WASH Away NTDs

Preventing Neglected Tropical Diseases (NTDs) and Other Illnesses with Water, Sanitation, & Hygiene (WASH) Interventions

WHAT ARE THE PROBLEMS?

In 2010, more than 780 million people did not have access to improved water sources and 2.5 billion people lacked access to improved sanitation.[1] At any given time, close to half the people living in the developing world are suffering from one or more diseases associated with inadequate water, sanitation, and hygiene (WASH).[2] The most recognized WASH disease is diarrheal illness, which caused 801,000 deaths in children worldwide in 2010.[3] Millions more suffer from devastating WASH-related neglected tropical diseases (NTDs), such as soil-transmitted helminthiases (STHs), Guinea worm disease (GWD), trachoma, and schistosomiasis.

Borehole well in Sierra Leone.
Photo credit: Sharon Roy, CDC, 2006

WHAT IS THE IMPACT?

Improved WASH is a critical element in preventing disease in the world's poorest countries. This involves improving access to safe water, managing human excreta, improving hygiene, and enhancing targeted environmental management. Such improvements can lead to improved health, poverty reduction, and socio-economic development. For example:

- More than 1 billion people are infected with STHs, some of whom suffer learning impairment, massive diarrhea, or anemia.[4] STHs are associated with at least 12,000 deaths each year.[5] Improved WASH can result in a 29% median reduction in illness from *Ascaris*, one of the STH worms.[6]
- GWD is one of the few infectious diseases solely spread by contaminated water. It causes prolonged disability that negatively impacts agricultural and animal husbandry activities. GWD causes millions of dollars in economic losses each year and decreases school attendance by 60% in some highly endemic villages.[7,8,9] Improved water supplies can result in a 78% median reduction in GWD.[6]
- Trachoma is the leading cause of preventable blindness with approximately 8 million people worldwide blind and an estimated 84 million people in need of treatment.[10] The spread of trachoma is strongly related to overcrowding, the lack of water for washing the face and hands, and inadequate disposal of human and animal waste.[11] Improving WASH can reduce trachoma by 27%.[6]
- About 200 million people are infected with schistosomiasis,[12] which causes tens of thousands of deaths every year, mostly in Sub-Saharan Africa.[5] Schistosomiasis results from the unsanitary disposal of human waste and the absence of nearby sources of safe water. Basic sanitation can reduce this disease by up to 77%.[6]

WHAT CAN PROGRAMS DO?

Integration: Current programs to address STH, trachoma, and schistosomiasis focus mostly on mass drug administration (MDA).[13] These drug-based control programs have expanded dramatically over the past decade and are now reaching hundreds of millions of people each year.[14,15] However, with limited public health resources, the long-term sustainability of such treatment programs would be improved by placing a greater emphasis on prevention in addition to MDAs.

Sustainability: The integration of WASH interventions into NTD programs is just the first step. WASH infrastructure is already available in some areas where NTDs are common. However, such infrastructure is often not sustainable because of inadequate maintenance, insufficient training for repairs, and inadequate financial resources for operation. Why is this important?

- In Ethiopia, a survey found that 29% of hand pumps and 33% of mechanized boreholes in rural areas were not working because of maintenance problems.[2]
- In Rwanda, an estimated one-third of rural water infrastructure requires rehabilitation.[2]

WASH interventions can provide the needed disease-prevention components for NTD and other water-related health programs only if such interventions are sustainably integrated.

WHAT IS CDC DOING TO ADDRESS THESE PROBLEMS?

CDC is uniquely positioned to make a positive health impact by helping countries integrate WASH interventions into existing NTD programs. CDC's support to countries builds on the agency's core competencies of surveillance, operational research, translation of research to practice, and monitoring and evaluation. This effort requires evaluation of the effectiveness, cost, accessibility, and sustainability of different interventions. CDC’s WASH Away NTDs Program is leveraging the agency’s strong relationships with other international health organizations, academic institutions, non-governmental organizations, and foreign ministries of health to:

- Evaluate the effectiveness and impact of a comprehensive WASH package on WASH-related diseases.
- Study the enabling factors and barriers to WASH delivery and integration within NTD and diarrheal disease programs.
- Assess the cost and sustainability of integrated WASH interventions.

Findings from these evaluations can be used to develop evidence-based recommendations to successfully and sustainability integrate WASH into existing NTD programs.

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