Summary of the Twelfth Meeting of the ITFDE (II)
May 6, 2008

The Twelfth Meeting of the International Task Force for Disease Eradication (ITFDE) was convened at The Carter Center from 8:30am to 4:00pm on May 6, 2008. Since 2001, the ITFDE has made recommendations for fighting several individual Neglected Tropical Diseases (NTDs), namely, onchocerciasis (2001, 2007), schistosomiasis (2001), leprosy (2001), Chagas' disease (2001), lymphatic filariasis (2002), dracunculiasis (2003), cysticercosis (2003), hookworm (2004), visceral leishmaniasis (2004), trachoma (2005), malaria (2005, 2006), Buruli ulcer (2007) and yaws (2007). At this meeting, the Task Force reviewed **integrated approaches** to controlling NTDs. This meeting occurred two days before another meeting under the auspices of the United Nations Secretary General and The Elders[1] that also met at The Carter Center to discuss accelerated control of NTDs, women's health, and health systems in developing countries.

The Task Force members are Dr. Olusoji Adeyi, The World Bank; Sir George Alleyne, Johns Hopkins University; Dr. Julie Gerberding, Centers for Disease Control and Prevention (CDC); Dr. David Heymann, World Health Organization (WHO); Dr. Donald Hopkins, The Carter Center (Chair); Dr. Adetokunbo Lucas, Harvard University; Professor David Molyneux, Liverpool School of Tropical Medicine (Rtd.); Dr. Mark Rosenberg, Task Force for Child Survival and Development; Dr. Peter Salama, UNICEF; Dr. Harrison Spencer, Association of Schools of Public Health; Dr. Dyann Wirth, Harvard School of Public Health, and Dr. Yoichi Yamagata, Japan International Cooperation Agency (JICA). Seven of the Task Force members (Hopkins, Alleyne, Lucas, Molyneux, Spencer, Rosenberg, Yamagata) attended this meeting, and two others were represented by alternates (Dr. Stephen Blount for Gerberding, Dr. Kayode Oyegbite for Dr. Salama).

An updated Table of "Diseases considered as candidates for global eradication by the International Task Force for Disease Eradication" which incorporates recent deliberations of this Task Force has been posted on the web site of The Carter Center (http://www.cartercenter.org/resources/pdfs/news/health_publications/itfde/updated_disease_candidate_table.pdf).

Presenters at this meeting were Dr. Molyneux and Dr. Rosenberg of the ITFDE, and Dr. Frank Richards of The Carter Center, who presented his own paper and also presented a paper prepared by Dr. Lorenzo Savioli of the World Health

Integrated Control of NTDs

The Carter Center began assisting an integrated approach to controlling onchocerciasis, lymphatic filariasis (LF), and urinary schistosomiasis in Plateau and Nasarawa States (combined population ~4 million) of Nigeria in 1998. Annual community-based Mass Drug Administration (MDA) and health education are the two main interventions of the program, which also seeks to determine whether transmission of lymphatic filariasis can be interrupted ("eliminated") in tropical Africa using those interventions. This program began using the "platform" of MDA for onchocerciasis after mapping the distribution of lymphatic filariasis completely and urinary schistosomiasis partially. Whereas only 12 of the 30 Local Government Areas (LGAs) in the two states qualified for onchocerciasis mass treatment (hyper- or meso-endemic), all 30 LGAs required MDA for LF, which became the new platform for the integrated approach in both states since 2001. Scaling up of urinary schistosomiasis control (praziquantel) has been more difficult than onchocerciasis control (Mectizan, donated by Merck) and LF elimination (Mectizan and albendazole, donated by Merck and GlaxoSmithKline, respectively), because of the more labor-intensive village by village mapping that is required for mapping schistosomiasis and because praziquantel is not donated in the amounts needed, unlike the Mectizan and albendazole for treating the other two diseases. Each of the

Uganda (2007 population: 30.9 million) began a program to control schistosomiasis and soil-transmitted helminths (STH) in 2003 in cooperation with the Schistosomiasis Control Initiative, using praziquantel and albendazole. Uganda sought to build on its community-based Onchocerciasis Control Program, which has been carried out in the onchocerciasis-endemic western districts of the country since 1992. Whereas STH are endemic throughout most of Uganda, LF is known to be endemic in over 40 of the country's 81 districts (MDA underway in 24 districts), onchocerciasis in 22 districts (MDA underway in all), schistosomiasis targeted in 60 districts (MDA underway in 40 districts), and trachoma in 24 districts (MDA is underway in 7 districts). As in Nigeria, the various combinations of mass treatments needed in different districts leads to a mosaic of treatment schedules, based on one, two or three rounds of MDA spaced one or two weeks apart, as necessary. The goal is to integrate delivery of interventions against LF, onchocerciasis, schistosomiasis, STH and trachoma while extending coverage to the entire at risk population for each of those NTDs eventually.

There is broad co-endemicity between several NTDs and malaria throughout the tropics. As a result, there are "complex and as yet undefined" immunological interactions between malaria and some intestinal helminths, confounded by nutritional and genetic differences in the affected populations. Multiple helminthic infections as well as malaria are each often associated with increased rates of anemia. Distribution of insecticidal bed nets to prevent malaria can greatly reduce transmission of *Wuchereria bancrofti* (LF) also. In turn, mass anti-helminthic treatments could benefit control of malaria by reducing anemia, improving birth weight, and reducing maternal mortality. Community-based systems for mass anti-helminthic treatment can also enhance coverage of bed nets and home-based early diagnosis and treatment of malaria, by leveraging improved access to communities. A Nigerian study of co-implementation documented a nine-fold increase in net distribution to pregnant women when the nets were delivered in parallel with annual mass distribution of drugs for LF and onchocerciasis. An important logistical constraint, however, is the increased weight and volume of bed nets, compared to tablets for MDA (e.g., one long-lasting bed net = ~1,200 Mectizan treatments).

It was suggested that a concise definition would help clarify the meaning of integration, namely that the goal of integration is to coordinate activities at country level in order to increase program efficiency, effectiveness and coverage for more than a single disease at a time. Integration can involve mapping, prevention, and control elements for a single disease (e.g., the SAFE strategy for trachoma), for two or more diseases (e.g., NTDs), for health and non-health sector components (e.g., water and sanitation), as well as integration of specific programs into national health systems. The Task Force for Child Survival and Development has gleaned ten lessons from its experience with the integration of programs to treat LF and onchocerciasis. Among these are: 1) "co-implementation" rather than "integration" better describes the process of delivering more than one drug to a community, 2) we need better ways to measure integration and track progress, 3) endemic countries themselves must play a central role, 4) major pharmaceutical companies can collaborate effectively, 5) we need to keep learning as we go and continuously improve programs, 6) LF and onchocerciasis control programs have learned from and built upon each other's efforts, and 7) the community-directed treatment with ivermectin process can be expanded to deliver several other interventions besides those for LF and onchocerciasis.

operational research, including more local capacity for conducting operational research, could help identify solutions to these problems.

4. There are substantial opportunities for combining integrated NTD control with other interventions besides MDA and health education. In particular, there are many missed opportunities for collaboration between malaria and NTD control programs to mutual benefit: e.g., MDA and impregnated bed net distribution using a community-based approach can increase bed net coverage, reduce anemia, reduce maternal mortality and reduce malaria, and might also help increase early diagnosis and treatment of malaria. The important complementarity of clean drinking water and improved sanitation for control of some NTDs also should be considered.
5. Countries and their partners may wish to consider as one option expanding the campaign approach such as in measles partnerships (American Red Cross, UNICEF, Centers for Disease Control and Prevention, and others) to deliver intermittent "pulses" of measles vaccine, vitamin A supplements, long-lasting impregnated bed nets, and mass drug administration for helminthic infections periodically, for example.
6. External partners should be flexible, and encourage countries to consider combinations of health workers and community volunteers; of school-based and community-based outreach; of health systems strengthening, intersectoral collaborations and campaign approaches as the situation allows or requires.
7. Laboratory research to develop better tools for diagnosing, controlling or eliminating NTDs, such as a macrofilaricide for *Onchocerca volvulus* parasites, can also contribute to the struggle against these diseases.