

Research into Use Summary

- 1. Research Project:** *Assessing the effectiveness of improved rural sanitation on diarrhoea and intestinal nematodes infections: a cluster-randomised, controlled trial in Orissa, India*
- 2. Lead researcher:** *Dr Thomas Clasen, LSHTM*
- 3. SHARE Partners:** *LSHTM, WaterAid*
- 4. Research budget:** *\$3.2 Million (SHARE, 3ie and Bill & Melinda Gates Foundation)*
- 5. Location:** *India*

Research description:

The study is a cluster-randomised, controlled trial conducted among 100 villages (including approximately 2,500 households and 15,000 people) in Puri district, Orissa, India. It aims to assess the impact of the construction and use of latrines in rural settings on diarrhoeal disease, intestinal nematodes infections and nutritional status. The study will also report on the cost and cost-effectiveness of the intervention and its impact on lost days at school and work as well as on expenditures on drugs and medical treatment. The research will document how the intervention actually impacts exposure to human excreta along principal transmission pathways by evaluating the impact on (i) faecal contamination of drinking water, (ii) the presence of mechanical vectors (flies) in food preparation areas, and (iii) the presence of faeces in and around participating households and villages. It will also explore the extent to which different levels of acquisition and use of on-site sanitation among householders impact disease throughout the community.

What is the relevance of the research to national and/or global sector challenges?

Diarrhoeal diseases impose a heavy health burden worldwide, especially among young children. Sanitation coverage also remains a major concern with 2.6 billion people lacking access to basic sanitation. Such challenges are particularly problematic in India, where 450,000 deaths per year are attributable to diarrhoeal disease and 69 per cent of the rural population practise open defecation. As shown by systematic reviews by Waddington and colleagues (2009) and Clasen and colleagues (2010), there is a lack of rigorous evidence on the contribution of sanitation interventions to prevent diarrhoea in young children. This pioneering study, therefore, is designed to help close the evidence gap on the effectiveness and cost-effectiveness of sanitation, particularly rural sanitation in low-income settings. It is a large-scale effectiveness study addressing many sector challenges, including health outcomes, latrine use as well as coverage, and non-health outcomes, such as productivity and school attendance.

Who are the intended users of this research?

The findings from this study, jointly funded by SHARE, 3ie and The Bill and Melinda Gates Foundation, will be disseminated to its donors and other key stakeholders within the global WASH sector. They will also be of particular interest to the Government of India and WASH policy-makers and practitioners in India because of the location of the study site within the country. A summary of the research findings will be made publicly available on the SHARE website and will be disseminated within the SHARE consortium and to a broad range of users.

