Reviewer's report

Title: The implications of three major new trials for the effect of water, sanitation and hygiene on childhood diarrhea and stunting: a consensus statement

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Reviewer: Daniel Corsi

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Review of Cumming et al "The Implications of Three Major New Trials for the Effect of Water, Sanitation and Hygiene on Childhood Diarrhea and Stunting - A Consensus Statement"

This is an important and timely paper. The consensus statements regarding biological plausibility of WASH interventions as public health interventions and continued need to strengthen and improve WASH services in these settings are appropriate. I think it may be useful to engage in some discussion around why the trials seemed to produce unexpected findings and which direction the field should be heading. For example, was it a limitation in the design of the trials?

It would be helpful to summarize in greater detail some of the design aspects of the trials. What was the duration of follow up? It should be stated that these were cluster based RCTs. While this is appropriate for WASH interventions, there are limitations to cluster-RCTs including reduced statistical efficiency which may have contributed to the null findings. This could be highlighted to inform future planned trials. In addition, how were the 'control' areas defined. Did they received access to the WASH services at a later time?

The Bangladesh trial produced some important findings related to the secondary analyses of diarrheal disease, which may be a more sensitive outcome. It may be that stunting or linear growth is not a sensitive enough marker to show apparent effects in the short-run. Are there data on child weight for age or other markers? Longer term follow up in these sites may be required.

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