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The Neglected Tropical Diseases

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For the equivalent of a few days' worth of military spending, devastating illnesses of the global poor could be controlled worldwide

Our planet is filled with marvelous science-based opportunities for improving human welfare at a tiny cost, but these opportunities are often unrecognized by policymakers and the public. There is no better example than treatment of a group of tropical diseases that maim and kill millions, but which are largely unknown to Americans and Europeans.

Experts formally refer to them as the "neglected tropical diseases," or NTDs. They are hellish infections whose combined impact on disease, disability and death rivals the impacts of AIDS, tuberculosis and malaria, yet they are far less known, partly because they are diseases that afflict only the poor in the tropics.

Seven of the diseases are caused by helminths (worm infections), hookworm, trichuriasis, ascariasis, schistosomiasis and dracunculiasis (guinea worm), onchocerciasis and lymphatic filariasis. Another three are protozoan infections: leishmaniasis, trypanosomiasis and Chagas' disease. Three more are bacterial: leprosy, trachoma and Buruli ulcer.

Of these 13 diseases, nine (the seven helminth infections, plus leprosy and trachoma) have powerful, low-cost preventive or curative interventions that are easy to administer. As President Jimmy Carter has shown through his steadfast personal leadership over 20 years, filtering water through cheesecloth can dramatically reduce the burden of dracunculiasis. Insecticide-treated bed nets, which cost just \$5 and last for five years, can break the transmission of lymphatic filariasis and greatly reduce the transmission of malaria.

The best strategy would be to link control of NTDs and malaria.

Medicines can handle all the helminths other than guinea worm by keeping the number of worms infecting an individual at a tolerably low level through routine treatments. For example, where the helminth infections and schistosomiasis are prevalent, all schoolchildren should be treated with deworming medicine up to three times annually. The pharmaceutical companies have stepped up to do their part. Merck & Co., Glaxo-SmithKline, Johnson & Johnson, Pfizer, Novartis and Sanofi-Pasteur have donated medicines and made other contributions to the fight against various illnesses. All these companies eagerly support the expansion of control programs.

It is time for governments to join in, too. The U.S. has recently committed \$15 million to the fight against NTDs--a start but still less than one tenth of the \$250 million or so a year needed for a comprehensive campaign for Africa. The best strategy would be to link the control of the NTDs with malaria control. The same bed nets and community health workers can attend to both malaria and the NTDs, which have a very high geographic overlap throughout the tropical countries. Moreover, millions of children in Africa are "polyparasitized," infected with both malaria and combinations of the NTDs. These multiple infections seem to be especially injurious.

Our policymakers should ponder that effective disease control does more to promote global stability and goodwill, via economic development, than do vastly larger outlays for military approaches after instability has broken out. Targeted disease-control measures have been highly

effective in the past, even in the poorest countries. Smallpox was eradicated, and polio has been brought down 1,000-fold worldwide by vaccine efforts, led notably by Rotary International.

Comprehensive, Africa-wide control of malaria and NTDs together would probably cost no more than \$3 billion a year, or just two days of Pentagon spending. If each of the billion people in the rich world devoted the equivalent of one \$3 coffee a year to the cause, several million children every year would be spared death and debility, and the world would be spared the grave risks when disease and despair run unchecked. A new Global Network for Neglected Tropical Disease Control (see www.gnntdc.org) is helping to make this opportunity a reality.