



**Issue 131 January 24, 2014 | Focus on WASH and Nutrition**

This update contains 18 recent studies and reports on WASH and nutrition issues. These include findings of several studies on food hygiene, a draft version of the USAID nutrition strategy, and a study on *Cyclospora cayentanensis*, an emerging protozoan parasite that causes small intestine gastroenteritis. Resources include links to the USAID Community of Practice on WASH and Nutrition and the WASHplus WASH/Nutrition online library.

**EVENTS**

Feb 11-12, 2014 - **Announcing the PPPHW's Handwashing Behavior Change Think Tank!** ([Link](#))

The Global Public-Private Partnership for Handwashing (PPPHW) will host a small Handwashing Behavior Change Think Tank in Washington, DC. Handwashing experts from donor, private sector, non-governmental, and academic organizations will take stock of the best, identify the gaps, and articulate the way forward for handwashing behavior change. We want to engage a wider group of implementers in this Think Tank through virtual participation.

**BLOG POSTS**

**Release of the USAID Nutrition Strategy: A Critical Step Forward.** *Defeatdd.org Blog, Jan 2014.* R Olson. ([Blog post](#))

Olson states that she is "encouraged to see the recognition of the multi-sectoral nature of nutrition in this strategy. Specifically, the inclusion of WASH as an illustrative action for IR 1.3 Increased availability and access to high quality nutrition-sensitive services and commodities (pg. 14-16) demonstrates this important pathway through which investments in the WASH sector contribute to the goal of improving nutrition outcomes."

**Malawi: Launch of Innovative Project to Prevent Stunting Among Children.** *World Food Programme News, Jan 2014.* ([Link](#))

A new project to establish best practices for tackling stunting is being launched in Malawi. Recurrent food insecurity, poor dietary diversity and repeated illness are among the root causes of stunting among nearly 1 million Malawian children under 5 – almost half the country's children in this age group.

**JOURNAL ARTICLES**

**Assessing Hand Hygiene Practices in Schools Benefiting from the Ghana School Feeding Programme.** *Science Journal of Public Health, 2014; 2(1).* I Monney. ([Link](#))

School feeding programs have been shown to have a positive impact on nutritional status and cognition of school children as well as hunger and poverty alleviation. There is, however, a dearth of information regarding hand hygiene in schools benefiting from these programs. This study assesses hand hygiene practices, barriers, and compliance to proper hand hygiene in schools benefiting from the Ghana School Feeding Programme.

**Association of Food-Hygiene Practices and Diarrhea Prevalence among Indonesian Young Children from Low Socioeconomic Urban Areas.** *BMC Public Health 2013, 13:977.* R Augustina. ([Link](#))

Information is lacking about the role poor food-hygiene practices play in the development of diarrhea in low socio-economic urban communities. This study was aimed at assessing the contribution of food-hygiene practice to the prevalence of diarrhea among Indonesian children. Overall poor food-hygiene practices were not associated with the prevalence of diarrhea among children under five, but were significantly associated with more diarrhea among children under 2 years. Therefore, food safety education should be especially targeted to this age group.

**Child Undernutrition in Kenya: Trend Analyses from 1993 to 2008–09.** *BMC Pediatrics, Jan. 2014.* D Matanda. ([Link](#))

The national trends in childhood undernutrition in Kenya showed significant declines in underweight while trends in wasting and stunting were stagnant. Analyses disaggregated by demographic and socio-economic segments revealed some significant departures from these overall trends, some improving and some worsening. These findings support the importance of conducting trend analyses at detailed levels within countries, to inform the development of better-targeted childcare and feeding interventions.

**Enteric Pathogens in Stored Drinking Water and on Caregiver's Hands in Tanzanian Households with and without Reported Cases of Child Diarrhea.** *PLoS One, Jan 2014.* M Mattioli. ([Link](#))

The prevalence of enteric pathogen genes and the human-specific *Bacteroidales* fecal marker in stored water and on hands suggests extensive environmental contamination within homes both with and without reported child diarrhea. Better stored water quality among households with diarrhea indicates caregivers with sick children may be more likely to ensure safe drinking water in the home. Interventions to increase the quantity of water available for hand washing, and to improve food hygiene, may reduce exposure to enteric pathogens in the domestic environment.

**Fecal Contamination of Food, Water, Hands, and Kitchen Utensils at the Household Level in Rural Areas of Peru.** *Journal of Environmental Health. Jan/Feb 2014.* A Gil. ([Abstract/order info](#))

The study described in this article evaluated sources of contamination of children's food and drinking water in rural households in the highlands of Peru. These findings indicate a need to develop hygiene interventions that focus on specific kitchen utensils and hand washing practices to reduce the contamination of food, water, and the kitchen environment in these rural settings.

**Food Hygiene and Sanitation in Infants and Young Children: A Paediatric Food-**

**Based Dietary Guideline.** *South Afr Jnl Clin Nutrition*, (26) 2013. L Bourne. ([Link](#))

This paper has three related aims. Firstly, it aims to profile the current food hygiene and safety needs of children under the age of 5 in South Africa. Secondly, to reflect the importance of domestic hygiene and access to water and sanitation in reducing the transmission of gastrointestinal pathogens while feeding infants and young children. And, thirdly, to highlight the need for collaboration between health care professionals and the local authorities who provide basic services.

**Long-Term Impact of Community-Based Information, Education and Communication Activities on Food Hygiene and Food Safety Behaviors in Vietnam: A Longitudinal Study.** *PLoS ONE*, Aug 2013. K Takanashi. ([Link](#))

Ingestion of contaminated water or food is a major contributor to childhood diarrhea in developing countries. In Vietnam, the use of community-based information, education, and communication (IEC) activities could be a sustainable strategy to improve food hygiene and food safety behaviors. This study thus examined the long-term impact of these community-based IEC activities.

**Measuring Disparities in Sanitation Access: Does the Measure Matter?** *Trop Med Int Health*, Jan 2014. R Rheingans. ([Link](#))

Initiatives to monitor progress in health interventions like sanitation are increasingly focused on disparities in access. This study explores three methodological challenges to monitoring changes in sanitation coverage across socio-economic and demographic determinants: confounding by wealth indices including water and sanitation assets, use of individual urban and rural settings versus national wealth indices, and child-level versus household-level analyses. Standard asset indices provide a reasonably robust measure of disparities in improved sanitation, although overestimation is possible. Estimates and disparities in household-level coverage of improved sanitation can underestimate coverage for children under 5.

**Socio-Economic Inequalities in Malnutrition among Children and Adolescents in Colombia: The Role of Individual-Household-and Community-Level Characteristics.** *Public Health Nutr.* Sept 2013 Sep. S Garcia. ([Abstract](#))

Children and adolescents living in the poorest households were close to five times more likely to be stunted, while those from the richest households were 13–28 times more likely than their poorest counterparts to be overweight. Care practices and household characteristics, particularly mother's education, explained over one-third of socio-economic inequalities in stunting. The proportion explained by access to services was not negligible (between 6 percent and 14 percent). Access to sanitation was significantly associated with a lower prevalence of stunting for all age groups.

**Spoiled Breast Milk and Bad Water; Local Understandings of Diarrhea Causes and Prevention in Rural Sierra Leone.** *BMC Public Health*, Dec 2013. S McMahon. ([Link](#))

Categorizing behaviors as beneficial, harmful, nonexistent, or benign enables tailored programmatic recommendations. For example, respondents recognized the value of clean water and we correspondingly recommend interventions that reinforce consumption of and access to clean water. Respondents also reported denying "contaminated" breast milk to breastfeeding children—a harmful practice that merits attention. The role of open defecation and poor hygiene in causing diarrhea was less understood and warrants introduction or clarification.

## REPORTS

**USAID DRAFT Agency-wide Nutrition Strategy [public comment sought]**, December, 2013. ([Link](#))

A technical working group, comprising individuals across USAID, has developed a draft nutrition strategy and is seeking public comment.

**Cyclosporiasis: An Emerging Potential Threat for Water Contamination.** Water and Health 2014. H Ahmad. ([Abstract](#))

*Cyclospora cayentanensis* is an emerging protozoan parasite that causes small intestine gastroenteritis. There is apparently a worldwide distribution, including regions of endemicity, for example, in Nepal, Haiti, and Peru. Due to the lack of a quantification technique, there is limited information on the prevalence of *Cyclospora* in water environments, necessitating the need for further research on pathways and transmission dynamics and encouraging innovative research in water treatment for improving sanitation and public health.

**Public Health and Social Benefits of At-Home Water Supplies**, 2013. ([Link](#)) B Evans et al.

The headline conclusion from this research is that at-home water supply has significant, measurable benefits when compared with shared water supply outside the home provided that the service is reliable enough to ensure access to adequate quantities of water when required. Reliable at-home water supply results in higher volumes of water consumption, greater practice of key hygiene behaviors, a reduction in musculoskeletal impacts associated with carrying water from outside the home, and improved water quality.

**Sanitation and Externalities: Evidence from Early Childhood Health in Rural India**, 2014. The World Bank. ([Link](#))

This paper examines two sources of benefits related to sanitation infrastructure access on early childhood health: a direct benefit a household receives when moving from open to fixed-point defecation or from unimproved sanitation to improved sanitation, and an external benefit (externality) produced by the neighborhood's access to sanitation infrastructure.

**Social Protection and Resilient Food Systems: The Role of Cash Transfers**, 2013. Overseas Development Institute. ([Link](#))

If linked to education and awareness-raising, cash transfer programs can improve water and sanitation hygiene practices.

**What Drives Child Health Improvements in Indonesian Households? A Micro-Level Perspective on Complementarities in MDG Achievements**, 2014. M Carmela Lo Bue. ([Link](#))

This paper analyzes the linkages between child nutrition, health care, household wealth, and parental education to detect transmission channels among health, education, nutrition, water and sanitation access. It finds that maternal education has a positive and long term effect on child health and that this effect is partly reflected in reproductive behavior and partly conveyed to child health outcomes through child caring practices such as breastfeeding. There are also supply-side factors such as lack of sanitation and access to health facilities that strongly affect children in terms of anthropometric outcomes.

**WASHplus Weekly: Focus on Food Hygiene**, July 2013. WASHplus. ([Link](#))

This issue contains studies and resources on food hygiene from 2012 and 2013. Included are

studies on weaning foods, food hygiene in households, food hygiene in schools, and informal sector street food vendors.

## LINKS

- [USAID Community of Practice on WASH & Nutrition](#)
- [WASHplus WASH/Nutrition Library](#)
- [Subscribe to the monthly WASH/Nutrition Literature Updates](#)

*WASHplus Weeklies* will highlight topics such as Urban WASH, Indoor Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, 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@fhi360.org](mailto:dacampbell@fhi360.org).



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**About WASHplus** - WASHplus, a five-year project funded through USAID's Bureau for Global Health, supports healthy households and communities by creating and delivering interventions that lead to improvements in access, practice and health outcomes related to water, sanitation, hygiene (WASH) and indoor air pollution (IAP). WASHplus uses at-scale, targeted as well as integrated approaches 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 email: [contact@washplus.org](mailto:contact@washplus.org).