Author’s response to reviews

Title: Evaluation of the impact of shigellosis exclusion policies in childcare settings upon detection of a shigellosis outbreak

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We appreciate the careful review and suggestions from the reviewers. We have sought to address all comments. Revisions in this version include:

• Moving Figure 1 to Appendix A
• Revised footnotes in tables
• Clarification of outcome childcare-days lost throughout the document
The page and table numbers in our responses refer to the revised version of the manuscript. In addition to the specific responses and changes noted below, we made small additional editorial and formatting updates to the manuscript and the supplementary material.

Editor Comments:

Thanks for your detailed response to reviewer comments. Please address some remaining points. In addition, I agree with reviewer 2's previous comments that though the graphical depiction of information in Figure 1 is interesting, the content does not provide additional value not already provided in Table 1. Therefore my suggestion is to remove Figure 1 but keep Table 1.

Answer: Thank you for your comment. In line with your recommendation, we have now moved Figure 1 to appendix A.

Reviewer reports:

Reviewer 1

Varvara K Kozyreva, Ph.D. (Reviewer 1): Authors addressed all my concerns and suggestions. Thank you and congratulations on great work!

Answer: Thank you for helping us improve the document.

Reviewer 2

Katherine Lamba, MPH (Reviewer 2): Reviewer's Report

Title: Evaluation of the impact of shigellosis exclusion policies in childcare settings upon detection of a shigellosis outbreak

Revision 1
Reviewer: Katherine Lamba

General Comments:

Thank you for the opportunity to review "Evaluation of the impact of shigellosis exclusion policies in childcare settings upon detection of a shigellosis outbreak" by Dr. Carias and colleagues. Please see additional comments regarding Revision 1 below.

Overall, throughout the methods, results, figures and appendices, the use of the term "total childcare-days lost" is not always clear and consistent. In some instances it is used to mean aggregate total numbers for all children in the daycare, but then in other places (Figure 2 for example) it seems to indicate childcare-days lost per child. The terminology should remain consistent throughout the manuscript and should be more clearly delineated in the methods, as this is a main outcome measure. I would suggest using more specific terms such as "aggregate" and "per child" as needed, as the terms "total childcare-days lost" and "total childcare-days excluded" are used inconsistently and is a source of confusion for the reader.

Answer: We would like to thank this reviewer for her detailed and careful comments. Per the indications of this reviewer, we have slightly modified the designation of the two outcomes throughout the manuscript. We have now distinguished between childcare-days lost per child, and aggregated childcare-days lost. In particular, when we refer to Appendix C, where we for the first time introduce aggregated childcare-days lost, we have included a more thorough definition of the term:

Manuscript, last paragraph: We further explored the impact of exclusion policies in aggregated childcare-days lost (childcare-days lost for a group of children, assuming different children receive different treatments) for a given childcare in a separate sensitivity analysis (Appendix C).

Specific Comments:

Comments regarding Tables

Tables 1 & 2: Reorder footnote symbols in the table so they appear in corresponding order as the footnotes; otherwise tables are hard to follow

Answer: Thank you again for this comment. We have reordered the footnotes by alphabetical order.
Tables 1 & 2: The footnotes regarding assumptions for stool culture testing appear to be conflicting or unclear:

O Table 1: "‡ We assumed that the results of a stool culture took two days to become available…”       Table 2: "Days between doing test and receiving results from convalescent test (Culture) reported as 4 days”

o It appears that the assumption is made that PCR takes 1 day and culture 2 days but the text in Table 2 "Days between doing test and receiving results from convalescent test” seems to contradict what is reported elsewhere in the manuscript

Answer: We have changed the definition of Treatment A and Treatment B in Table 1. They now read.

Table 1 (excerpt):

A. Immediate, effective treatment Child visits healthcare provider and starts effective antimicrobial treatment without requiring any further diagnosis or test on the second day of illness

B. Effective treatment after diagnosis Child visits healthcare provider on the second day of illness, gets a stool culture with antimicrobial susceptibility testing, and starts effective treatment after results are available

Footnote e further reads “We assumed that the interval between starting treatment between patients receiving Treatment A and patients receiving Treatment B was two days. This includes the time necessary to do an additional test, receive the results, and have the doctor do a prescription for treatment after the first medical encounter.”

We have also slightly changed parameter assumptions in Table 2, for “Days between doing test and receiving results from convalescent test (Culture)”, in which only 1 day was added to PCR tests.
Comment: Appendix A

Table A1 and A2: wording of the third exclusion policy, "1 laboratory analysis of convalescent stool samples yields negative results for Shigella", is still unclear. Use "1 convalescent stool culture" instead of "laboratory analysis" for consistency and clarity

Answer: We have corrected Tables A1 and A2.

Comment: Appendix B

Results 1 worksheet: would suggest adding back in the parts of the table that show the "max # of additional cases per infectious child", as was included in the original manuscript submission. This information will be useful for public health professionals. Without this piece, the table title as it currently is in Revision 1, "Number of additional cases", does not make sense.

Answer: We have chosen not to include the maximum number of additional cases per infectious child, as the calculation was deemed too coarse after discussion. We have thus change the title mentioned.

Results 2 worksheet: add in legend what the numbers 1-3 signify

Answer: We have now added the legend.