**Reviewer's report**

**Title:** Imputation strategies for missing binary outcomes in cluster randomized controlled trials

**Version:** 1  **Date:** 13 November 2010

**Reviewer:** Martin Gulliford

**Reviewer's report:**

This paper discusses the use of a number of different strategies for addressing missing data in the context of cluster randomised trials. Several methods are discussed which are illustrated using simulations based on an empirical dataset from a cluster randomised trial. The paper provides relevant information for researchers with related research interests.

**Major compulsory revisions**

None

**Minor compulsory revisions**

In general, the paper is poorly worded and could be better written throughout.

The Abstract is excessively wordy but does not give any empirical results.

In the text, suggest avoiding using the term 'dealing with'.

The Aims could be more clearly stated.

Page 14 'kappa statistics is'

In the Methods, some justification should be given for presenting kappa statistics as a main measure of effect.

Page 18 'when missingNESS is covariate dependent'

The References are generally appropriate but RUBIN is frequently referred to as ROBIN

In Tables 3 and 4, the estimates generally appear rather similar at a given level of missingness and it is not immediately apparent whether the rather strong conclusions presented in the Abstract are supported.

The Table legends could be more informative.

There needs to be more discussion of whether the findings would hold in a different example. It is not clear why the present example was chosen as the results are indecisive whether or not missing value methods are employed.
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

'I declare that I have no competing interests'