Reviewer’s report

Title: Impact of duration of structured observations on measurement of handwashing behavior at critical times

Version: 2 Date: 29 April 2013

Reviewer: Eric Lau

Reviewer’s report:

Major Essential Revisions

1. As described in the Methods, the original planned start time for the first set of short observations was 9:00am to 12:00pm and having at least one hour before the second observation in the same day. However, in the results it was described that the latest starting time was 11:43am (hence the 90-min observation session should end at 1:13pm). However it was also described in the results that the latest start time for the second set was 1:03pm (possible overlap of the two short observation sessions). It is understandable that due to logistic difficulties the observation sessions may not be carried out as planned, but the inconsistency between the reported start/end time should be explained.

2. Methods, data analysis: in the first comparison, using linear regression to model a binary outcome variable is not satisfactory. A better choice is a logistic regression model.

3. Methods, data analysis: The authors improved the analysis by adjusting for the start time of observation. However it is unclear how the start time was included in the model. I would expect some of the target events to be observed tend to occur within a specific time of the day (e.g. most food preparation events should occur within 1-2 hours before the normal lunch hour). The adjustment for start time should also take this into account. It is also unclear how the adjusted expected and observed events were calculated (Table 2). Please clarify in the methods section.

4. Table 1: Many of the proportions changed when comparing to the previous version of manuscript. Has the definition of the proportion with at least one of those events changed or it refers to proportion adjusted for start time?

5. From the revised results, it is noticed that some short observation actually started as early as 8:18am. It is unclear that if early observation would increase the chance of observing a particular set of events in the early short observations.

6. By the design of the start and end time of the observations, both the short and long observations can only observe lunch but not breakfast or dinner. In that sense the comparison for food serving event should not be compared using average events over time (Table 2).

7. The short and long observations may not be directly comparable in terms of average event rate especially for food serving event, as the break in between the
two short observations was close to the lunch hour.

8. Due to the different patterns of the timing of the target events, I suggest the authors to provide a descriptive analysis on the event rates over time, which will be very informative for future planning of similar studies.

Minor Essential Revisions

1. Results, p.7, line 4 the p value < 0.05 only applies to events of eating but not defecation (Table 2).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests