Author's response to reviews

Title: A typhoid fever outbreak in a slum of South Dumdum municipality, West Bengal, India, 2007: Evidence for foodborne and waterborne transmission

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Author's response to reviews: see over
Second response to the reviewers for the manuscript on Typhoid outbreak in West Bengal

Thank you for these comments. We are grateful to most reviewers for making note that we did our best to incorporate all comments. With respect to the Widal test, we have made our best to accommodate the new comments raised and to provide additional references. We also underlined the need for a better test in the recommendations. However, we would like to mention to the editor that this is a controversial subject par excellence. Hence, we tried to reflect the various points of view and to provide quotes from both sides. We hope for a certain amount of open mind from the editorial office to allow for the presentation of these multiple points of view rather than a strict opinion that cannot apply to the setting (large urban slum) where the investigation was conducted.

Editor

We would be grateful if you could address the comments in a revised manuscript and provide a cover letter giving a point-by-point response to the concerns. You will see that Referee 3 has commented further that the Widal test is an unreliable indicator of typhoid fever. It is therefore very important that you discuss this caveat by making changes to the text of your revised manuscript. You should provide a balanced discussion that contains references to the literature on the sensitivity and specificity of the Widal test. We also ask that you follow the suggestion of Referee 2 and provide the Widal titre data as a supplementary file.

We provided two additional references to (1) underline the limitations of the Widal test and (2) mention that it is still used in India. We also added to the limitation paragraph on the topic. However, we are sorry as we do not have additional data to share other than the fact that only the titres > 1:80 were considered as positive.

We look forward to receiving your revised manuscript by 16 March 2009. If you imagine that it will take longer to prepare please give us some estimate of when we can expect it.

Referee 1 report:

My original comments were discretionary but nevertheless, the response from the authors is entirely satisfactory.

I think that this now represents a persuasive account of a "dual-source" typhoid outbreak.
Thanks for these comments. We have nothing to add.

Referee 2 report:
After thorough rewriting and refining source and case definition, the article has improved in contents and readability. My compliments. The main assumption was that an index case started a small epidemic (point source outbreak) followed by a continuous elevated transmission (multiple source outbreak) due to inadequate waste water disposal. For more than 50% these assumptions prove right.

Thanks for these comments.

At least more diagnostic information about the index case is provided, increasing the power of assumption. Also more information about the 4 cases is given that were subjected to blood culture. 1 of them was culture positive. Could you provide us with the Widal titers to increase the assumption that we are dealing with typhoid fever cases (since the description on clinical symptoms: headache, malaise and anorexia is non-specific). Good to see that a weighted calculation was done of the risk factors in stratified unmatched analysis to verify any independent contribution to disease.

Thanks for these comments. We wished we could provide you with the Widal titres, unfortunately, these are not available to us.

Little information is provided about the local background incidence of other food/waterborne diseases (that might decrease concurrently after the chlorination of piped water) or other febrile diseases (e.g. dengue, chikungunya, leptospirosis) that are not faeco-oral transmitted and consequently would not be influenced by the public health measures implemented by the research group. The decrease after the chlorination increases the suspicion that the latter group of diseases might not be likely causes of febrile disease. I think the authors could emphasize this point to strengthen the power of association, unless climatic factors (rain, flooding, water shortage) influence the rate of water contamination or use of piped water.

We thank the reviewers for this point, but would like to say that there is only a temporal sequence between the control measures and the decrease of incidence. Hence, we do not make any claims of association at all.

I think the authors have defended their findings adequately and increased the strength of assumption.
Thanks for this comments.

Referee 3 report:
I still think that WIDAL is an unreliable test for enteric fever and scientifically it is hard for me to accept the certainty of the diagnosis using the WIDAL test.

We appreciate the comment of the reviewer and never claimed any certainty. We would like however, to mention that this outbreak investigation was conducted in the extremely challenging conditions of a slum. If you review the literature, you will see that very few authors can manage this kind of investigations in India. Hence, in this context, we have the choice of doing either nothing because we do not have certainty or doing the best we can in terms of decision on the basis of the best possible evidence available. This is what we try to do in field epidemiology. In addition, we added more references to reflect the controversy around the Widal test.

I also think that in this setting typhus (scrub and murine) and leptospirosis are also in the running in the differential diagnosis.

We appreciate these suggestions. Scrub typhus is reported from India and our Field Epidemiology Training Programme (FETP) team from West Bengal has experience with the disease (Sharma PK, et al. Scrub typhus in Darjeeling, India: opportunities for simple, practical prevention measures. Trans R Soc Trop Med Hyg (2009), in press). However, the disease has not been reported from such urban environment and our recent case control study accepted in the Transactions point to risk factors that are not present in urban slums. Murine typhus we have not heard of in this area. Leptospirosis is usually not missed as a diagnosis, but typically, it comes from very different eco-systems.

Referee 4 report:
I have reviewed the revised manuscript and the authors' responses. The manuscript has improved very much and nearly all the issues raised by the reviewers have been addressed. The statistics are fine.
I would like to ask the authors to make sure they consistently use the correct spelling for the pathogen: Salmonella enterica (in italics) Typhi (capital letter and not in italics) and to correct the legend in fig 2 regarding the 'contaminated tap'.

I still think this is a nicely written article of importance in its field. Congratulations to the authors.

We corrected the legend. In terms of way to write Salmonella enteritica
Typhi, the way used was suggested at the last review. Hence, we suggest that the editorial office make a decision about whether to use:

Salmonella (enteritica) Typhi

Or

Salmonella enteritica Typhi

And ask the publication editor to change according to the best norm.