

Issue 88 | February 8, 2013 | Focus on Neglected Tropical Diseases

Neglected tropical diseases (NTDs) are widespread in the world's poorest regions, where water safety, sanitation, and access to health care are substandard. An estimated 1 billion people suffer from at least one NTD. NTDs are called "neglected" because they generally are not considered public health problems. In January 2012, the World Health Organization and other organizations prepared a roadmap setting targets for the prevention, control, elimination, and eradication of 17 neglected tropical diseases or conditions. Among these are dengue, dracunculiasis, foodborne trematodiasis, schistosomiasis, trachoma, and soil-transmitted helminthiasis. This issue contains resources that give an overview of NTDs. One of these is a WaterAid report that charts water, sanitation, and hygiene (WASH) interventions for the prevention and control of NTDs. In addition recent studies and reports are included for four of the 17 NTDs: dengue, schistosomiasis, soil-transmitted helminthiasis, and trachoma. Also included are links to USAID and other websites with NTD information.

OVERVIEWS

- **Neglected Tropical Diseases.** *WASHplus Weekly, Feb 2012.* ([Full text](#))
This *WASHplus Weekly* contains 2011 and 2012 fact sheets and studies that discuss how WASH and environmental management interventions affect the prevalence and impacts of several of the NTDs.
- **Social and Economic Impact Review on Neglected Tropical Diseases, 2012.** J Norris. Hudson Institute. ([Full text, pdf](#))
NTD programs require sustained effort over a long period of time to be effective as well as improvements in water and sanitation infrastructure and/or vector control. The cost-effectiveness of NTD programs is undeniable, especially in integrated programs. In almost all cases, small investments are able to yield large returns. Societies that become healthier become wealthier, which is evident from the results of NTD control programming; it leads to increased school attendance rates, increased worker productivity, increased available arable land, increased income, and obvious health impacts.
- **Sustaining the Drive to Overcome the Global Impact of Neglected Tropical**

Diseases, 2013. World Health Organization. ([Full-text, pdf](#))

This report further elaborates on the concepts discussed in the NTD roadmap by the World Health Organization, describes the need for sustainable progress, and examines the challenges in implementation.

- **WASH: The Silent Weapon Against NTDs**, 2012. WaterAid. ([Full text, pdf](#))
WASH is a crucial but all too often overlooked part of the prevention and control of neglected tropical diseases. Diseases including trachoma, soil-transmitted helminths, and schistosomiasis all demand practical WASH interventions so that their prevention, treatment, and ultimately their elimination can be achieved by the international community as soon as possible. This report outlines the clear linkages between WASH and NTDs in terms of their transmission, control, and prevention.

DENGUE

- **Dengue and Severe Dengue Fact Sheet**, 2012. World Health Organization. ([Full text](#))
This Fact Sheet discusses the transmission, treatment, prevention and control of dengue. In 2012, dengue ranked as the most important mosquito-borne viral disease with an epidemic potential in the world. There has been a 30-fold increase in the global incidence of dengue during the past 50 years, and its human and economic costs are staggering.
- **Community-Based Dengue Vector Control: Experiences in Behavior Change in Metropolitan Manila, Philippines**. *Pathogens and Global Health*, Dec 2012. F Espino. ([Full text](#))
This study examined responses to the introduction of household water container management to control dengue vectors in two diverse communities in Masagana City. The rollout of the intervention was carried out by the study team, dengue control personnel, and local health workers. A behavioral change framework was used to describe the community responses to the introduction of this new vector control intervention.
- **Global Strategy for Dengue Prevention and Control**, 2012. World Health Organization. ([Full text, pdf](#))
Dengue morbidity can be reduced by implementing improved outbreak prediction and detection through coordinated epidemiological and entomological surveillance; promoting the principles of integrated vector management; and deploying locally adapted vector-control measures including effective urban and household water management.

SCHISTOSOMIASIS

- **Schistosomiasis Fact Sheet**, 2012. World Health Organization. ([Full text](#))
Facts highlighted include: schistosomiasis is a chronic disease caused by parasitic worms. People are at risk of infection due to agricultural, domestic, and recreational

activities that expose them to infested water. Hygiene and play habits make children especially vulnerable to infection.

- **How Prawn Farms in Senegal are Combating Schistosomiasis.** *The Guardian*, Dec 2012. M Tran. ([Full text](#))

Prawns bred in a dammed river basin are helping to prevent the spread of schistosomiasis and provide a livelihood for locals.

- **Combined Spatial Prediction of Schistosomiasis and Soil-Transmitted Helminthiasis in Sierra Leone: A Tool for Integrated Disease Control.** *PLoS Negl Trop Dis*, June 2012. M Hodges. ([Full text](#))

This article documents the first comprehensive national mapping of urogenital schistosomiasis in Sierra Leone. Using a new method for calculating the combined prevalence of schistosomiasis based on estimates from two separate surveys, the authors provide mapping for overall urogenital and intestinal schistosomiasis.

SOIL-TRANSMITTED HELMINTHS

- **Soil-Transmitted Helminth Infections Fact Sheet**, 2012. World Health Organization. ([Full text](#))

Facts highlighted include: more than 1.5 billion people, or 24 percent of the world's population, are infected with soil-transmitted helminth infections worldwide. Soil-transmitted helminth infections are widely distributed in tropical and subtropical areas, with the greatest numbers occurring in sub-Saharan Africa, the Americas, China, and East Asia.

- **Effect of Sanitation on Soil-Transmitted Helminth Infection: Systematic Review and Meta-Analysis.** *PLoS Med*, Jan 2012. K Ziegelbauer. ([Full text](#))

The results of this review reveal that sanitation is associated with a reduced risk of transmission of helminthiasis to humans. Access to improved sanitation should be prioritized alongside preventive chemotherapy and health education to achieve a durable reduction of this disease burden.

- **Research Priorities for Helminth Infections**, 2012. World Health Organization. ([Full text, pdf](#))

This report summarizes, in a comprehensive and integrated fashion, current helminth research issues and opportunities for improving disease control and reducing poverty. One of the top research areas is to optimize existing intervention tools to maximize impact and sustainability. The tools include pharmaceuticals, vaccines, vector control, and ecohealth approaches (including improvements in sanitation, access to clean water, nutrition, and education).

- **Soil-Transmitted Helminth (STH) Reinfection after Drug Treatment: A Systematic Review and Meta-Analysis.** *PLoS Neg Trop Dis*, May 2012. T Jia. ([Full text](#))

STH reinfections occur rapidly after treatment, particularly for *A. lumbricoides* and *T.*

trichiura. Hence, there is a need for frequent anthelmintic drug administrations to maximize the benefit of preventive chemotherapy. Integrated control approaches emphasizing health education and environmental sanitation are needed to interrupt transmission of STH.

TRACHOMA

- **Hygiene-Related Diseases: Trachoma**, n.d. Centers for Disease Control and Prevention. ([Full text](#))

Trachoma is the world's leading cause of preventable blindness of infectious origin. It spreads in areas that lack adequate access to water and sanitation and affects the most marginalized communities in the world. This paper provides global figures for those visually impaired by trachoma and those who are at risk of blindness from the disease throughout 57 endemic countries.

- **2020 INSight: A Global Strategy to Eliminate Blinding Trachoma**, 2012. International Trachoma Initiative. ([Full text, pdf](#))

This paper presents a global strategy with milestones to meet and steps to take to achieve the goal of eliminating blinding trachoma by 2020. Today, best estimates suggest that close to 110 million people live in areas where trachoma is confirmed to be endemic, and implementation of the full SAFE (surgery, antibiotics, facial cleanliness, and environmental improvements) strategy is needed. Another 210 million people live in districts where trachoma is suspected.

- **SAFE Strategy for Blinding Trachoma Addresses Sanitation, the Other Half of MDG7**. *Lancet*, July 2012. P Emerson. ([Full text](#))

Leaders in the NTD community express their concern that, "Only passing comments on improvement of water and sanitation were made at the recent launch of the WHO roadmap Accelerating Work to Overcome the Global Impact of Neglected Tropical Diseases (NTDs)." They go on to emphasize the importance of the SAFE strategy as a comprehensive approach to addressing the disease as a public health issue rather than simply focusing on drug distribution.

- **Environmental Sanitary Interventions for Preventing Active Trachoma**. Cochrane Library, Feb 2012. R Mansur. ([Full text](#))

Evidence from two trials suggests insecticide spray can reduce transmission of active trachoma, but one trial did not find insecticide spray effective in reduction of active trachoma. One trial suggests that health education may reduce transmission of active trachoma. But another study concluded that provision of modest short-term health education with improved water supply does not reduce the prevalence of the disease. Until trials that assess the individual contribution of each component of environmental sanitation to the control of trachoma are conducted, it is difficult to be certain which component of environmental sanitation is more effective. Therefore, all available interventions need to be applied in communities with trachoma, within the context of the SAFE strategy.

ORGANIZATIONS

- **International Trachoma Initiative** – ([Website](#))

The International Trachoma Initiative was founded in 1998 in response to the World Health Organization's call to eliminate blinding trachoma by 2020.

- **End Neglected Tropical Diseases in Africa, FHI 360** – ([Website](#))

Building on the success of USAID's original NTD Control Program, FHI 360 has launched the Programs to End Neglected Tropical Diseases in Africa and Asia, or "END in Africa" and "END in Asia." These harmonized programs will support ministries of health and other government entities in Africa and Asia as they scale up local integrated NTD control activities.

- **Global Network: Neglected Tropical Diseases** – ([Website](#))

Nearly one in six people suffer from NTDs—bacterial and parasitic diseases that disable people and perpetuate poverty. The Global Network for Neglected Tropical Diseases, an initiative of the Sabin Vaccine Institute, is dedicated to raising the awareness, political will, and funding required to eliminate these diseases as a public health threat to the world's poorest communities.

- **Neglected Tropical Diseases Initiative in Latin America and the Caribbean** – ([Website](#))

The Inter-American Development Bank, the Global Network for Neglected Infectious Diseases/Sabin Vaccine Institute, and the Pan American Health Organization/WHO, together with the endemic countries are leading the LAC NID Initiative.

- **USAID Global Health Initiative** – ([Website](#))

The Global Health Initiative was established in 2009 to strengthen the U.S. Government's existing international health programs with the goal of increasing the impact of U.S. global health investments.

- **USAID's Neglected Tropical Diseases Program** – ([Website](#)) | ([Fact Sheet](#)) |

USAID's NTD Program is one of the first global efforts to integrate existing disease-specific treatment programs to control these diseases. It is making a large-scale, cost-effective contribution to the global effort to reduce the economic and epidemiological burden of NTDs. As of 2012, the NTD Program has delivered more than 584.6 million treatments to approximately 257.9 million people.

Each WASHplus Weekly highlights topics such as Urban WASH, Indoor Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus knowledge resources specialist, at dacampbell@fhi360.org.



About WASHplus - WASHplus, a five-year project funded through USAID's Bureau for Global Health, creates supportive environments for healthy households and communities by delivering high-impact interventions in water, sanitation, hygiene (WASH) and indoor air pollution (IAP). WASHplus uses proven, at-scale interventions to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under five years of age globally. For information, visit www.washplus.org or email: contact@washplus.org.

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