Preventing Diarrhea in Persons Living with HIV and AIDS: The Safe Water System Project

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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. Diarrheal diseases lead to decreased food intake and nutrient absorption, malnutrition, reduced resistance to infection, and impaired physical growth and cognitive development. The Safe Water System (SWS) is a water quality intervention proven to reduce diarrheal disease incidence in users by 22-84%. The SWS includes water treatment with chlorine solution at the point-of-use, storage of water in a safe container, and behavior change communications. Diarrheal diseases are particularly of concern for immune-compromised individuals and their families. CDC is working in partnership with organizations providing care to persons living with HIV and AIDS (PLWHA) to reduce diarrheal disease and provide families affected by HIV and AIDS clean water for health, hygiene, and infant feeding.

Uganda: Proving the SWS Reduces Diarrhea Disease in PLWHA

In November 2002, CDC, the Global AIDS Program, the Uganda Viral Research Institute, and the AIDS Support Organization completed an 18-month study which showed that use of the SWS reduced the risk of diarrhea by 25% and the total number of days ill from diarrhea by 33% in PLWHA. The successful results of this study led CDC to support an ongoing WaterGuard project in Uganda, with non governmental organizations (NGOs) to distribute the product nationally, while specifically targeting families affected by HIV and AIDS. By the end of 2006, over 40,000 PLWHA will have received the SWS as part of a preventive care package.

Kenya: Distributing the SWS in High Prevalence Rural Regions

CDC has worked with CARE International and Population Services International (PSI) in Kenya distributing and promoting WaterGuard solution since 2000. PSI currently sells 100,000 WaterGuard bottles per month throughout Kenya. In Nyanza Province, which has the highest HIV prevalence rates in Kenya, the Atlanta Rotary Club and CDC support a project for women affected by HIV/AIDS to increase access to health products in rural communities not normally reached by the private sector. The women receive training to become community health educators; and receive microcredit to purchase a basket of health products – including WaterGuard, insecticide-treated bednets, and other needed items – at wholesale. They then sell products in their rural communities at retail, and the difference provides much-needed income for their families. In February 2006, these women sold 4,300 bottles of WaterGuard, enough to treat 4.3 million liters of water.

The PSI SWS Product in Nigeria

A rural midwife in Western Kenya who promotes the product to her clients and uses it herself.

Nigeria: Using the SWS Reduces Diarrhea Incidence in PLWHA

PSI has a national-scale social marketing program of WaterGuard solution in Nigeria, which sold 500,000 bottles in 2005. CDC collaborated with PSI and the NGO Hope Worldwide to distribute WaterGuard to women with HIV enrolled in a Prevention of Mother to Child Transmission program and evaluate the results. The use of WaterGuard reduced the risk of diarrhea by 39.5%. Project partners plan to expand the marketing of WaterGuard and increase access to the product among PLWHA.

Botswana: Providing Safe Formula to Infants

Mothers with HIV, as well as governments and agencies providing care for families affected by HIV, face a difficult decision regarding infant feeding. Breastfeeding, which is recommended internationally for an infant's overall health, can transmit HIV from an HIV-infected mother to her child. However, the alternative, bottle-feeding with infant formula, can increase infant mortality and morbidity due to diarrhea when formula is mixed with contaminated water. CDC is working in Botswana to determine whether use of the SWS to treat water and clean bottles can reduce diarrheal disease in bottle-fed infants of HIV-positive mothers.