Reviewer’s report

Title: Acceptability, sustainability, reach, dose and fidelity of implementation of an educational intervention to improve hand washing in primary schools: process evaluation within a randomised controlled trial

Version: 1 Date: 6 March 2013

Reviewer: Anna Bowen

Reviewer’s report:

Process evaluations of RCTs, particularly of trials of behavioral interventions, are extremely important if one wishes to effectively translate study findings to practice. Such evaluations are, unfortunately, rare, or at least rarely published. I am delighted to see this manuscript about implementation of a handwashing intervention in schools, since there is little evidence about best practices for such programs, yet tremendous potential reach.

Major compulsory revisions

Methods/Hands up for Max section: it would be helpful to describe the intervention in more detail here. The authors could move some of the description of the components of the program from Table 2 to this section, or at a minimum, refer readers to the table at this point. Additionally, it would help the reader to know how schools were instructed to use these various components; what format(s) the materials were in (for example, color-printouts vs. electronic only; how materials and instructions were delivered to schools/teachers; whether schools were given glitter and other materials, or were instructed to purchase it themselves); at what point(s) in the school year they are to be used, etc., so readers can better interpret the results and possibly replicate or adapt portions of the intervention for their own communities. This is discretionary, but it would also be helpful to briefly explain the derivation of the name of the program, since it is not entirely intuitive and at least this reader was distracted while imagining the roots of the name.

Table 2: The title and contents of this table were a bit confusing to me. While the title states that the information in the table was observed, the information in the “components” and “description” columns capture the actual components of the program. Since some of these components were not, apparently, used by the schools, it is confusing for the title to imply that they were observed there. The numerators and implementation times in the subsequent columns do seem to be observed data, but it is curious to me that observations about use of the posters and other components isn’t captured here. If investigators traveled to the schools to observe the interventions being delivered, could they include information about where the posters were hung and how long they remained in place, how the stickers were delivered to students, etc? A little of this is in the text, but it would be helpful to compile it in richer detail here.
Also, if investigators were able to observe delivery of some of the components to students, this must have been coordinated with the schools in advance. It would be useful to state as much in the methods section, and to clarify in the discussion that higher rates of delivery in the sub-study schools might have resulted from reactivity, and that delivery duration might also have been longer in these schools for the same reason.

Table 3: This table is also confusing to me. I could not always tell which group was the referent. Perhaps this could be clarified using footnotes in the table and text in the methods section. Additionally, it is not clear to me how the investigators chose their dividing points for school size and proportion of students receiving free lunch (I presume they used the median value, but it isn't clear).

Minor essential revisions

Methods, general comment: I am not very familiar with reporting of qualitative studies, but the methods seem a bit vague to me. Could the authors supply more details on the topics covered with the students, teachers, and staff, the intended duration of the interviews, the timing of the interviews in relation to delivery of the intervention, etc?

Methods / focus groups with pupils: How large were the student focus groups?

Methods / interviews with staff: This section states that staff interviews took place in 2010 and 2012. Earlier, the authors state that the intervention was delivered in 2009 to intervention schools and in 2010 to control schools. Why was there such a great lag in the staff interviews, and do the investigators feel the lag affected recall or otherwise impacted the results?

Discretionary revisions

Could authors include some information about cost of the intervention materials and delivery?

I would be interested in seeing more detail in the methods section (see some specific requests below).

It is unfortunate that investigators did not have information about why the program was not implemented in some schools. This would have been very useful to this particular group and to others planning possible scale-up of school handwashing programs. Perhaps authors could list this as a limitation and call upon others to collect such information in the future.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

During the past 5 years, I have received research funding and partial salary support from P&G via a cooperative research and development agreement between P&G and CDC.