

An estimated 1.1 billion persons lack access to an improved water source. Hundreds of millions more drink contaminated water from improved sources because of unsafe water distribution systems and unsafe water storage and handling practices. The health consequences of inadequate water and sanitation services include an estimated 4 billion cases of diarrhea and 2.2 million deaths each year, mostly among young children in developing countries. In addition, waterborne diarrheal diseases lead to decreased food intake and nutrient absorption, malnutrition, reduced resistance to infection, and impaired physical growth and cognitive development. CDC and its partners have responded to this challenge with the advent of a simple low-cost technology to prevent waterborne diseases by improving the quality of drinking water at the household level.



President Bush speaking with a co-investigator in the Uganda SWS Study

The Safe Water System (SWS) strategy devised by CDC and PAHO includes three elements: water treatment with dilute sodium hypochlorite at the point-of-use, storage of water in a safe container, and behavior change communication to improve hygiene and water and food handling practices. The solution is packaged in a bottle with directions instructing users to add one full bottle cap of the solution to clear water in a standard sized storage container, agitate, and wait 30 minutes before drinking. For more information, contact safewater@cdc.gov.



The PSI Nigeria SWS Product

The Safe Water System Product Is:

Effective

In five randomized controlled trials, the SWS has resulted in reductions in the risk of diarrheal disease ranging from 22-84%, with an average of 50%, significantly reducing childhood morbidity and reducing the burden of care on female caregivers.

Cost-Effective

WHO found the SWS to be the most cost-effective water and sanitation intervention, costing less than 1 cent per day.

Implemented with the Private Sector

Every SWS product is manufactured by private-sector plastics and chlorine-producing companies in-country, and thus supports the local economy, with high potential for sustainability and transfer of the product to the private sector.

Implemented with Partners throughout Africa and the World

The SWS has been implemented with partners in over 25 countries in Africa and Asia. Our primary marketing and distribution partner, Population Services International (PSI), has sold over 12 million bottles of solution in 13 countries. Government agencies, NGOs, hospitals, schools, and faith-based organizations purchase and/or promote the PSI product within their project communities, in emergency response programs, or support rural resellers in micro-finance initiatives.

Low-cost, Low-tech, and High-impact

Unlike complex and expensive water treatment systems that can lead to graveyards of unused high-tech equipment, the SWS is appropriate for developing countries. It can be manufactured inexpensively locally, and then distributed through local commercial networks at national, or even regional, scale.

Complementary to Infrastructure and Well-drilling

Water provision is a necessary first step, but does *not* guarantee microbiologically safe drinking water and disease prevention. Water treatment is a critical complementary step to ensure that water remains safe to drink.

Proven to Reduce Diarrhea in People Living with HIV and AIDS

In Uganda, use of the SWS led to a 25% reduction in diarrheal disease incidence and 33% fewer days ill in PLWHA.