



Issue 205 | Sept. 4, 2015 | Focus on Neglected Tropical Diseases

On August 27, 2015, the World Health Organization (WHO) unveiled a five-year global strategy that aims to accelerate efforts to eliminate many neglected tropical diseases (NTDs) by 2020. Included in the strategy are targeted water and sanitation interventions to bolster ongoing efforts in tackling 16 out of the 17 NTDs. Resources in this issue include recent publications from WHO, WASHplus, reports on schistosomiasis, soils-transmitted helminths, and other NTDs as well as links to the USAID NTD website.

WORLD HEALTH ORGANIZATION PUBLICATIONS

WHO Strengthens Focus on Water, Sanitation and Hygiene to Accelerate Elimination of Neglected Tropical Diseases, Aug 2015. | [Link](#) | [WASH & NTD Facts](#) | [WASH & NTD Infographic](#) |

WHO introduces its global plan to better integrate water, sanitation and hygiene (WASH) services with four other public health interventions to accelerate progress in eliminating and eradicating NTDs by 2020.

Water Sanitation and Hygiene for Accelerating and Sustaining Progress on Neglected Tropical Diseases: A Global Strategy 2015-2020, 2015. WHO. [Link](#)
WASH is critical in the prevention and care for 16 of the 17 NTDs scheduled for intensified control or elimination by 2020. Provision of safe WASH is one of the five key interventions within the global NTD roadmap. Yet to date, the WASH component of the strategy has received little attention, and the potential to link efforts on WASH and NTDs has been largely untapped. This strategy aims to mobilize WASH and NTD actors to work together toward the roadmap targets.

2015 Fact Sheets on Neglected Tropical Diseases. WHO. [All Fact Sheets](#).
[Soil-transmitted helminth infections](#) | [Chikungunya](#) | [Schistosomiasis](#) | [Taeniasis/cysticercosis](#)

WASHPLUS PUBLICATIONS

WASHing Away Worms and Other Neglected Tropical Diseases, 2015. [Link](#)
Although mass drug administration is key to reducing NTDs, reinfection will remain a problem if WASH behaviors are not addressed. WASHplus is documenting the links between WASH and NTDs and exploring ways to integrate WASH into NTD programs.

Small Doable Actions: A Feasible Approach to Behavior Change Learning Brief, 2015. [Link](#)

A small doable action is a behavior that, when practiced consistently and correctly, will lead to personal and public health improvement. It is considered feasible by the householder, from his/her point of view, considering the current practice, the available resources, and the particular social context.

Integrating WASH into NTD Programs: A Desk Review, 2013. [Link](#)

This desk review clearly indicates that the international community recognizes that drug administration alone is insufficient to break the cycle of disease transmission. Although past programs have largely left out a WASH component, the current renewed interest in securing WASH to any global NTD control or elimination strategy and adding WASH interventions to NTD treatment programs is essential to achieving sustained control and elimination.

SCHISTOSOMIASIS

The Roles of Water, Sanitation and Hygiene in Reducing Schistosomiasis: A Review. *Parasites & Vectors*, Mar 2015. J Grimes. [Link](#)

The authors completed a systematic review and meta-analysis pertaining to WASH and schistosomiasis and found that people with safe water and adequate sanitation have significantly lower odds of a *Schistosoma* infection. Importantly though, the transmission of schistosomiasis is deeply entrenched in social-ecological systems, and hence is governed by setting-specific cultural and environmental factors that determine human behavior and snail populations. The authors provide a comprehensive review of the literature, which explores the transmission routes of schistosomes, particularly focusing on how these might be disrupted with WASH-related technologies and human behavior. Additionally, future research directions in this area are highlighted.

Associations between Schistosomiasis and the Use of Human Waste as an Agricultural Fertilizer in China. *PLoS NTDS*, Jan 2015. E Carlton. [Link](#)

Findings show the use of human waste as an agricultural fertilizer is common in this study region and may increase schistosomiasis infections. The extent to which night soil is used and risks of this practice should be evaluated as part of disease control programs targeting schistosomiasis and other human helminthiasis.

SOIL-TRANSMITTED HELMINTH INFECTION

Associations Between School- and Household-Level Water, Sanitation and Hygiene Conditions and Soil-Transmitted Helminth Infection Among Kenyan School Children. *Parasites & Vectors*, Aug 2015. M Freeman. [Link](#)

Results suggest mixed impacts of household and school WASH on prevalence and intensity of infection. WASH risk factors differed across individual worm species, which is expected given the different mechanisms of infection. No trend of the relative importance of school versus household-level WASH emerged, though some factors, like water supply were more strongly related to lower infection, which suggests it is important in supporting other school practices, such as handwashing and keeping school toilets clean.

Distribution and Risk Factors for Plasmodium and Helminth Co-infections: A Cross-Sectional Survey among Children in Bagamoyo District, Coastal Region of Tanzania. *PLoS NTDS*, Apr 2015. N Salim. [Link](#)

Parasitic infectious agents rarely occur in isolation and multiparasitism is a norm specifically in children living in endemic areas of Tanzania. The authors studied the pattern and predictors of Plasmodium and STH co-infections in rural Bagamoyo District in the coastal region of Tanzania. Younger children had a significantly higher risk of having Plasmodium when co-infected with *S. stercoralis*. Integrated control approaches including health education, environmental sanitation and hygiene, novel chemoprophylaxis as well as long lasting impregnated net distributions should be implemented considering the pattern and types of infections within the area to interrupt transmission of both parasites among young and school-aged children.

Should the Goal for the Treatment of Soil Transmitted Helminth (STH) Infections Be Changed from Morbidity Control in Children to Community-Wide Transmission Elimination? *PLoS NTDS*, Aug 2015. R Anderson. [Link](#)

Morbidity induced by infection with the major soil transmitted infections (*Ascaris lumbricoides*, *Trichuris trichiura*, and hookworms) results in an estimated 5.19 million disability-adjusted life years. WHO's policy for control centers on three groups—preschool-aged children, school-aged children, and women of child bearing age—on the basis that heavy infection in these groups will have a detrimental impact on anemia, child growth, and development.

OTHER NTDS

***Ascaris* and *Escherichia coli* Inactivation in an Ecological Sanitation System in Port-au-Prince, Haiti.** *PLoS One*, May 2015. D Berendes. [Link](#)

The goal of this study was to evaluate the microbial die-off in a latrine waste composting system in Port-au-Prince, Haiti. Findings indicate that the Haitian EcoSan composting process was effective in inactivating *E. coli* and *Ascaris* spp. in latrine waste within 16 weeks. This study is one of the first to document efficacy of an ecological sanitation system under field conditions and provides insight into composting methods and monitoring for other international settings.

The Importance of Water, Sanitation and Hygiene for Lymphatic Filariasis and Leprosy Care and Inclusion, 2015. Leprosy Mission; WaterAid. [Link](#)

The similarities in disease presentation between Lymphatic Filariasis (LF) and leprosy provide a case for a combined exploration of approaches to mitigating disease. LF and leprosy are targeted for elimination by WHO. Global efforts to reduce the burden of disease have been guided by WHO targets for disease elimination. Roadmaps for eliminating LF and leprosy include strategies that identify guidelines for disease prevention, treatment, and morbidity management and disability prevention.

Assessment of Water, Sanitation, and Hygiene Practices and Associated Factors in a Buruli Ulcer Endemic District in Benin (West Africa). *BMC Public Health*, 15:801 2015. R Johnson. [Link](#)

Control of NTDS requires multiple strategic approaches including WASH services. Buruli ulcer (BU), one of the 17 NTDS, remains a public health issue in Benin particularly in the district of Lalo. The availability of water as well as good hygiene are important for the management of BU particularly in the area of wound care, one of the main components of the treatment of BU lesions. The authors report on the first study evaluating the level of WASH and associated factors in Lalo, one of the most BU-endemic districts in Benin.

Minimizing the Risk of Disease Transmission in Emergency Settings: Novel In Situ

PhysicoChemical Disinfection of Pathogen-Laden Hospital Wastewaters. *PLoS NTDs*, June 2015. E Sozzi. [Link](#)

The operation of a health care facility, such as a cholera or Ebola treatment center in an emergency setting, results in the production of pathogen-laden wastewaters that may potentially lead to onward transmission of the disease. The research presented here evaluated the design and operation of a novel treatment system, successfully used by *Médecins Sans Frontières* in Haiti to disinfect wastewaters in situ, eliminating the need for road haulage and disposal of the waste to a poorly managed hazardous waste facility, thereby providing an effective barrier to disease transmission through a novel but simple sanitary intervention.

The Feasibility of Eliminating Podoconiosis. *WHO Bulletin*, forthcoming issue. K Deribe. [Link](#)

Podoconiosis is an inflammatory disease caused by prolonged contact with irritant minerals in soil. The disease has major social and economic consequences through stigma and loss of productivity. Addressing poverty at household level and infrastructure development such as roads, water, and urbanization can all help to reduce podoconiosis incidence. Certain endemic countries are taking the initiative to include podoconiosis in their national plans for the control of neglected tropical diseases and to scale up interventions against the disease.

MANAGEMENT OF NTD PROGRAMS

Surveillance and Response: Tools and Approaches for the Elimination Stage of Neglected Tropical Diseases. *Acta Tropica*, Jan 2015. R Bergquist. [Link](#)

Risk-mapping geared at detection of transmission hotspots by means of geospatial and other dynamic approaches facilitates decision-making at the technical as well as the political level. Surveillance should thus be conceived and developed as an intervention approach and at the same time function as an early warning system for the potential re-emergence of endemic infections as well as for new, rapidly spread epidemics and pandemics.

From River Blindness to Neglected Tropical Diseases: Lessons Learned in Africa for Programme Implementation and Expansion by the Non-governmental Partners. *PLoS NTDs*, May 2015. C Cross. [Link](#)

This article aims to summarize the development of the nongovernmental networks supporting the NTD programs, starting with the original 1992 model to combat onchocerciasis (river blindness), and will review the lessons learned that have equipped the NGOs to step up their support for NTD control and elimination.

Challenges and Opportunities Associated with Neglected Tropical Disease and Water, Sanitation and Hygiene Intersectoral Integration Programs. *BMC Public Health*, June 2015. E Johnston. [Link](#)

This study investigated the integration of NTD and WASH programming to identify barriers to widespread integration and make recommendations about ideal conditions and best practices critical to future integrated programs. The most frequently mentioned barriers to WASH and NTD integration included: 1) differing programmatic objectives in the two sectors, including different indicators and metrics; 2) a disproportionate focus on mass drug administration; 3) differences in the scale of funding; 4) siloed funding; and 5) a lack of coordination and information sharing between the two sectors. Participants also conveyed that a more holistic approach was needed if future integration efforts are to be scaled up. The most commonly mentioned requisite conditions included: 1) education and advocacy; 2) development of joint indicators; 3) increased involvement at the ministerial level; 4) integrated strategy

development; 5) creating task forces or committed partnerships; and 6) improved donor support.

WEBSITES

- USAID's NTD Program – [Website](#)
- WHO Neglected Tropical Diseases – [Website](#)
- PLoS Neglected Tropical Diseases – [Journal website](#)

WASHplus Weeklies highlight topics such as Urban WASH, Household Air Pollution, Innovation, Household Water Treatment and Storage, Handwashing, 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 multi-year project funded through USAID's Bureau for Global Health, supports healthy households and communities by creating and delivering interventions that lead to improvements in access, practice and health outcomes related to water, sanitation, hygiene (WASH) and household air pollution (HAP). WASHplus uses at-scale, targeted as well as integrated approaches 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.