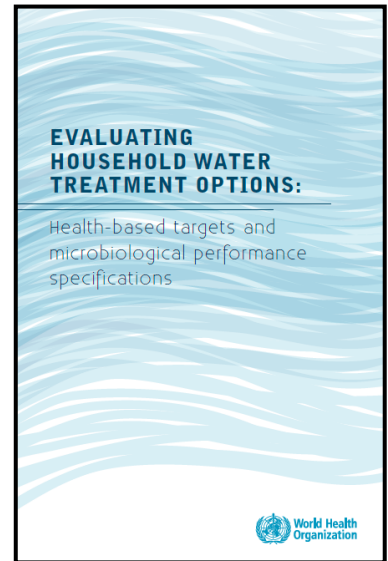


WHO recommendations on evaluation of household water treatment options

-Information Sheet for Policy-makers and Regulators-

Water safety and health

Each year, 1.9 million deaths result from a lack of safe drinking-water, sanitation and hygiene¹. Many of these deaths could be prevented through improving the quality of drinking-water. In particular, the use of a comprehensive risk assessment and management approach, known as a water safety plan (WSP) will support consistent good quality water. Household water treatment and safe storage (HWTS) is one particular option within a broader WSP to make water safer to drink. HWTS is not a substitute for sustainable access to safe drinking-water but it does provide an interim measure for removing pathogens from drinking-water, particularly where access to clean and safe water supplies is not available.



Value of HWTS as a health intervention

HWTS is a preventative health intervention and provides the greatest benefit to those groups that are most likely to suffer from diarrhoea (young children, individuals living with HIV, and malnourished populations, for example). HWTS may also be effective in emergency situations where drinking-water is compromised due to poor hygiene, necessity of storage and/or environmental conditions.

Importance of government involvement in HWTS

There are a number of different household water treatment technologies and options which vary in performance and ability to protect health. In order to ensure that individuals, especially vulnerable groups, use and select options that are optimal, governments can and should take a role in evaluating and regulating HWTS.

Determining if HWTS makes water safer

Most governments already take some action associated on regulating household water treatment but efforts could be strengthened. For example, national bureaus of standards may certify that devices are structurally sound and regulators may evaluate how well household water treatment removes bacterial faecal indicators, such as *E. coli*. While these measures are important, they are *not sufficient* to determine if HWTS reduces pathogens adequately to protect health. Rather, an effective evaluation should measure how well HWTS removes the three major classes of pathogens that cause water-borne disease (bacteria, protozoa and viruses).

How can this document help?

"Evaluating household water treatment options" provides the technical basis to guide governments in developing schemes for evaluating the microbial performance of household water treatment and its potential impact on health.

¹ WHO, 2008. Global Estimates of Environmental Burden of Disease.
http://www.who.int/quantifying_ehimpacts/global/envrf2004/en/index.html

KEY RECOMMENDATIONS

- **Performance is classified in three tiers**
The document presents criteria, based on health-risks associated with the three major classes of pathogens, to determine if HWTS makes water safer. Applying these criteria, it can be classified in one of three tiers: *Highly protective, protective, or interim*.
- **Highly contaminated source waters require a better performing device and/or multi-barrier approach**
Those most at risk of diarrhoeal disease are often those with access to drinking-water of very poor quality. In such instances a more protective device or multi-barrier approach, such as filtration followed by chlorination, may be necessary.
- **Laboratory testing should mimic environmental and use conditions**
Technologies should be tested over a range of water quality parameters found in different source waters and according to manufacturer-recommended use procedures. In addition, testing should mimic the lifetime of expected use of the technology.
- **Product certification requires clear and consistent labels**
Labelling should allow consumers to make an informed choice. WHO does not approve devices and the WHO label should not be used in performance claims.

POSSIBLE GOVERNMENT ACTION

- **Initiate a process to develop or strengthen national certification programmes**
Convene the relevant ministries (health, water, environment, commerce) and discussing options for strengthening a national programme, including technical and regulatory capacities is an important first step.
- **Consider if international certification processes are applicable**
Devices that are sold and distributed internationally and are certified based on the principles in this document may not need to undergo additional national certification.
- **Determine key national partners and build capacity**
Work with laboratories to strengthen existing protocols and testing of bacterial indicators and surrogates. Start by testing the most commonly sold and used devices.
- **Use the document as a tool within broader efforts to increase access to safe water**
Household water treatment is one option for improving water quality and health, especially among vulnerable populations. Evaluating HWTS should be considered within the context of water safety plans, hygiene and sanitation improvements and integrated environmental health interventions at the household level.

Online links

WHO (2011). *Evaluating household water treatment options: Health-based targets and microbiological performance standards*, Geneva, World Health Organization.
http://www.who.int/water_sanitation_health/publications/2011/household_water/en/index.html

WHO (2011). *Guidelines for drinking-water quality, 4th ed.* Geneva, World Health Organization.
http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/index.html