- the prevention of an estimated **20 000 cases** of blindness per year.

Onchocerciasis control is an ongoing success story. It demonstrates the value of the synergy derived from working together in partnership, and the economic return and social development that results from investments made in a disease control programme.

Sleeping sickness falters over first-ever hope for sustainable success

Resurgent attack of sleeping sickness disease

Human African trypanosomiasis, or sleeping sickness, now threatens the lives of millions of people in Africa once again. The disease was under control between 1960 and 1965 thanks to mobile teams systematically screening millions of people at risk and vector control in some foci but reappeared during the 1980s. In 1995, around 300 000 people were estimated to be infected by the disease.

Sleeping sickness is transmitted by the bite of tsetse flies, killing people and causing abortion and perinatal death from mother-to-child infection.

Strong commitment and major events to defeat the disease

The WHO Expert Committee on Control and Surveillance of Human African Trypanosomiasis held in 1995 emphasized both the recrudescence of the disease and the dramatic lack of awareness about the disease situation.

Since 1995, major events have impacted control of the disease, leading to a new epidemiological situation, including:

- The interruption of social upheavals and civil strife in Angola, Central African Republic,Congo, Democratic Republic of the Congo, Sudan and Uganda, proving access to endemic areas.
- A WHO private partnership providing long-term supply of pentamidine, melarsoprol, eflornithine, and suramin.
- The commitment of NGOs to combat the disease through important, dedicated projects.
- Strong advocacy for sleeping sickness control by WHO.
- The role of WHO, through leadership and implementation of a reinforced network such as WHO programme to eliminate the disease in 2001.

As a consequence, surveillance activities have increased, raising the total number of people screened through surveys of active case-finding, leading to a substantial and regular decline in the number of new cases.

By 2004, the total number of people screened by active case-finding surveys had increased by **145%** since 1997. The ensuing under-surveillance has led to reporting of less than **20 000** new cases in 2004 compared with 37 193 in 1997.

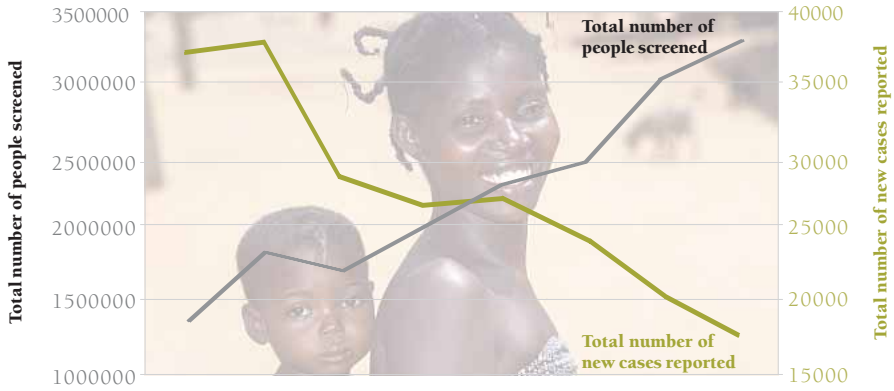


Figure 10. Number of people screened by active case-finding surveys, number of new cases of Human African Trypanosomiasis reported, 1997-2004

Given the achievements made in the control of sleeping sickness, elimination of the disease as a public health problem can be envisaged. Continuous and strenuous efforts are required to fight a disease that has resurged after being defeated years ago.

Resurgence of the disease provides a valuable lesson

- Surveillance and monitoring activities are crucial to maintain a hard-won victory.
- Old and difficult to administer drugs in poor conditions may achieve only unsustainable success, i.e. temporal disappearance, but not elimination.
- People in remote areas die before the disease can ever be diagnosed because currently available diagnostic procedures require skilled health workers and hospitalization.
- The whole at-risk population must be covered.

The main challenge facing WHO today is to maintain awareness, strengthen surveillance and sustain efforts to achieve elimination. WHO initiatives in developing more specific and sensitive tools for diagnosis will be key issues towards sustainability of elimination.

Box 5. Global Buruli Ulcer Initiative

The Buruli mysteries and WHO's response

Outbreaks of skin ulcers in Buruli county (now called Nakasongola District) in Uganda in the 1960s gave rise to the popular name for the disease – Buruli ulcer. It remains a mystery that the disease seems to have vanished from Buruli county. However, in south-eastern Australia, where cases appeared in the 1940s, the Buruli ulcer (Bairnsdale ulcer) still occurs and more cases are being reported in recent years.

Buruli ulcer is one of the most unrevealed neglected tropical diseases. The mode of transmission of the causative agent from the environment to humans remains unknown. The epidemiology of Buruli ulcer is also poorly understood. The causative agent, *Mycobacterium ulcerans*, belongs to the same family of organisms that cause leprosy and tuberculosis but it is still under investigation.

Since 1980, Buruli ulcer has emerged dramatically in several parts of the world, particularly in west Africa. The disease has been reported so far from 30 countries in Africa, Americas, Asia, and the Western Pacific but the geographical extent remains incomplete. It is also difficult to establish the exact number of people affected due to variability in the clinical presentation, insufficient knowledge of the disease among health workers, and geographical barriers to access to remote endemic areas. WHO has been playing a leading role in assisting affected countries to gather data through enhanced surveillance system.

Buruli ulcer often starts as a painless, mobile swelling in the skin called a nodule. If patients seek treatment at this stage some anti-TB drugs can treat the disease successfully. For a large number of reasons, most infected people do not seek care until the disease is far advanced, with irreversible deformity, and sometimes with life-threatening secondary infection. In some situations, amputation of limbs or enucleation of the eye may be necessary to save the patient's life.

Early diagnosis and treatment are vital in preventing such disabilities. In 1998, WHO responded to the growing spread and impact of Buruli ulcer by launching the Global Buruli Ulcer Initiative, supported by a Technical Advisory Group. Since then, steady progress has been made to develop tools for diagnosis and treatment, and these tools offer the prospect of better disease control. The World Health Assembly in 2004 adopted a resolution to improve surveillance and control of Buruli ulcer and to accelerate research to develop better tools for its control.

Emerging

For invigorating neglected populations
to take charge of their own health,
to promote economic productivity
and
to improve their lives ...

opportunities

Empowering people left behind to catch up: key challenges

Over the past decades, international efforts against some neglected tropical diseases have produced impressive results. The key challenges are scaling up access to existing effective tools and developing new tools for those conditions with inadequate tools.

1. Providing treatment free of charge

Although the treatment costs per patient for some diseases may be minimal, the total costs can be significant given the large numbers affected by neglected tropical diseases. Deforming and debilitating diseases may be given high priority by affected populations, but impoverished communities cannot afford to cover the costs and their voices are often unheard by politicians or policy-makers. External support is needed to provide the required interventions in a package to communities at risk at no cost, along the lines of childhood immunization.

2. Drug delivery system for covering the whole at-risk population

Interruption of transmission through mass drug administration (MDA) requires high coverage. Often, however, at-risk populations are not reached as they live in remote areas or do not attend schools and are thus missed during school-based campaigns. Specific strategies need to be developed to reach these groups and to cover the whole at-risk population.

3. Multi-intervention package

Innovative approaches to add preventive chemotherapy to existing health services should be developed. A synergistic approach will streamline operational activities, improve efficiencies and ensure that the priority health needs of communities are comprehensively met. Packages would need to be offered as a flexible menu of options that can be tailored to the local disease situation and adapted to community priorities. WHO has a key role to play in putting together technically sound options.

4. Urgent need for diagnostic tools and drugs

The development of new tools for some neglected tropical diseases belonging to the tool-deficient category is being addressed within the framework of public–private partnerships. However, there is an urgent need for these tools to be made available and also accessible to populations in need.

5. Developing more effective drugs

There remains a need to develop new drugs, even for the tool-ready category of diseases, in the event of development of drug resistance with the large-scale MDA programmes.

6. Promoting integrated vector management

Efforts are needed to strengthen the infrastructure for integrated vector management, embed it in existing health services and link it with other sectors (agriculture, irrigation, environment, public works, information and education).

7. Collecting information at local level

Mapping of disease distribution and populations at risk will allow better targeting of MDA and other interventions and ensure the efficient use of resources.

8. Early protection of children

Many of the neglected tropical diseases start early in life, placing children at risk during a period of intense physical and intellectual development and further increasing their vulnerability to permanent impairment of their human potential. Similar to the principle of immunization, whereby children receive early protection against a set of common infections according to a schedule of vaccinations and boosters, children can also be protected against of set of tropical diseases and their severe manifestations through a schedule of early systematic treatments that continue into adult age and make use of routine systems and services to ensure sustainability.

9. Post-implementation surveillance and monitoring

Surveillance and monitoring of diseases are fundamental for preserving hard-won successes against neglected tropical diseases. Post-implementation surveillance and constant monitoring activities should be carried out. Interventions need to be sustained over a sufficient time to produce long-term impact and protect new generations from infection.

10. Intensifying control of diseases alongside pro-poor policies

The fight against neglected tropical diseases should form an integral part of pro-poor policies. The introduction of basic public health measures, such as primary health care services and health education, and improved access to clean water and sanitation, would significantly reduce the burden of a number of diseases.

Powerful and cost-effective control tools are available.

Annual preventive chemotherapy packages with safe, simple drugs represent some of the best buys in public health.

No need to wait for an end to the vicious cycle of poverty

Neglected tropical diseases thrive under conditions of poverty, poor sanitation, unsafe water and malnutrition. However, a growing body of evidence clearly demonstrates that significant and sustainable gains can be made against neglected tropical diseases, even under these conditions, in immediate and visible ways. The control of these diseases brings a number of collateral benefits in terms of improved health status of populations, increased worker productivity and long-term increases in the domestic pool of resources, thus contributing to educational improvement and economic growth.

The control of neglected tropical diseases will clearly involve tackling social, environmental, economic and psychological factors. The drive to control these diseases has often brought essential interventions and services into remote areas for the first time. In some instances, these initiatives have played a pioneering role, making the first inroads into problems long considered insurmountable. These diseases are central to human rights as they deal with issues related to poverty, discrimination and stigma as well as the right to health.

Large-scale and highly effective strategies are immediately feasible

Exceptionally high returns on investment from both a clinical aspect and an economic perspective are proved from many experiences with interventions. Intensified control of tropical diseases can move forward immediately. No technical barriers stand in the way. Even the weakness of health systems in most endemic areas is not an absolute impediment to intensified control, especially when expansion is incremental, district by district and with additional logical interventions added as the package evolves to meet comprehensive health needs for a given locality and epidemiological setting.

For one group of these diseases, the impetus to act immediately takes added force from the availability of powerful and cost-effective control tools, well-developed implementation strategies and abundant evidence that they bring results. Annual preventive chemotherapy packages with safe, simple drugs represent some of the best buys in public health presently available, particularly as involvement of local communities provides greater opportunities for sustainability. These successes provide opportunities to achieve several of the Millennium Development Goals and development targets.

Several of the Millennium Development Goals and development targets can be achieved.

International commitment for poverty reduction is strongest ever

Today, extreme poverty reduction remains high on the agenda of international agencies, bilateral donors and nongovernmental agencies.

Poverty reduction is feasible if resources are allocated as a package for the control or elimination of neglected tropical diseases as they impede the poor from earning their livelihood.
A reduction in the communicable disease burden will enable communities to become more economically active, thereby narrowing the gap between poor and rich.
Great strides forward can be made now, even in very poor and largely illiterate populations, pending longer-term improvements in living conditions, service infrastructures and income status.

Sweeping away neglected tropical diseases from the developing world means providing affected populations with a vehicle for other interventions to prosper local economies, to access education, to eradicate poverty and finally to build sustainable development.

Defeating neglected tropical diseases will bring benefit to millions of people and protect them from disability, ill-health and poverty.

This unprecedented momentum has received further impetus from the precise targets and systematic approaches embodied in the Millennium Development Goals. In agreeing on these ambitious goals, world leaders committed the international community to a common set of development objectives for improving health, reducing poverty and protecting the physical environment. Viewed against these objectives, the control of tropical diseases is a pro-poor initiative with benefits well beyond health that contribute directly to some goals and indirectly to several others.

Control of these diseases will invigorate neglected populations to take charge of their own health, promote economic productivity and improve their lives.
Defeating neglected tropical diseases is synonymous with sustainable and permanent improvements in underdeveloped countries.

http://www.who.int/neglected_diseases/en/

WHO Department of Control of

WHO has further developed the conceptual framework moving from a purely disease centred approach to an integrated one tackling some r
The NTD department uses **a three-pronged approach** for reducing negative impacts of neglected tropical diseases on the health and so

1. **Broader and sustained coverage with rapid-impact interventions**
2. **Enhanced vector control to simultaneously reduce the transmission of several diseases**
3. **Improved surveillance and high-quality care in resource-limited settings for all tropical diseases, with particular emph**

Department of Contr
Neglected Tropical Disea
Director office

Innovative and Intensified Disease Management (IDM)

IDM focuses on poorly understood diseases for which cost-effective control tools do not exist and where large-scale use of existing tools is limited. The diseases include Buruli ulcer, Chagas disease, cholera, human African trypanosomiasis and leishmaniasis. IDM works to allow these diseases to be easily managed within the primary health-care system and ultimately eliminated as a public health problem.

Preventive Chemotherapy and Transmission Control (PCT)

PCT focuses on diseases for which a strategy exists as well as on tools and the availability of safe and effective drugs that make it feasible to implement large-scale preventive chemotherapy. The diseases include cysticercosis, dracunculiasis (guinea-worm disease), foodborne trematode infections, lymphatic filariasis, onchocerciasis, schistosomiasis and soil-transmitted helminthiasis.

rol of Neglected Tropical Diseases

ackling some neglected tropical diseases as a group launching the new Department of Control of Neglected Tropical Diseases (NTD).
health and social and economic status of affected communities:

rticular **emphasis on those where this approach brings the best chance of preventing severely disfiguring disease or reducing deaths.**

nt of Control of
opical Diseases (NTD)
rector office

Strategy Development and Implementation Coordination Project

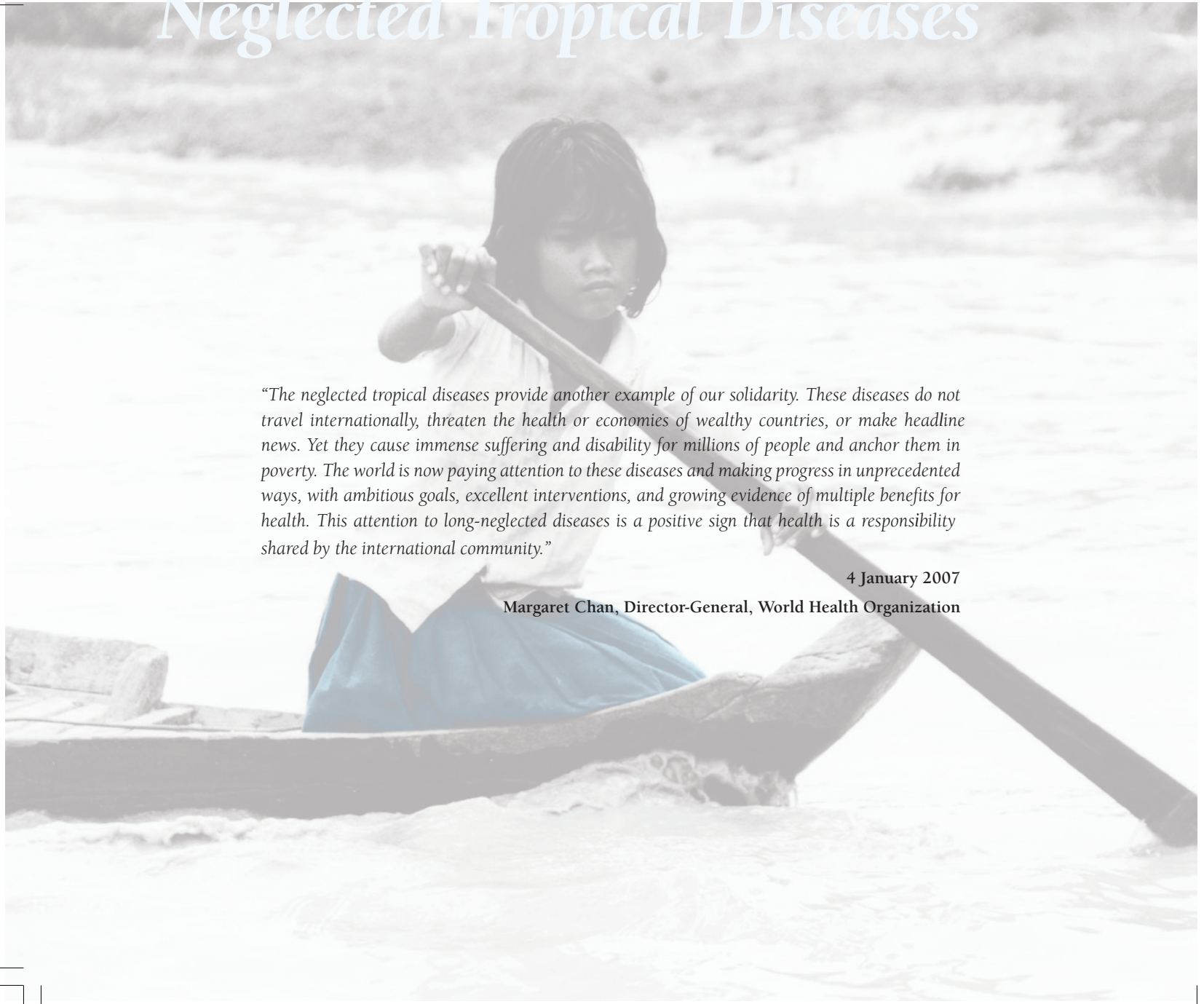
Vector Ecology and Management (VEM)

VEM plays a cross-cutting role for the department to develop and promote strategies and guidelines based on the principles and approaches of integrated vector management, including sound management of pesticides. The unit also provides technical support to other departments and clusters engaged in vector-borne disease control as well as to Member countries, through regional and country offices.

Disease Control in Humanitarian Emergencies (DEC)

DEC has a goal to reduce the excess morbidity and mortality caused by communicable diseases in humanitarian emergencies through the provision of technical and operational support to the WHO Department of Health Action in Crises, WHO country and regional offices, national authorities, other United Nations agencies, nongovernmental and international organizations, and donor agencies.

Neglected Tropical Diseases



"The neglected tropical diseases provide another example of our solidarity. These diseases do not travel internationally, threaten the health or economies of wealthy countries, or make headline news. Yet they cause immense suffering and disability for millions of people and anchor them in poverty. The world is now paying attention to these diseases and making progress in unprecedented ways, with ambitious goals, excellent interventions, and growing evidence of multiple benefits for health. This attention to long-neglected diseases is a positive sign that health is a responsibility shared by the international community."

4 January 2007

Margaret Chan, Director-General, World Health Organization

Special thanks

On behalf of the millions people who have benefited free of charge from treatment and prevention programmes, the WHO Department of Control of Neglected Tropical Diseases, thanks the donors, partners, foundations, pharmaceutical companies donating drugs, nongovernmental organizations, health ministries and colleagues in the WHO regions. The progress made thus far would not have been possible without their generosity, support and hard work.

Given the large numbers of contributors and space constraints, we have omitted to list their names. However, their involvement and commitment are not omissible for both past and future successes against neglected tropical diseases.

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