Author's response to reviews

**Title:** How effective is good domestic kitchen hygiene at reducing diarrhoeal disease in developed countries?: A systematic Review and reanalysis of the UK IID study

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Response to referees

Referee 1. Alison Aiello

**Major point 1**
We have now analysed the data using a conditional logistic regression analysis as requested, modified table 2 and rewritten parts of the results to reflect this. We had not originally used conditional logistic regression as some 48% of potential case-control pairs had failed due to the absence of the case or control), and we consequently used simple binary logistic regression as had the original authors of the study. The issue of how to analyse matched case control studies where the matching has largely failed is not clear in the statistical literature. In any event, the overall conclusions do not differ much as a result of this change.

**Major point 2**
We agree with the referee and had thought we had already made this point very clear. In paragraph 1 of the discussion in the version refereed we had said

“It should be noted that there was only one intervention study; the use of disinfectant in home cleaning compared to cleaning with a product with no disinfectant and that also did not find a significant effect.”

We have now added a further sentence

“However, this study compared cleaning with and without a disinfectant product and did not compare cleaning with not cleaning.”

If the referee does not consider that the presence or absence of disinfectant in a cleaning product has no relevance to hygiene then we most strongly disagree with her.

**Major point 3**
We are really not sure what the referee wants here. It seem so clear to us what expert opinion is from the paragraph in the discussion and this is generally accepted terminology. The paper referred to is surely sufficient as an example of expert opinion. We have however added the sentence to the first paragraph on page 15

“In this context expert opinion was canvassed by asking a panel of experts to estimate the disease burden attributable to poor domestic kitchen hygiene.”

**Major point 4**
The referee states “Therefore, it is not yet appropriate to claim that kitchen hygiene has no effect on diarrhea rates.” We agree and in fact did not make that claim. In our previous submission the final paragraph in the discussion said:
“In conclusion this review does not support the hypothesis that poor general environmental hygiene in the kitchen is a risk factor for Salmonella, Campylobacter or self-reported diarrhoea. There is some evidence that poor kitchen hygiene may be a risk factor for Enterohemorrhagic E. coli but this was a low quality study with few cases and no adequate control for possible confounding [26]. However, all the data with one exception were based on observational studies and consequently no unequivocal conclusions can be drawn at this stage. It is doubtful that the impact of domestic kitchen hygiene will be firmly resolved based on cases control studies. We would argue that there is a need for properly conducted prospective cohort or randomised intervention studies to really investigate the contribution of particular domestic kitchen hygiene practices may or may not have on the risk of diarrhoeal disease.”

These sentences are fully supported by the evidence and cannot be interpreted as us saying that kitchen hygiene has no effect on diarrhoea rates and so we have not made any change. On the other hand we have modified the abstract conclusion slightly.

Minor changes
We used a different statistical package and have given the details and web address.

Referee 2. Stephen Palmer

As requested we have deleted any reference to adequate cooking as a public health message from the abstract and discussion.

We have also carefully proof read the document