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Perspective

Progress In Public-Private Partnerships To Fight Neglected Diseases

Collaborative efforts among global pharmaceutical and biotech companies and other stakeholders are yielding results—and need further encouragement from public policy.

by Kenneth Gustavsen and Christy Hanson

ABSTRACT: In the global fight against neglected tropical diseases (NTDs), public health partnerships involving donations of medicines by pharmaceutical companies are enabling access to treatment for millions of people worldwide. These partnerships collaborate with other disease programs and a range of key stakeholders to develop and improve programs to control and eliminate NTDs. Although progress is being made against NTDs, continued success depends on a policy environment that supports appropriate levels of engagement and collaboration from all participants. [Health Aff (Millwood). 2009;28(6):1745–49]

Approximately one billion people, mostly in the developing world, suffer from one or more neglected tropical diseases (NTDs). These diseases affect the poorest populations and thrive in resource-constrained settings, both rural and urban, where there is limited water and sanitation infrastructure and insufficient access to health care and medicines. Unfortunately, the affected populations have limited political voice. Thus, their disease burdens are frequently not taken into account when public health priorities are established and funded.

However, momentum has been growing within the international community for financial and political support for NTD programs. New or expanded funding commitments and policy support by groups such as the Bill & Melinda Gates Foundation, the U.K. Department for International Development (DFID), the United States Agency for International Development (USAID), and the Group of Eight countries are setting the stage for major progress against these diseases.1

Critical to these renewed efforts is the availability of drug therapies that can control, and in some cases eliminate, NTDs. Pharmaceutical companies, acting independently or in coordination with other companies and partnerships, are enabling millions of people to be protected from these diseases through creative and far-reaching public health initiatives involving donations of medicines for NTDs.

The World Health Organization (WHO) characterizes fifteen diseases as NTDs: Buruli ulcer, Chagas disease (American trypanosomiasis), dengue/dengue hemorrhagic fever, dracunculiasis (Guinea-worm disease), fascio
liasis, human African trypanosomiasis, leishmaniasis, leprosy, lymphatic filariasis, onchocerciasis (river blindness), schistosomiasis, soil-transmitted helminthiasis, snakebite, trachoma, and yaws.

Most of these diseases either blind, deform, or handicap their victims. The results are limited educational opportunities, reduced physical and cognitive development in children, and diminished economic productivity in adults. Treating the millions of people who suffer from NTDs would improve personal and community health, while contributing to economic growth and social development.

For some of these diseases, treatment is either unavailable or difficult to administer in the underresourced settings where the diseases are endemic. However, seven NTDs can be controlled or even eliminated through targeted mass drug administration, using existing therapies: lymphatic filariasis, onchocerciasis, schistosomiasis, trachoma, and three soil-transmitted helminths (hookworm, roundworm, and whipworm).

Therefore, the WHO recommends a strategy of integrated, preventive drug therapy that targets entire at-risk populations for this group of NTDs, rather than treating single patients or specific diseases. NTDs tend to occur in geographic clusters where mass drug administration can offer greater public health gains than individual disease management. Thus, a requirement is consistent availability of high-quality medicines to achieve the necessary coverage of at-risk populations. Even if diseases are not eliminated and treatment must continue to prevent transmission, drug therapy can control illness levels and provide relief from the symptoms of disease.

**The Donation Approach**

Pharmaceutical companies recognize that drug donation programs are not a permanent, long-term solution to the global challenges of access to medicines. However, appropriate donations are an effective, sustainable mechanism when access to medicines is not otherwise available. In fact, in 2007 WHO Director-General Margaret Chan recognized the benefits of integrated mass drug administration for NTDs using donated medicines: “drugs so safe and so powerful they can be administered to all at-risk populations. The emphasis here is on morbidity control, reducing the pool of human infection and thus reducing levels of transmission. This was a breakthrough, made possible by good drugs supported by industry donations.”

Accordingly, many pharmaceutical companies have formed disease-specific partnerships to enable access to their medicines in cases where there is no viable commercial or other mechanism to facilitate access. These programs interact with other stakeholders engaged in advocacy, coordination, and implementation activities to facilitate access to the medicines. Several of the leading partnerships created to fight neglected diseases include the following.

1. **Lymphatic filariasis:** Since 1998, lymphatic filariasis elimination programs worldwide have been facilitated by GSK’s commitment to donate as much of the worm-fighting drug albendazole as necessary to eliminate the disease. Albendazole is co-administered with Mectizan (ivermectin), donated by Merck and Co. Inc. in onchocerciasis-endemic countries in Africa; and with an antihelminthic drug DEC (diethylcarbamazine) in other endemic countries.

2. **River blindness:** In 1987, Merck and Co. Inc. established the Mectizan Donation Program and committed to donate Mectizan to eliminate onchocerciasis as a public health problem globally. In Latin America, the objective is elimination of transmission; in Africa, elimination of transmission may be possible only in limited areas.

3. **Schistosomiasis:** Merck KGaA, a German-based pharmaceutical and chemical company, has a commitment through the WHO to donate 200 million treatments of praziquantel, another antiworm drug, to treat schistosomiasis from 2007 to 2015. Tablets will be used exclusively for affected children—the population most at risk—in the poorest developing countries. MedPharm, another U.S.-based pharmaceutical company, has also donated prazi-
quantel to the Schistosomiasis Control Initiative.5

(4) Parasitic worms: Through its Children without Worms program, established in 2007, Johnson & Johnson has committed to donating up to fifty million doses of mebendazole annually to treat soil-transmitted helminths.6

(5) Trachoma: This disease is the leading cause of infectious blindness worldwide. Through the International Trachoma Initiative, established in 1998 by Pfizer Inc., the company is donating the antibiotic Zithromax (azithromycin) to support the elimination of blinding trachoma by 2020.7

(6) Leprosy: Programs fighting this ancient disease receive support from Novartis in the form of donations of a multidrug therapy package of the drugs dapsone, Rimactane (rifampicin), and Lamprene (clofazimine). Novartis has committed, through a memorandum of understanding with the WHO, to donating enough of the drugs for all patients worldwide through 2010.8

(7) Human African trypanosomiasis: Control and elimination of this disease also known as sleeping sickness, benefits from donations of the multidrug therapy package of pentamidine, melarsoprol, and eflornithine from Sanofi Aventis.9 Bayer HealthCare also has promised to donate 50,000 vials of the drug Germanin (suramin) in 2008–2012.10

(8) Chagas disease: To support treatment programs for this disease, Bayer HealthCare has committed to donating 2.5 million tablets of the drug Lampit (nifurtimox) between 2007 and 2012, in addition to providing funding for its distribution.10

Environmental Factors

It is important to note that drug therapy, although critical, is not the only tool needed to address NTDs. Environmental, sanitation, and hygiene factors can play equally important roles. For example, vector control is used to fight Chagas disease and onchocerciasis, and trachoma elimination depends on the implementation of the commonly named SAFE strategy—surgery, antibiotics, face washing, and environmental change.

Coordination Among Partners

In addition to the independent activities of disease-specific programs, there is also collaboration among the programs and other stakeholders through groups such as the Partnership for Disease Control Initiatives and the Task Force for Global Health.

The Partnership was established in 1999 as an informal alliance of pharmaceutical companies and their associated NTD-specific health programs, in addition to nongovernmental organizations, the WHO, donors, and other parties involved with programs to control and eliminate NTDs. The Partnership facilitates discussion and fosters the exchange of principles and practices to develop and improve NTD partnerships.11 This enables closer coordination of mass drug administration, thus helping reduce financial and human resource burdens on communities and health systems.

Additionally, because the availability of medicines is only part of the health care equation, participants in the Partnership seek to address other health challenges requiring innovative solutions through public-private partnerships. For example, in the area of supply-chain management, Pfizer Inc. developed MissionPossibleRx, a multimedia resource that provides training on health care logistics. The Partnership has served as a forum for disseminating this free resource to member organizations and related stakeholders.

Additionally, participants’ efforts with the WHO to examine and clarify drug regimens in areas where multiple diseases are prevalent contributed to a set of WHO guidelines for preventive drug therapy in human helminthiasis, or parasitic worm infestation. The guidelines provide NTD program implementers with tools to plan and coordinate the distribution of drugs for NTDs, allowing applicants for donated drugs to better manage their drug requests to various programs in response to field-level needs, while implementing distribution programs with greater efficiency and effectiveness.12

The major drug donation partnerships have independent application processes to request
medicines. This can lead to administrative and operational burdens on NTD program stakeholders. To reduce this burden, Partnership members are working with the WHO’s Department of Neglected Tropical Disease Control to look for ways to streamline the various application requirements.

Also contributing to the concerted effort among NTD partnerships is the fact that three NTD partnerships—Children without Worms, the International Trachoma Initiative, and the Mectizan Donation Program—are based at the Task Force for Global Health, a nonprofit focused on building health coalitions. This NTD “center of excellence” allows for formal and informal exchanges of ideas and coordination of activities.13

Measuring Impact: The Neglected Tropical Disease Initiative

The impact and reach of these donation programs is visible in the Neglected Tropical Disease Initiative announced by President George W. Bush in February 2008 and since expanded by the Obama administration as part of the Global Health Initiative. The Neglected Tropical Disease Initiative aims to deliver integrated NTD treatment to one billion people in approximately thirty countries in Africa, Asia, and Latin America, focusing on the seven NTDs that can be addressed through mass drug administration. In addition, the initiative will work toward the elimination of lymphatic filariasis globally by 2016 and onchocerciasis in Latin America.

This highly successful program is making a large-scale, cost-effective contribution to the global effort to reduce the economic and epidemiological burden of NTDs. USAID estimates that its primary project, the Neglected Tropical Disease Control Program managed by RTI International, has mobilized more than $1 billion in donations of drugs over three years to help control and eliminate NTDs through pharmaceutical industry programs. As a result, in its first year of implementation, the project enabled the distribution of more than thirteen million treatments to more than fourteen million people. In its second year, approximately fifty-seven million treatments were delivered to more than twenty-seven million people.1 Without the availability of donated drugs, these integrated NTD control activities would not be possible.

Policy Considerations

Pharmaceutical companies’ public health initiatives to address NTDs, acting independently and in coordination with the WHO, the Partnership for Disease Control Initiatives, and the Task Force for Global Health, and in concert with programs such as the USAID-supported Neglected Tropical Disease Control Program, are enabling major progress in the global fight against NTDs. For example, onchocerciasis is on track for elimination in the Americas by 2012. Blinding trachoma has been eliminated in Ghana, Mexico, and Saudi Arabia, and lymphatic filariasis has been nearly eliminated in Egypt, Samoa, and Zanzibar.14, 15 The aggregate market value of donated drugs is in the billions of dollars, which allows program implementers the flexibility to allocate critical financial resources toward other programmatic needs. In addition to donations of drugs, pharmaceutical companies often provide direct financial support and participate in efforts to improve administrative and operational processes.

In the coming years there will be a need for additional funding for NTD programs, and the pharmaceutical industry will be called upon to sustain its drug donation programs. Therefore, given the range of actors involved in implementing NTD control and elimination programs, the various stakeholders must work together to ensure the continuation of an environment that enables the full potential of these drug donations to be realized. To that end, advocacy by the Global Health Council, the Global Network for Neglected Tropical Diseases, and others will continue to play an important role in making sure that the policy environment supports efforts to fight NTDs.

Advocacy should emphasize the health impact of relatively low-cost NTD control and elimination programs as priorities alongside other disease interventions, such as for HIV/
AIDS, TB, and malaria. In a time of increasingly competing health priorities, new calculations showing the return on investment for dollars spent on NTD programs will serve as a useful tool with donors and policymakers. It will also be important to point out that NTDs are diseases of poverty, with social and economic impact across wide geographies and populations. Finally, advocacy must highlight the fundamental role that NTD programs can play in general health system strengthening.

A supportive policy environment may result in the continuation, and expansion, of multiyear commitments from financial donors, pharmaceutical companies, national governments, and other key actors. In such an environment, initiatives supported by pharmaceutical companies can continue to explore innovative approaches to harmonize disease-specific activities. In addition, the national governments of affected countries can increasingly take leadership of the disease-specific and integrated NTD programs within their borders, providing the appropriate level of financial and human resources to sustain current programs and roll out new initiatives.

In the end, the true test of these NTD partnerships and programs will be the realization of various disease-specific milestones and commitments. If progress continues toward the achievement of these goals, the result can be a future free of the burden of neglected tropical diseases for millions of people worldwide.

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