

A disproportionate burden of neglected tropical diseases found in India and South Asia

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The open-access journal *PLoS Neglected Tropical Diseases* today published a comprehensive report showcasing the disproportionately high burden of neglected tropical diseases (NTDs) in India and South Asia. These diseases of poverty continue to plague the 1.5 billion people living in the region, despite the World Bank's recent report that South Asia experienced 7 percent overall economic growth in 2010.

The article, co-authored by Dr. Peter J. Hotez, president of the Sabin Vaccine Institute and *PLoS NTDs* editor-in-chief, examines the reasons for the apparent disconnect between the region's economic progress and its health systems. Dr. Hotez, along with co-authors Dr. Derek A. Lobo, Dr. Raman Velayudhan, Dr. Priya Chatterjee and Dr. Harajeshwar Kohil, call for better management of NTD programs in South Asia in order to lessen the region's NTD burden.

The eight countries studied in the article, part of the World Bank's definition of South Asia - Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka - represent almost one quarter of the [global population](#), or approximately 1.5 billion people, two thirds of whom (or nearly 1 billion people) live on less than \$2 (USD) per day.

"This extreme level of poverty is paralleled by high rates of NTDs," explains Dr. Lobo, Consultant, Department of Public Health, Manipal University. "For example, South Asian countries account for

approximately one quarter of the world's soil-transmitted helminth infections, one-third or more of the global deaths from rabies and one-half or more of the global burden of lymphatic filariasis, visceral leishmaniasis and [leprosy](#). These high disease rates directly relate to the region's continued struggle with poverty and economic disparity."

The PLoS article profiles several prevalent diseases in South Asia and emphasizes current efforts to control these diseases. The following was highlighted:

- Visceral leishmaniasis, also known as kala-azar, is a devastating rural disease affecting the poor. Kala-azar is now targeted for elimination through early diagnosis, integrated vector management, disease surveillance, social mobilization and partnership and operational research, with a joint action strategy by the health ministries of India, Bangladesh and Nepal, especially for cases in the border regions. The World Health Organization (WHO) has endorsed this strategy. A new leishmaniasis vaccine also is under development.
- Some of the greatest gains in global leprosy elimination have occurred in South Asia. Such gains have been achieved through a free supply of anti-leprosy drugs, strong political commitment by national health ministries, and effective coordination by WHO.
- Lymphatic filariasis (LF), which causes elephantiasis of a person's extremities, is one of the most debilitating and disfiguring diseases in South Asia. In India alone, 6 million people still suffer from LF. However, between 2004 and 2008, 600 million people living in endemic areas received drug treatment, and by 2008 disease prevalence was cut in half. Other South Asian countries also are implementing mass drug administration (MDA) programs, and WHO has targeted LF for elimination by 2020.

- In contrast, there are over 500 million cases of soil transmitted helminth (STH) infections in South Asia, and these diseases are too widespread to consider elimination at this time. Because of their pronounced impact on child growth and development, STH infections also are being targeted by global health organizations. Only one South Asian country, Bhutan, has been able to reach its target of 50 percent disease reduction and 75 percent treatment coverage for school age children established by the World Health Assembly. As a long-term goal towards elimination, a vaccine for hookworm infection, one of the most important STH infections, is under development.

However, much more progress is needed for the region to maintain its recent economic surge.

Dr. Hotez, who also serves as the director of the Sabin Vaccine Institute & Texas Children's Hospital Center for Vaccine Development and was recently named the founding dean of the first National School of Tropical Medicine, located at Baylor College of Medicine, said:

"Although comprehensive programs to eliminate some of the most prevalent NTDs are under way, national control programs for other NTDs need to be expanded. This must include mass drug administration for trachoma and the soil-transmitted helminth infections and efforts to vaccinate against canine rabies and cholera. Such programs require integration with improvements in sanitation and access to clean water, vector management and improved surveillance in order to successfully strengthen health systems in the region."

More information: Lobo DA, Velayudhan R, Chatterjee P, Kohli H, Hotez PJ (2011) The Neglected Tropical Diseases of India and South Asia: Review of Their Prevalence, Distribution, and Control or Elimination. PLoS Negl Trop Dis 5(10): e1222.

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