A TOOLKIT FOR MONITORING AND EVALUATING HOUSEHOLD WATER TREATMENT AND SAFE STORAGE PROGRAMMES

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EXECUTIVE SUMMARY

An estimated 780 million people drink water from unimproved sources, and millions more drink contaminated water from improved sources (UNICEF/WHO, 2012). Until safe, reliable, piped-in water is available to every household, interim measures, such as household water treatment and safe storage (HWTS) to prevent contamination during collection, transport and use in the home, are needed to reduce the burden of diarrhoeal disease. While a growing body of evidence demonstrates that the use of HWTS methods improves the microbial quality of household drinking-water and reduces the burden of diarrhoeal disease in users, there is also increasing evidence that inconsistent and/or incorrect use may be a major challenge in realizing the full potential from HWTS. In order to develop effective mechanisms to encourage and sustain correct use of HWTS, there is a need to monitor and evaluate uptake. To date, there has been a lack of harmonized relevant tools and indicators to assist in the monitoring and evaluation (M&E) of HWTS programmes. This document is intended to address this need.

Integrated planning, combined with effective M&E, is critical to achieving programme aims. M&E of HWTS include 1) process monitoring to assess programme implementation and 2) quantitative analysis through surveys, direct observation and water quality monitoring. As part of this document, a set of 20 indicators is recommended (see **Table S-1**). These indicators build upon previous efforts among HWTS stakeholders and are grouped according to the following themes: *reported and observed use*; *correct, consistent use and storage*; *knowledge and behaviour*; *other environmental health interventions*; and *water quality*.

A decision-tree is presented in section 4 to assist in the selection of indicators based on programme aims and resources.

Following the presentation of the core indicators, commonly tested water quality parameters—including turbidity, free and total chlorine residual, *Escherichia coli* and thermotolerant coliforms, and arsenic and fluoride—are discussed. Additionally, step-by-step guidance to conduct M&E is delineated, including descriptions on how to 1) understand the context within which the HWTS programme is operating; 2) develop the M&E question(s); 3) select the appropriate indicator(s) to answer the question(s); 4) develop an M&E plan; 5) develop the M&E tools; 6) select and train the M&E team; 7) conduct the M&E; 8) compile and review the data; and 9) analyse the data and disseminate the results. Real-world examples of M&E in HWTS programmes are included throughout the document to highlight key points, and annexes provide additional resources on the topics presented.

The ultimate aim of collecting M&E data and disseminating M&E results is to achieve the main benefit of HWTS: improved health. The value of HWTS M&E will be realized only to the extent that results are utilized to inform future programmes, policies and investments. The progressive accumulation of M&E data from HWTS programmes will provide an important knowledge resource for guiding implementation and scaling up. This, in turn, will result in decreased incidence of disease and healthier lives for all those who consistently and correctly use HWTS.

Table S-1: Core HWTS indicators

	REPORTED AND OBSERVED USE
1	Self-report treating drinking-water
2	Observation of drinking-water treatment method
3	Self-report safely storing water
4	Observation of safely stored drinking-water
	CORRECT, CONSISTENT USE AND STORAGE
5	Knowledge of correct use
6	Demonstration of correct use
7	Demonstration of safe water extraction
8	Frequency of non-use by most vulnerable
9	Consistently treating drinking-water with HWTS
10	Use of improved drinking-water source
	KNOWLEDGE AND BEHAVIOUR
11	Knowledge of at least one proven HWTS method
12	Received messaging and/or training on HWTS
13	Access to HWTS products
14	Personal norm for drinking treated water
15	Confidence in improving the quality of their drinking-water
16	Community support in treating drinking-water
	OTHER ENVIRONMENTAL HEALTH INTERVENTIONS
17	Knowledge of other environmental health interventions
18	Use of other environmental health interventions
	WATER QUALITY
19	Households effectively using HWTS method to improve quality of household drinking-water ("effective use")
20	Households with free chlorine residual in drinking-water

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