Reviewer's report

Title: Design of the Prevention of Adult Caries Study (PACS): A randomized clinical trial assessing the effect of a chlorhexidine dental coating for the prevention of adult caries

Version: 1 Date: 25 June 2010

Reviewer: Helen V Worthington

Reviewer's report:

This is a well designed study conforming to CONSORT which fulfils the following specific issues:
• The study design will adequately test the hypothesis.
• Sufficient details are provided to allow replication of the work.
• The manuscript adheres to the relevant standards for reporting and data deposition.
• The protocol has been clearly written.

I have a few discretionary revisions listed below which may help to improve clarity:

• Background (page 5)- The description of the ref 21 (Banting 2000) is confusing as it reads as though the active treatment is the sham treatment. I think it needs rewording.
• Methods (page 8- paragraph starting Eligible patients)- I think you should state that there is allocation concealment at this point.
• You are the comparing a chlorhexidine coating with a placebo coating for the prevention of caries. I understand that the placebo coating is great in terms of blinding and the design of the study but may of course also have a preventive effect (even if this is simply cleaning the patients' teeth regularly). This means that the true effect of applying the chlorhexidine coating compared with no doing anything is probably underestimated. When considering the costs and cost-effectiveness of the program (page 15/16) you are obviously comparing the costs of undertaking the chlorhexidine coating with not doing anything, but you are using the effect estimate of caries increment of the intervention compared to the placebo. I just feel that you should be more explicit here about what costs you are estimating so the reader is not confused.

Level of interest: An article of outstanding merit and interest in its field

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.