



## A Framework for Action: Child Diarrhea Prevention

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**D**iarrhea is the second most serious killer of children under five, accounting for nearly one-fifth of child deaths—an estimated 1.9 million deaths annually. Not only is diarrhea a life threatening disease, it is also one of the most frequent childhood illnesses. For example, in some studies in Latin America, young children have an average of more than 10 episodes of diarrhea each year. While the death rate from diarrhea has come down during the course of the child survival revolution, the frequency of illness has changed little, if at all, in many settings. This burden of diarrhea has an impact on the health system, the household and the nutritional status of the child. The means to prevent diarrhea are understood, but significant challenges must be addressed to do so at scale. The Hygiene Improvement Framework helps us understand the means to prevent diarrhea and the obstacles that must be overcome to do so.

### The Problem: Frequent Diarrhea

One of the most widely recognized achievements of the child survival revolution has been the successful introduction of oral rehydration solution (ORS) and oral rehydration therapy (ORT), which have halved childhood deaths due to diarrhea. Nonetheless, the application of this therapy has its costs. Frequent consultations and hospitalizations for diarrhea are a strain on overburdened health services. In the home, direct and indirect costs of diarrhea in children include expenses of treatment, lost wages for parents or missed school for older siblings who must stay home to care for the sick child, additional strain on overburdened mothers, etc. In addition, it is well documented that diarrhea, especially frequent and prolonged episodes and dysentery, is an important contributor to malnutrition and even mild malnutrition is associated with

increased risk of death from a variety of childhood illnesses.

### Diarrhea is a Preventable Disease

The means to prevent diarrhea via water supply, sanitation and hygiene have been demonstrated in numerous field locations and have been well documented. Esrey et al. 1991 and Hutley et al. 1997 reviewed all relevant field studies addressing diarrheal prevention. Figure 1 summarizes what these studies revealed about the effectiveness of various interventions.

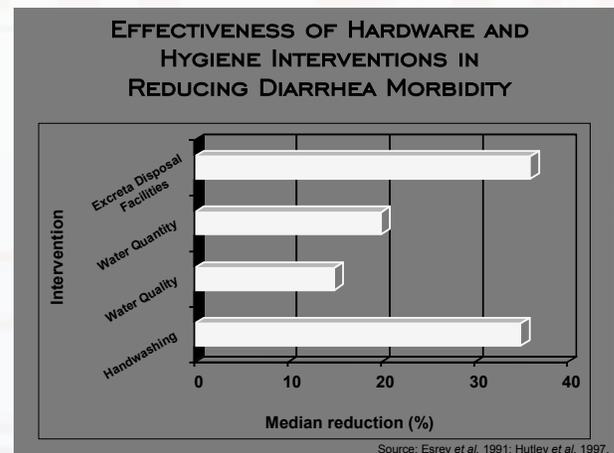


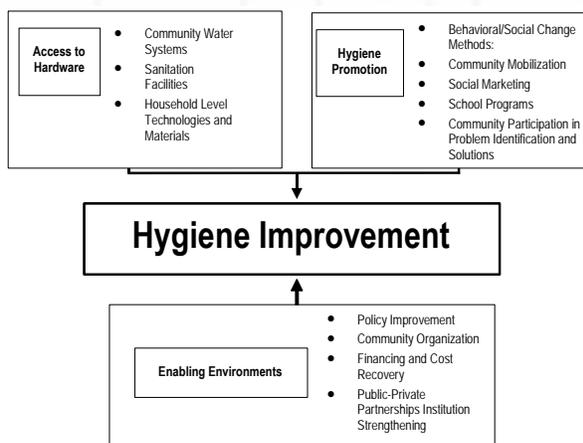
Figure 1

First, improved water quality and quantity effectively prevent diarrheal diseases, but excreta disposal and hand washing also have a significant impact on diarrheal disease. Second, interventions aimed at improving hygiene, such as hand washing, can lead to a significant reduction in diarrheal diseases as hardware improvement.

### Hygiene Improvement Framework

Based upon these results and the experience of a wide range of global partners, the Environmental Health Project (EHP) advocates the Hygiene

Improvement Framework—an integrated approach which links hardware and hygiene promotion and an enabling environment with strong organizational structures to prevent diarrheal disease. This framework is based on the recognition that behaviors—especially drinking safe water, sanitary disposal of feces, and washing hands with good technique at appropriate times—are the key determinants of diarrhea risk. In order to prevent diarrhea these behaviors—“hygiene improvement” in the diagram—must be supported by hardware and materials, “software” or promotion of the behaviors, and an enabling institutional and policy environment to achieve these improvements at scale and in a sustainable fashion. EHP believes that each component should be viewed as a necessary part of the Hygiene Improvement Framework shown in figure 2.



**Figure 2**

## Reducing the Burden of Diarrheal Disease

**Challenge 1:** Continue practices already found in child health programs—and increase their coverage. This includes ORT, exclusive breastfeeding, micronutrient supplementation, complementary feeding and measles vaccinations

**Challenge 2:** Develop effective hygiene promotion strategies and programs. In

recognition of the importance of diarrhea prevention and the role of the health sector, sanitary disposal of feces and handwashing are included among the 16 key practices of household and community IMCI. Hygiene behaviors are typically deeply rooted in local culture and social values and may require different skills from those commonly available for behavior promotion programs if hygiene promotion is likely to be appropriate and effective.

**Challenge 3: Work in Partnership.** Rarely can one program or agent address all features of the Hygiene Improvement Framework effectively. The elements represented do not exist in one sector, and may be subject to many influences. To be truly effective in bringing down the burden of diarrheal disease, inter-sectoral, inter-agency and inter-institutional collaboration and coordination will be needed. These partnership efforts will deserve special attention for documentation, both for advocacy and to provide guidance to others through lessons learned.

## The Promise

Diarrhea is an important cause of death of children under five and a burdensome disease in many regards. It can be prevented. We know what to do. As public health programming becomes more sophisticated in efforts to work in complex partnerships, this burden can be reduced.

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