Study suggests LF elimination program is 'best buy in public health'

October 8 2008

A study published today concludes that in the ten years since its initiation, the international effort to eliminate lymphatic filariasis (LF) has made a large impact towards ridding the world of one of its most debilitating diseases. The analysis found that the LF elimination programme has prevented 6.6 million children from acquiring LF and stopped another 9.5 million people already infected with the disease from progressing to more debilitating stages. These efforts are the result of the most rapid scale-up of a drug administration programme in public health history, delivering what the study calls a "best buy in public health".

The paper, published October 8th in the open-access journal *PLoS Neglected Tropical Diseases,* assesses the impact of the World Health Organization-sponsored Global Programme to Eliminate Lymphatic Filariasis.

"These data illustrate that with the right partnerships, it is possible to make an extraordinary impact on the health of hundreds of millions of people at minimal cost," said Dr. Mwele Malecela, Director of the Tanzania Lymphatic Filariasis Programme and Chair of the Global Alliance to Eliminate Lymphatic Filariasis. "We are on track to accomplish our goal of elimination by 2020. When we do, this programme will be a leading case study for how to scale up disease elimination programmes globally."

Lymphatic filariasis, often called elephantiasis, is a parasitic infection

spread by mosquitoes that causes grotesque, painful swelling of the limbs, breasts, and genitals. Considered a neglected tropical disease, LF almost exclusively affects the world's poorest people. Approximately one-fifth of the world's population (1.3 billion people) is at risk of contracting LF, and approximately 120 million people in 83 countries are currently infected.

The Global Programme to Eliminate LF has already become the most rapidly scaled-up drug administration programme in public health history, and is on track to becoming the largest such programme in history. The study found that since drug administrations began in 2000, the programme has administered more than 1.9 billion treatments to over 570 million people in 48 of the 83 countries with endemic LF.

The LF elimination treatment programme utilises a combination of two anti-parasitic drugs, administered once yearly to everyone in an at-risk area. When given for a minimum of five consecutive years, these drugs have proven to effectively stop transmission of LF. The drugs used to eliminate LF are the same medications used to treat a number of intestinal worms and parasitic skin diseases, which infect hundreds of millions of people in developing countries and are major contributors to malnutrition, disability, delayed development, and problems during pregnancy.

"The benefits of this programme go far beyond simply preventing LF infections," said Dr. Eric A. Ottesen, Director of the Atlanta Lymphatic Filariasis Support Center and lead author of the paper. "Because of the LF programme, at least 56.6 million children and 44.5 million women of childbearing age have been treated for intestinal worms, most multiple times. The drugs have also treated millions more in Africa for skin diseases."

These data help Dr. Ottesen and colleagues confirm what some public

health officials have long asserted: that the LF programme is a "best buy" in public health, providing benefits that far outweigh its costs. The total cost per patient over the first eight years of the programme is estimated to be less than US $0.50. This low cost is made possible in part by the donation of albendazole and Mectizan from the programme's two key pharmaceutical partners, GlaxoSmithKline and Merck & Co., Inc.

The cost-efficiency combined with the programme's achievements has prompted officials to call for the development of a dedicated fund for the treatment and elimination of other neglected tropical diseases.

"Future public-private partnerships will look to the global LF elimination effort as a standout example of how groups can come together to solve a major public health issue," said Dr. Lorenzo Savioli, Director of the Department of Neglected Tropical Diseases at the WHO. "We must take the lessons we have learned from the LF model and apply them toward the treatment and elimination of other neglected tropical diseases."

Citation: Ottesen EA, Hooper PJ, Bradley M, Biswas G (2008) The Global Programme to Eliminate Lymphatic Filariasis: Health Impact after 8 Years. PLoS Negl Trop Dis 2(10): e317. doi:10.1371/journal.pntd.0000317
dx.plos.org/10.1371/journal.pntd.0000317

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