Author's response to reviews

Title: Hand sanitisers for reducing illness absences in primary school children in New Zealand: a cluster randomised controlled trial study protocol

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Dear Editor,

We would like to thank you and the reviewer for your helpful comments on the protocol. Please find below our response to the comments and the changes we have made in the manuscript to incorporate the suggestions.

- **Point 1:** “Probably need more control group detail on the hand hygiene sessions, specifically if this will involve discussion on the background for hand washing. Will hand washing or hand rub and differences be explained? This will be important for reproducibility. Having the entire education module annexed would be great!”

In response to this suggestion we have included the content presented in the hand hygiene education sessions as additional files. We have also modified the text in the “Interventions” section of the manuscript to provide more detail about the education session: “The content was developed in collaboration with Public Health Nurses in Dunedin, who have in previous years had a rolling programme of hand hygiene education in schools. The session covers the reasons why and when hand hygiene is important and hand washing technique, including a demonstration of the importance of thorough washing using a ultra-violet light-sensitive cream, Glo Germ™. The same session will be used for the intervention group, with the addition of a discussion about the hand sanitiser. The purpose of this session is to ensure that the two groups are equivalent with respect to hand hygiene knowledge (or at least having had the opportunity to acquire hand hygiene knowledge) at the beginning of the study. The content of the hand hygiene education sessions is available in Additional files 1 – 3 (Hand hygiene education session: years 1 and 2; Hand hygiene education session: years 3 and 4; Hand hygiene education session: years 5 and 6).” [last paragraph page 11 – first paragraph page 12].

- **Point 2:** “I think it would be important to use the hand rub upon entering the classroom as this is the time that touching the nose or mouth will occur most commonly and pathogens acquired during the breaks will have colonized the hands of children.”

From a pilot study we found that using the hand sanitisers prior to children leaving the classroom, compared to using the hand sanitisers when returning to the classroom, was more acceptable since this allowed for the slightly unpleasant smell of the sanitiser to disperse before the children returned to the classrooms. This justification is included in the section “Intervention group” [page 12].

- **Point 3:** “Will the children be at liberty to use the sanitisers at any time they wish? There is more likelihood of success if sanitisers are used more frequently.”

Children were able to use the hand sanitiser any time that they wished. We have now reflected this in the protocol: “Children will be able to use the sanitiser at any time they wish, but teachers will be asked to ensure that the children use the hand sanitiser after coughing/sneezing/blowing their nose, and as they leave for morning break and for the lunch break.” [page 12].

- **Point 4:** “I think it is likely not necessary to determine length of illness since this will depend on individual factors rather than on the acquisision of infections.”

The outcomes “length of illness episode” and “length of absence episode” have been included as secondary effectiveness outcomes. These outcomes are of particular importance to the cost-effectiveness analysis.
Point 5: “Please describe the interventions (control and experimental) in sufficient detail to enable an interested reader to use them. This point was also picked up and commented on by the peer reviewer.”

We have provided the content of the hand hygiene education sessions as additional files and modified the text in the “Interventions” section of the manuscript to provide more detail about the education sessions. In addition, we now provide greater detail about the alcohol content of the hand sanitiser solution: “The hand sanitiser will be at least 60% alcohol.” [page 12].

Please also note that the lead author’s affiliation has been changed.

We look forward to hearing from you.

Yours sincerely,

Joanne McKenzie (on behalf of Patricia Priest, Rick Audas, Marion Poore, Cheryl Brunton, and Lesley Reeves)