

WHO International Scheme to Evaluate Household Water Treatment Technologies

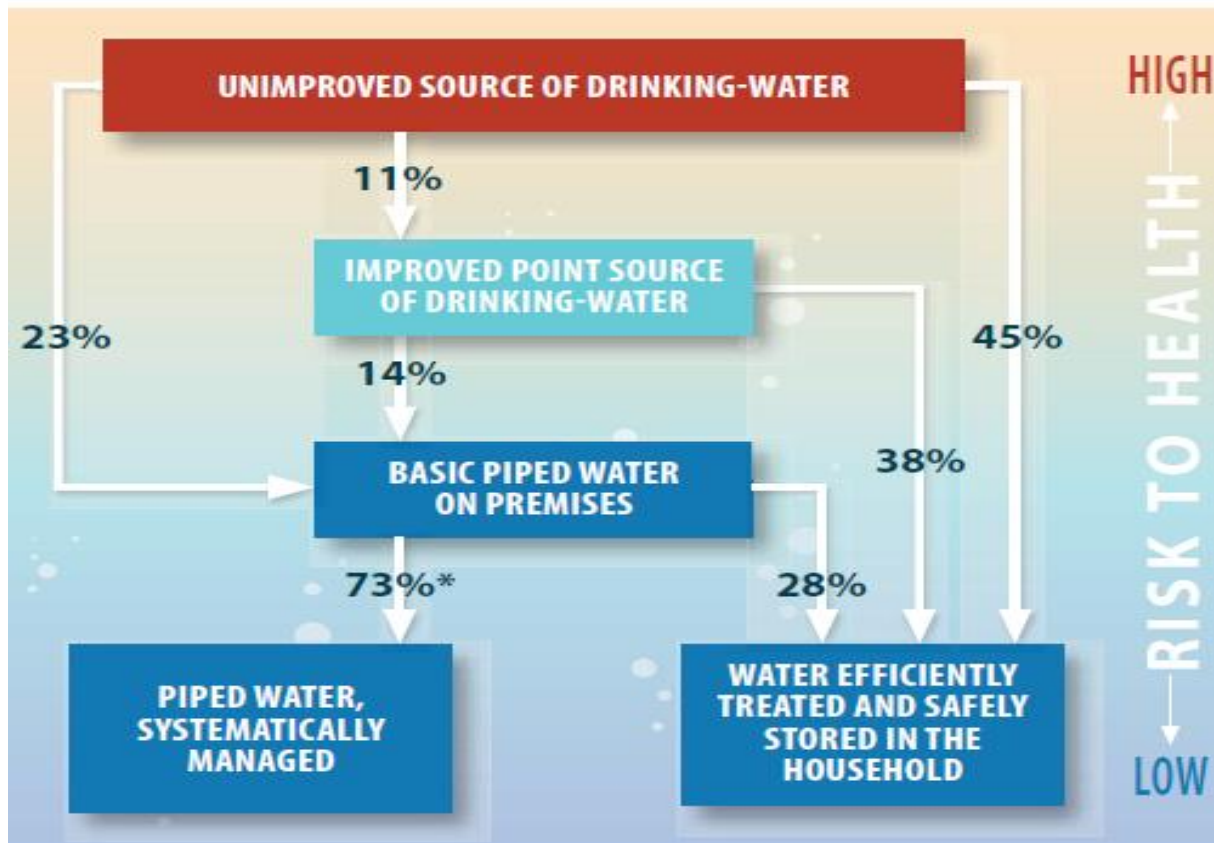


UN 2023 Water Conference

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World Health Organization | Water, Sanitation, Hygiene & Health Unit

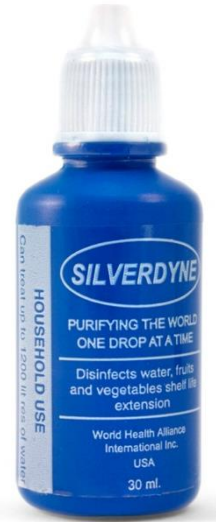
Household / point-of-use water treatment



These estimates are based on limited evidence and should therefore be considered as preliminary and have not been used in the estimation of disease burden.

- Important *primary health* intervention:
 - In many humanitarian disasters / waterborne disease outbreaks
 - For the 1.8 billion people globally relying on drinking-water sources that are faecally-contaminated
- Can reduce waterborne diarrhoeal disease by up to 45%*, when *effective methods* are used correctly and consistently by populations at risk
- Effective methods - are appropriate and work!

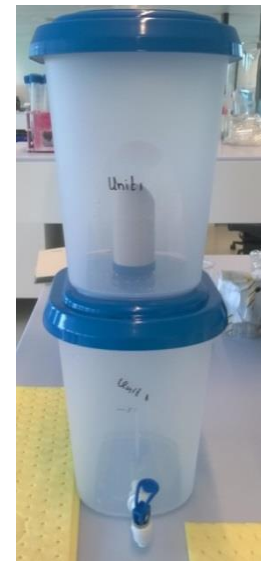
How to select a product?



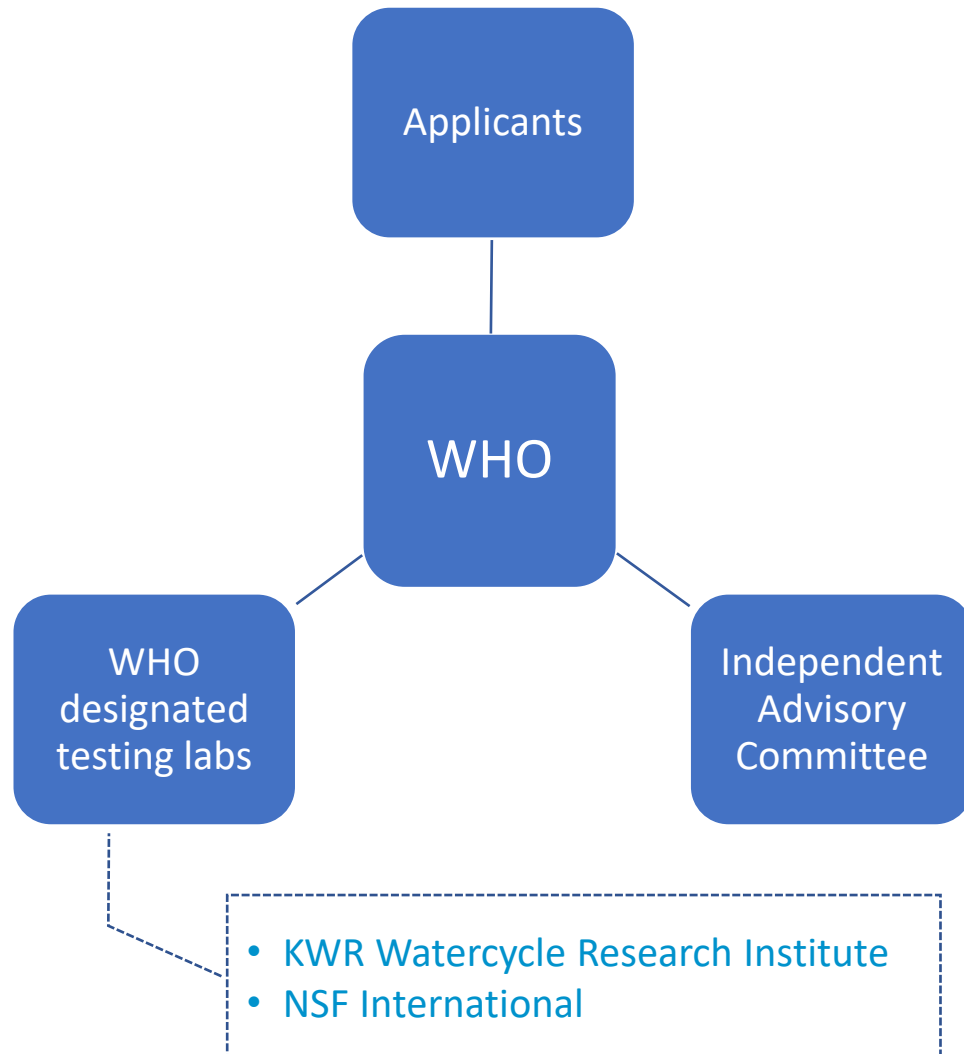
- 💧 Issue: HWT market is diverse; products are increasingly promoted in emergencies
- 💧 Need: health-based performance evaluation to guide selection
- 💧 Gap: many countries do not have comprehensive health-based regulations to guide such evaluation, nor the technical capacity to implement WHO recommendations for evaluating HWT

Technologies:

- Physical removal (filtration, adsorption, sedimentation)
- Chemical (chlorine, iodine, silver)
- Disinfection by heat (boiling, pasteurization)
- Ultraviolet (UV) radiation
- Solar disinfection
- Combination
- Emerging technologies



WHO Scheme objectives



- 💧 Promote and coordinate independent and consistent evaluation of HWT products based on WHO criteria
- 💧 Strengthen national capacity in conducting complimentary evaluations and regulation of HWT products
- 💧 **WHO established an international evaluation scheme for HWT to fill the immediate and growing need for rigorous health-based assessments of HWT technologies**

Scheme Objectives

Aim: Guide WHO Member States and procuring UN Agencies in the selection of technologies and support national governments in a number of evaluation related functions.

WHO HWT Intended audience

- National Certifiers
- Regulatory Authorities
- Researchers
- Manufacturers and Implementers

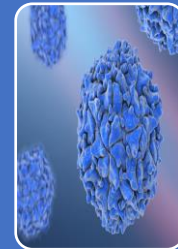
Expectation - Local government will manage

Household water treatment technology: A product that is used in households or similar settings to remove microbiological water contaminants that may pose health risks.



Bacteria

- E.g. *Escherichia coli*, *Vibrio cholerae*
- 0.5-2.0 μm in diameter



Viruses

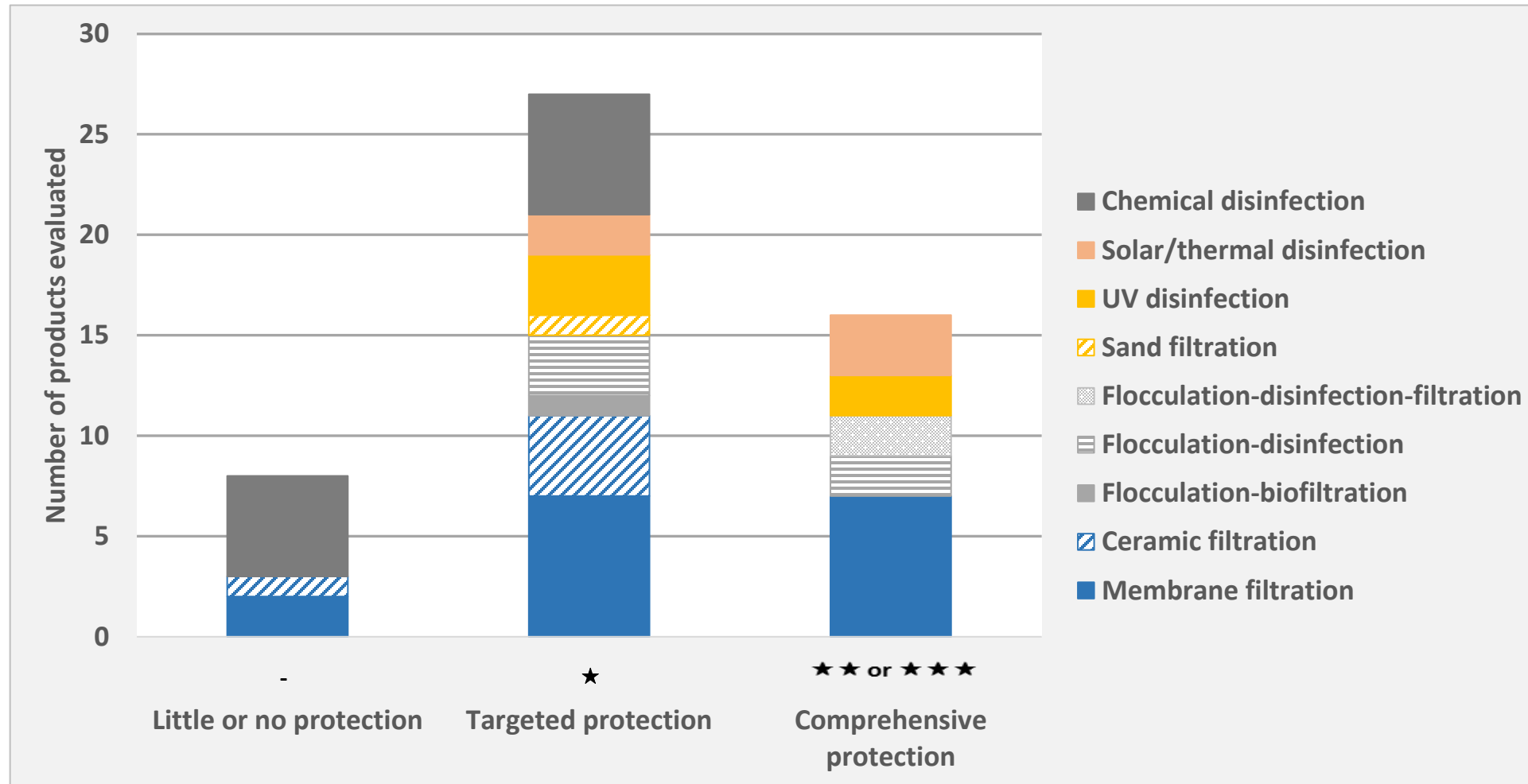
- E.g. Hepatitis A, poliovirus A
- Smallest; 0.02-0.3 μm



Protozoan cysts

- E.g. *Giardia*, *Cryptosporidium*
- Largest; >2 μm -2 mm

Global HWT Technology Performance



- Results for 51 household water treatment products tested under The Scheme
- 100 Expressions of Interest received for Round I-IV

Key takeaways and technology weaknesses

Key takeaway 1: Manufacturing quality control is highly variable

Key takeaway 2: Variations within the same technology type (membranes)

Key takeaway 3: Chlorine is not a simple evaluation

Key takeaway 4: Understand water quality and technology limitations

Key takeaway 5: Use Instructions need to reflect best practices



Impact and Looking Ahead

Impact

- 💧 51 products tested and 100 Expressions of Interest reviewed!!
- 💧 Informed national guidelines and product selection in Ukraine
- 💧 Removed ineffective products from the Ebola essential interventions list
- 💧 Generally important for informing smart investments in emergency response
- 💧 Making a difference for manufacturers seeking to establish new markets

“In terms of global credibility the WHO testing results make a huge difference!”

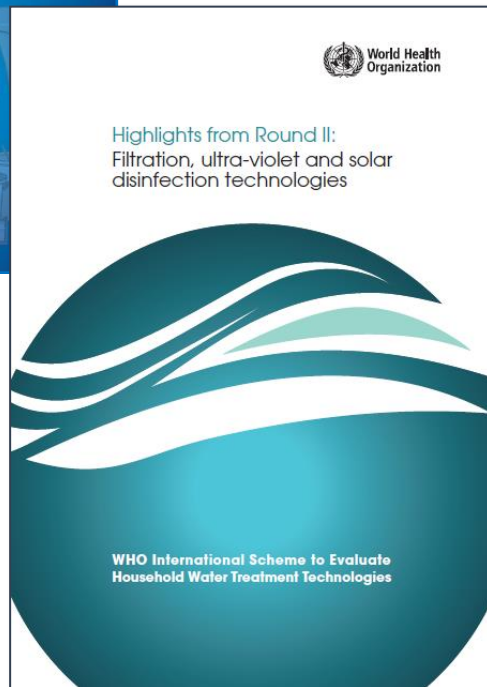
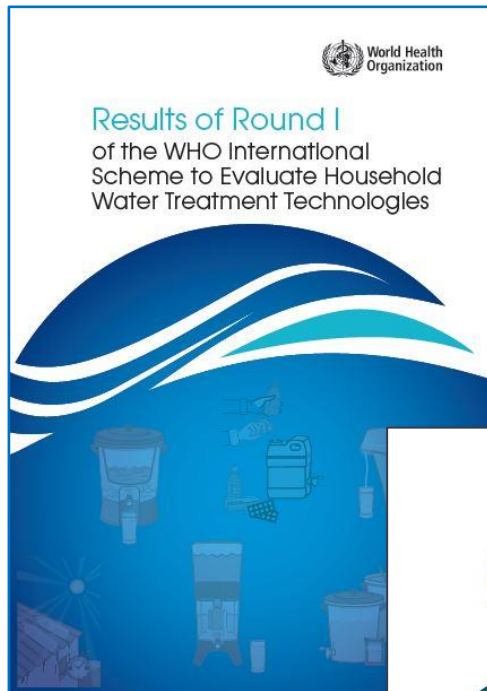
Looking Ahead

- 💧 WHO globally managed testing – ongoing
- 💧 Support to countries on HWTS regulation, water quality laboratory strengthening and testing
- 💧 Disseminate Scheme results and the principals of choosing products that work, have clear use instructions, and encourage correct and consistent use
- 💧 Influence procurers to select products that perform and reject those that do not



• WHO/ Batsi Majuru

Thank you!



- 💧 The HWT market is diverse and product performance varies widely
- 💧 Performance should be a primary consideration in product selection; there is **NO** benefit in distributing / promoting products that do not work
- 💧 The WHO Scheme provides an independent and rigorous tool for evaluating HWT performance

Additional information and resources can be found at:

- <https://www.who.int/tools/international-scheme-to-evaluate-household-water-treatment-technologies>
- hhwater@who.int