

WHO/SDE/WSH/02.07  
Distr.: Limited  
English only

# **Managing Water in the Home: Accelerated Health Gains from Improved Water Supply**

**Water, Sanitation and Health  
Department of Protection of the Human Environment  
World Health Organization  
Geneva**

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# **Managing Water in the Home: Accelerated Health Gains from Improved Water Supply**

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## **FOREWORD**

Around 2.2 million die of basic hygiene related diseases, like diarrhoea, every year. The great majority are children in developing countries. Interventions in hygiene, sanitation and water supply make proven contributors to controlling this disease burden. For decades, universal access to safe water and sanitation has been promoted as an essential step in reducing this preventable disease burden

Nevertheless the target “universal access” to improved water sources and basic sanitation remains elusive. The “Millennium Declaration” established the lesser but still ambitious goal of halving the proportion of people without access to safe water by 2015. Achieving “universal access” is an important long-term goal. How to accelerate health gains against this long-term backdrop and especially amongst the most affected populations is an important challenge.

There is now conclusive evidence that simple, acceptable, low-cost interventions at the household and community level are capable of dramatically improving the microbial quality of household stored water and reducing the attendant risks of diarrheal disease and death.

Many different water collection and storage systems and strategies have been developed, described and evaluated on the basis of various criteria for household and community use in developed and developing countries. A variety of physical and chemical treatment methods to improve the microbial quality of water are available and many have been tested and implemented to varying extents in developed and developing countries. Some of these water treatment and storage systems have been tested under controlled conditions in the laboratory and implemented in field to evaluate their ability to produce drinking water of acceptable microbiological quality and to maintain this quality during storage and use. Some of them also have been evaluated in the field for their ability to reduce diarrheal and other waterborne diseases among users.

Because of the importance of education, socio-cultural acceptance, changing people's beliefs and behaviors, achieving sustainability and affordability in the provision of safe water, some of the most promising household water treatment and storage systems and their implementation strategies include or are accompanied by efforts to address these considerations.

This report describes and critically reviews the various methods and systems for household water collection, treatment and storage. It also presents and critically reviews data on the ability of these household water treatment and storage methods to provide water that has improved microbiological quality and lower risk of waterborne diarrheal and other infectious disease.

The target audience for this report is intended to be scientists, engineers, policy makers, managers and other public health, environmental health and water resources professionals who are knowledgeable about the fundamentals of drinking water and related health sciences and water engineering technology.

The report is not intended to be a comprehensive guidance or "how to" manual on household water treatment and storage or a practical guide for the average drinking water consumer. It is hoped that this document provides a scientifically sound and supportable basis for identifying, accepting and promoting household water treatment and storage systems and technologies so that such documents in support of the implementation of household water treatment and storage can be developed and disseminated elsewhere. The views expressed in this document are solely those of the author, who is also responsible for any errors, omissions or other deficiencies that the document may contain.

This report has been prepared as part of a programme of activity towards the updating of WHO's Guidelines for Drinking-water Quality. Following a process of development and review it is released in draft form. Comments upon this draft care welcome and should be sent to:

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