

Overcoming Neglected Tropical Diseases With Cost-Effective, Integrated Programs

What are Neglected Tropical Diseases?

Beyond well-known illnesses such as AIDS, TB and malaria are a group of less-known infectious diseases that kill more than half a million people each year and inflict severe economic, psychosocial and physical damage on millions more in the world's poorest countries. Aptly called 'neglected tropical diseases' (NTDs), they too are devastating to health, but compete far less successfully for scarce resources and attention. The toll of these diseases on individuals, communities and societies extends beyond physical suffering through the economic ramifications of medical expenses and millions of dollars in lost productivity – hampering economic development where it is most needed. Moreover, most affected individuals usually suffer from multiple NTDs, compounding the personal burden of disease and disability. This overlap of disease, however, provides the opportunity to mount an integrated attack on several NTDs at once.

The NTDs include

Buruli ulcer, Chagas disease, dracunculiasis, food-borne trematodiasis, intestinal nematodiasis, soil transmitted helminths (ascaris, trichuris, hookworm), leishmaniasis, leprosy, lymphatic filariasis, onchocerciasis, schistosomiasis, taeniasis/cysticercosis, trachoma, trypanosomiasis

How Can These Diseases be Prevented or Treated?

Technical experts and program managers within the NTD community have inexpensive strategies to control or even eliminate many of these diseases. A number of organizations, including the Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), governments and non-governmental organizations (NGOs), are working in partnership to implement them. The private sector is also playing a key role, with major pharmaceutical companies contributing highly effective drugs for prevention and treatment for free or at very low-cost. These initiatives and tools create new incentives to aggressively

tackle neglected diseases and, for the very first time, provide the opportunity to fight these ancient scourges.

The challenge remains to effectively and cost-efficiently deliver these available solutions to the poor and underserved populations that need them. This policy brief describes the five most significant NTDs, which together render many of the 350 million infected persons chronically and permanently disabled. It then discusses a promising opportunity to overcome these diseases cost-effectively, often with the aid of drugs available by donation.

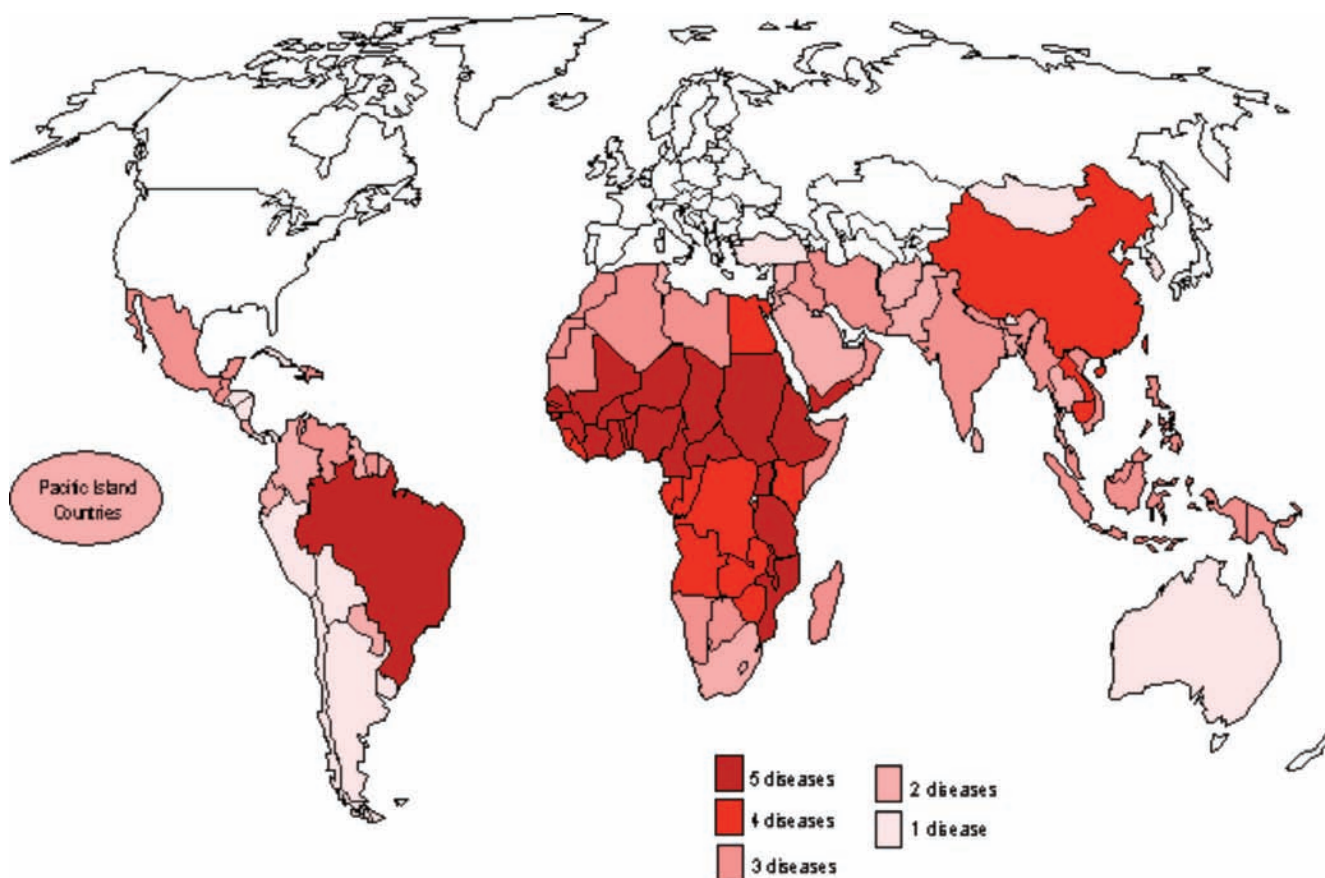
Case Study

Supporting the Vision of National Program Managers in Togo

Program managers in Togo are taking advantage of the recent support by the international community (CDC, the Global Alliance to Eliminate Lymphatic Filariasis, the Global Fund for AIDS, TB and Malaria) to harmonize competing global program priorities and requirements in order to integrate disease control activities for

malaria, lymphatic filariasis, trachoma, schistosomiasis, onchocerciasis and soil transmitted helminths. The integration team is currently defining how best and where to integrate these disease control and elimination programs. After a preparatory year, they will begin implementing the plans at district level.

Global Overlap of 5 Neglected Tropical Diseases Lymphatic Filariasis, Onchocerciasis, Schistosomiasis, Soil-Transmitted Helminths, Trachoma



What Can Be Done to Better Address these Diseases?

The current strategy used by programs to control or eliminate the five most destructive NTDs is based on regular large-scale treatment of at-risk populations once or twice each year. Generally relying on community-based distributors, these programs – known as ‘mass drug administration’ (MDA) – have most often delivered medication door-to-door or through central health posts, schools, churches and mosques. While these disease-specific strategies are carried out one disease at a time, individuals are often chronically ill with multiple NTDs. At the same time, many of the components of the treatment programs are essentially identical (see map of geographic overlap of diseases).

There is good evidence that linking interventions for two or more NTDs into integrated packages that are delivered through existing local health-care programs can reduce costs and improve health outcomes.¹ For the five targeted NTDs, certain common elements – particularly their geographic overlap, their drug distribution strategies, and the safety of the co-administration of needed drugs – make an integrated approach particularly appropriate and achievable (see map).

Combining such programs holds the promise of significant economies of scale, efficiency and cost savings to programs and governments and of maximizing the benefits, especially for poor populations afflicted with multiple diseases (see page 4).

Case Study

Exceeding Program Target Goals through an Integrated Approach in Nigeria

In collaboration with The Carter Center, the Nigerian Ministry of Health, in 1999, began, to integrate its onchocerciasis program with a schistosomiasis control program in two states. In 2000, a program to eliminate lymphatic filariasis was added. Program goals were exceeded in 2004 for all three diseases, and rates of infection for each disease markedly declined. Beginning in 2004, the program began to distribute insecticide-treated nets, which benefited both the LF and the malaria programs. Resources were shared, while transmission of both diseases was reduced simultaneously. Bed-net use in the dual treatment areas increased nine-fold, from 9 percent to 80 percent. Targets for numbers of persons treated for lymphatic filariasis were also met.

¹ WHO Strategic and Technical Meeting on Intensified Control of Tropical Diseases, Berlin, April 18–20 2005.



Left to right: Leprosy distorts this man's hands, children are at greater risk for schistosomiasis, woman blinded by onchocerciasis.

Funding for Neglected Tropical Diseases

In a number of areas, the U.S. government plays a leadership role in global health. For example, the government's funding for global HIV/AIDS, tuberculosis and malaria averages about \$2 billion annually. In comparison, however, the neglected tropical diseases have remained true to their name – neglected. USAID expenditures for fiscal year (FY) 2005 to support control of all 13 NTDs were on the order of only \$2 million. In FY2006, however, the U.S. government made an unprecedented and significant commitment to address these diseases with an appropriation of \$15 million. This provides a powerful opportunity to meet the challenge of delivering today's solutions to these long-insoluble, age-old problems. The U.S. government's commitment has sparked interest among other governments to join the fight against these diseases. Private donors have begun to discuss how to contribute to the promising efforts begun by the NTD community. These initiatives deserve the support and attention that would move these conditions out of the realm of "neglected" and into that of historical, conquered diseases.

Case Study

Converting Disease-Specific Initiatives to an Integrated National Program in Tanzania

The government of Tanzania fully supports and drives the integration of services at the district level through its Division of Preventive Services. Individual NGO interventions for trachoma, LF, onchocerciasis, schistosomiasis and STH are now being fully coordinated, where feasible, through district health management teams. Because the target-population for LF is large, the national program to eliminate LF is the principal programmatic platform on which other NTD activities are progressively integrated.

GLOBAL HEALTH COUNCIL POSITION AND RECOMMENDATIONS

The Global Health Council strongly supports the integrated approach to the prevention and treatment of neglected tropical diseases, where appropriate, as the primary and preferred strategy to maximizing health impact and cost effectiveness. The Council recommends that the initial momentum of funding to address these neglected diseases is not lost and that future funding should be commensurate with the significant impact of these diseases on health and development. We, therefore, encourage continued investment by the U.S. government as well as complementary investments by other governments and donors.

For more information, contact Nicole Bates, Government Relations, Global Health Council at nbates@globalhealth.org.

Five of the Most Destructive NTDs

Lymphatic filariasis (LF) (elephantiasis) is a crippling, mosquito-borne infection characterized by swollen limbs and breasts, genital damage and thickened, hardened skin. More than a billion people in 83 countries are at risk; 120 million people are infected, many of whom are permanently disabled. Anti-parasitic drugs (albendazole, donated by GlaxoSmithKline, with either Mectizan,™ donated by Merck & Co., Inc. or low-cost diethylcarbamazine) administered annually for at least five years can break the cycle of transmission. The Global Alliance to Eliminate LF aims to eliminate the spread of this disease by 2020. www.filariasis.org

Onchocerciasis (river blindness), transmitted from person to person by blackflies, is an infection that causes intense itching, disfiguring skin lesions, and eye disease that can result in blindness. Eighteen million people are infected and 110 million people in 35 countries are at risk. A single, annual dose of Mectizan™ prevents the infection. The African Program for Onchocerciasis Control and the Onchocerciasis Elimination Program for the Americas work with Merck & Co., Inc.'s Mectizan Donation Program to combat onchocerciasis. www.mectizan.org

Schistosomiasis (snail fever), caused by a blood-borne fluke that is transmitted by freshwater snails, can result in life-threatening conditions including cancer of the bladder, kidney malfunction, and liver cirrhosis. More than 650 million people in 74 countries are at risk, and 200 million are already infected. Infected people can be treated with praziquantel (not donated). The Schistosomiasis Control Initiative (SCI) works to treat those at high risk in sub-Saharan Africa. www.schisto.org

Soil transmitted helminths (STH) (intestinal worms) cause infections that can lead to anemia, vitamin A deficiency, stunting, malnutrition, impaired development, and intestinal obstruction. More than 4 billion people – a majority of them women and children – are at risk throughout the world, with 1.2 billion already infected. Semi-annual treatment with albendazole or mebendazole (Vermox®, donated by Johnson & Johnson) kills the parasites. Partners for Parasite Control (PPC) supports countries in achieving the goal of regular treatment of 75 percent of at-risk school-aged children by 2010. www.who.int/wormcontrol/en/

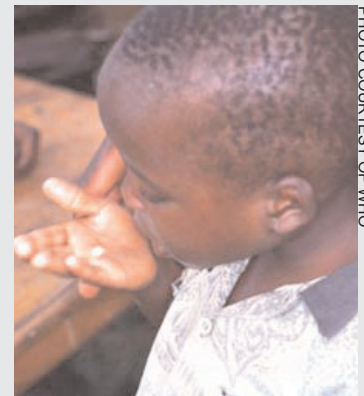
Trachoma is a blinding infection of the eye, spread from person to person by direct contact. The infection causes scarring of the upper eyelid that can lead to total blindness. More than 84 million are already infected. With 500 million people at risk in 55 countries, trachoma can now be controlled with a strategy called SAFE that combines treatment with the antibiotic Zithromax (donated by Pfizer), and also with surgery, face washing and environmental change. The International Trachoma Initiative is dedicated to eliminating blinding trachoma by the year 2020. www.trachoma.org



Above: Vector Control Research centre (VCRC), Pondicherry: At the filariasis clinic, a medical worker takes measurements from various parts of the foot and leg of a male patient with oedema. A set of measurements are taken and recorded from specific points in order to help gauge whether the swelling is increasing or decreasing



Middle: a child leads a man with river blindness (onchocerciasis)



Masindi district: A young boy swallows his ivermectin tablets during a central point distribution in his village



The Global Health Council is the world's largest membership alliance dedicated to saving lives by improving health throughout the world. The Council serves and represents thousands of public health professionals from more than 100 countries on six continents.