

# Integrating WASH and Food Hygiene

April 2016

Impact of community-based WASH and food hygiene interventions on diarrhoeal disease incidence in children under five.

BRIEFING NOTE



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Child eats traditional meal of nsima (maize porridge) and ochre with family in Chikwawa

## Background

Diarrhoea continues to be the second leading cause of death in children under five; worldwide the lives of approximately 760,000 are lost each year (WHO, 2013).

Food safety and hygiene play an important role in reducing and controlling diarrhoeal disease, particularly in children under the age of five. According to one study, poor food hygiene practices could be responsible for more diarrhoeal disease transmission than exposure to contaminated water (Lanata, 2003). Children who are breastfed exclusively do not ingest contaminated water or unsafely prepared food and have the chance to more fully develop immunity through their mother. However, when children are introduced to solid food early, the effect of poor food hygiene and contaminated water can be severe and is compounded by their poorly developed immune systems.

## Aim and objectives

**Aim:** To determine the relative effectiveness of food hygiene and water, sanitation and hygiene (WASH) interventions in preventing diarrhoeal disease in children under five in Chikwawa District, Southern Malawi.

### Objectives:

- Identify potential sources and causes of diarrhoeal disease in the sample population of children under five, as well as the number and type of pathogens present in complementary foods and WASH-related surfaces before and after the intervention;
- Identify key intervention points and behaviours and develop WASH and combined WASH and food hygiene community-based interventions to target these;
- Test the relative and absolute impact of these two interventions on the incidence of diarrhoea in children under five and on targeted behaviours pertaining to WASH and food hygiene.



Child sleeps peacefully as her mother participates in a focus group discussion in Chikwawa District, Malawi

## Project overview

### Stage 1: Intervention Design

An integrated community-based model for improving WASH behaviours alone or in combination with food hygiene behaviours. The design of the intervention will be informed by formative research, based on the RANAS model (Mosler, 2012) for behaviour change, and identification of routes of exposure to microbiological hazards. This data will be used to identify key behavioural, cultural, socio-economic and environmental risk factors to be incorporated into the intervention model.

### Stage 2: Pilot and Evaluation

A cluster randomised controlled trial will be used to evaluate the two intervention arms, which will be delivered simultaneously in Chikwawa district, Southern Malawi, and monitored over a period of 12 months. There will be two treatment groups, and one control group. The treatment groups will each comprise 20 clusters of 20 children under five from separate households. The primary outcome of interest is the incidence rate of diarrhoeal disease. Secondary outcomes of interest are: any change in the presence and number of key pathogenic organisms and/or contamination pathways affected by the intervention, and observed changes in household practices.

## Relevance and uptake

The results of this study will provide robust evidence to demonstrate the impact of these two, usually separate, methods of reducing diarrhoeal disease, and also identify the most probable pathways and causes. The results will have important implications for governments, non-governmental organisations and policy makers working in the WASH, nutrition and child health sectors. Regardless of the direction of the findings, they can be used to improve the quality and efficiency of community-based programming and help to improve the impact and efficiency of future programming that aims to reduce diarrhoea in children under five.

It is anticipated that the findings of this study will inform a toolkit, teaching modules and short courses for community volunteers and allied health workers.

## Find out more

Listen to the reflections of Kondwani Chidziwisano of the University of Malawi - Polytechnic, co-Principal Investigator on this project: <https://youtu.be/CliNGdpDpes>

Sign up to the SHARE newsletter to keep up-to-date with this and other interesting projects: <http://bit.ly/1GrEEi8>

## References

Islam, M.S., et al (2013). Hygiene intervention reduces contamination of weaning food in Bangladesh. *Tropical Medicine & International Health*, 18(3), 250-258.

Lanata, F.C. (2003). Studies of food hygiene and diarrhoeal disease. *International Journal of Environmental Health Research*, 13, 175 - 183.

Mosler, H. J. (2012). A systematic approach to behavior change interventions for the water and sanitation sector in developing countries: a conceptual model, a review, and a guideline. *International Journal of Environmental Health Research*, 22(5), 431-449.

World Health Organization (2013). Fact Sheet 330: Diarrhoeal Disease. Available at: <http://www.who.int/mediacentre/factsheets/fs330/en/> [Accessed 23/03/16].

## Contributors

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This material has been funded by UK aid from the Department for International Development (DFID). However, the views expressed do not necessarily reflect the Department's official policies.

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