



Supportive Environments for Healthy Communities

## Issue 17 July 22, 2011 | Focus on Drinking Water Quality

This issue of the *WASHplus Weekly* features the new edition of the World Health Organization's (WHO) guidelines on drinking water quality. The guidelines recommend shifting the focus from reacting to contamination events to preventing their occurrence. Country policies frequently overemphasize end-product testing as a means to ensure the safety of drinking-water. Unfortunately, adverse test results are not known until the water has already been consumed and people have already gotten sick. WHO's new Guidelines provide guidance on how to formulate regulations and promote good practices to assess and reduce risk of water contamination before it is too late.

### REPORTS

- **Guidelines for Drinking Water Quality**, 2011. WHO. ([Full-text](#))  
Each year, two million people die from waterborne diseases and billions more suffer illness – most are children under five. To address this situation the revised WHO Guidelines for Drinking-water Quality calls on governments to strengthen their management of drinking-water quality by adopting a "Water Safety Planning" approach. When implemented by individual countries this approach can yield significant and sustainable improvements in public health.
- **Joint Monitoring Programme Country Water Quality Reports**, 2010. WHO; UNICEF. Between 2004 and 2005 several countries participated in a World Health Organization/United Nations Children's Fund (WHO/UNICEF) pilot project aimed at testing a rapid, low-cost method for assessing drinking-water quality in the field. Country reports are available for: [Ethiopia](#) | [Jordan](#) | [Nicaragua](#) | [Nigeria](#) | [Tajikistan](#) |
- **Policy Brief on Water Quality**, 2011. UN-Water. ([Full-text](#))  
Clean, safe and adequate freshwater is vital to the survival of all living organisms and the smooth functioning of ecosystems, communities and economies. Declining water quality has become a global issue of concern as human populations grow, industrial and agricultural activities expand, and climate change threatens to cause major alterations to the hydrological cycle.

- **Water Quality Degradation after Water Storage at Household Level in a Piped Water System in Rural Guatemala**, 2011. S. Lacey, University of Illinois. ([Full-text](#))

In response to a rural community's concern regarding diarrheal disease, particularly among children, a field assessment was performed to determine the concentration of four classes of indicator bacteria: aerobic bacteria, total coliform, fecal coliform and *Escherichia coli*. The data suggest that while the source well water shows indicator bacteria concentrations at or below limits of detection, drinking water becomes significantly more hazardous while in storage containers at the household level, and this reflects insufficient chlorination. An uninterrupted and adequately chlorinated water supply system is planned to eliminate the need for drinking water storage at the household level.
- **Water Safety Plans for Communities: Guidance for Adoption of Water Safety Plans at Community Level**, 2011. F. Greaves, Tearfund. ([Full-text](#))

Water Safety Plans (WSP) become the principle means by which every Tearfund community-based water supply project is managed in order to safeguard water quality. As shown in these guidelines, WSPs might be introduced as a stand-alone process, or through certain appropriate entry points which are either planned for the community or have already been implemented, such as PHAST hygiene sessions or disaster risk reduction training.

## JOURNAL ARTICLES

- **Dissemination of Drinking Water Contamination Data to Consumers: A Systematic Review of Impact on Consumer Behaviors**, IN: *PLoS One* (6)6 2011. P. Lucas, University of Bristol. ([Full-text](#))

Drinking water contaminated by chemicals or pathogens is a major public health threat in the developing world. Responses to this threat often require water consumers (households or communities) to improve their own management or treatment of water. One approach hypothesized to increase such positive behaviors is increasing knowledge of the risks of unsafe water through the dissemination of water contamination data. This paper reviews the evidence for this approach in changing behavior and subsequent health outcomes.
- **Quality of Drinking-water at Source and Point-of-consumption—Drinking Cup as a High Potential Recontamination Risk: A Field Study in Bolivia**, IN: *J Health Popul Nutr* (28)1 2010. S. Rufener, University of Bern. ([Full-text](#))

In-house contamination of drinking-water is a persistent problem in developing countries. This study aimed at identifying critical points of contamination and determining the extent of recontamination after water treatment. Home-based interventions in disinfection of water may not guarantee health benefits without complementary hygiene education due to the risk of post-treatment contamination.

- **Quality of Water Sources Used as Drinking Water in a Brazilian Peri-urban Area**, IN: *Braz J Microbiol April/June 2011*. M. Razzolini, Universidade de São Paulo. ([Full-text](#))

The objective of this paper was to assess bacteriological quality of drinking water in a peri-urban area located in the Metropolitan Region of São Paulo, Brazil. A total of 89 water samples from community plastic tanks and 177 water samples from wells were collected bimonthly, from September 2007 to November 2008, for evaluating bacteriological parameters including: *Escherichia coli*, *Enterococcus* and heterotrophic plate count. The results confirm the vulnerability of the water supply systems in this peri-urban area, which is clearly a public health concern.

- **Simple Sari Cloth Filtration of Water is Sustainable and Continues to Protect Villagers from Cholera in Matlab, Bangladesh**, IN: *mBio May 2010*. A. Huq, University of Maryland. ([Full-text](#))

A simple method for filtering water to reduce the incidence of cholera was tested in a field trial in Matlab, Bangladesh, and proved effective. A follow-up study was conducted five years later to determine whether the filtration method continued to be employed by villagers and its impact on the incidence of cholera. A total of 7,233 village women collecting water daily for their households in Bangladesh were selected from the same study population of the original field trial for interviewing. Analysis of the data showed that 31% of the women continued to use a filter, and 60% of this group used sari filters for household water. Results showed that sari filtration was not only accepted and sustained by the villagers but benefited them, including their neighbors who did not filter water, by reducing the incidence of cholera, the latter being an unexpected benefit.

- **Womens Perception of Water Quality and its Impacts on Health in Gangapur, Pakistan**, IN: *Pakistan Journal of Nutrition (10)7 2011*. A. Yasar, Government College University, Lahore, Pakistan. ([Full-text](#))

This study is an attempt to investigate the quality of drinking water used by community and their perception towards water quality. Water samples were collected from handpumps, motor pumps and tube wells. The results showed the values of bacteriological parameter fecal coliform were above WHO guidelines, which made water unfit for drinking purposes. The community was unaware of the quality of water they were drinking. Incidence of water borne diseases, especially in infants, appeared to be a common problem among the sampled households in the study region.

Each *WASHplus Weekly* will highlight topics such as Urban WASH, Indoor Air Quality, Innovation, Household Water Treatment and Storage, Handwashing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus Knowledge Resources Specialist, at [dacampbell@aed.org](mailto:dacampbell@aed.org).



**About WASHplus** - WASHplus, a five-year project funded through USAID's Bureau for Global Health, creates supportive environments for healthy households and communities by delivering high-impact interventions in water, sanitation, hygiene (WASH) and indoor air quality (IAQ). WASHplus uses proven, at-scale interventions to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under five years of age globally. For information, visit [www.washplus.org](http://www.washplus.org) or contact: [washplus@aed.org](mailto:washplus@aed.org).

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