Author's response to reviews

Title: Re-emerging syphilis: a detrended correspondence analysis of the behaviour of HIV positive and negative gay men

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Dear Editor

Thank you for your communication regarding our manuscript "Re-emerging syphilis: a detrended correspondence analysis of the behaviour of HIV positive and negative gay men". We read with interest the comments from both referees and have responded to these as listed below. We believe that the re-analysis (as suggested by one reviewer) has tightened the paper and removed many of the concerns expressed by the other reviewer.

Referee 1 (Mark Hill) - Discretionary revisions:

1. We have included two new tables to list all variables used;
2. We have annotated the ordination diagram to show how the variables fit into the ordination and have used both axis 1 and axis 2 as suggested;
3. and 4. As suggested, we have used a discriminant analysis as an objective method of choosing thresholds between the groups.

Referee 2 (Michael Rekart) - Discretionary revisions

1. We have improved the clarity of the aims and nature of the study within the methods.

Major compulsory revisions:

1. We have identified how the subjects were selected within the methods, but disagree with the reviewer regarding the refusal rate. We make the point that a 70% response rate for individuals infected with syphilis is not low, and that the sample size is not small when seen in the context of other outbreak investigations;

2. We include a short description of DCA in the methods;
3. We have included more details of the univariate analyses in Tables 2 and 3;

4. We have included a consideration of the usefulness of the technique in the context of outbreak investigations within the discussion - we believe this covers his concerns regarding the limitations of the sample size and model use, especially bearing in mind the re-analysis using discriminant analysis;

5. There are no data available from other cohorts or previous years for comparisons, and in any event the important consideration is the comparison of currently infected with currently uninfected individuals;

6. We include analysis of condom use during anal sex within the results (see Table 2). Condom use during oral sex was too infrequent to be analysed (see the methods).

As a result of this re-working (and the increased emphasis on the statistical methods) we wish to amend the order of authorship to more closely reflect the effort involved (all relevant parties have agreed to this). The authorship list should now read:

C. Philip Wheater, Penny A. Cook, Pete Clark, Qutub Syed & Mark A. Bellis

Please note that the correspondence author is still Dr Penny A. Cook.

We hope that we have addressed the reviewers’ comments satisfactorily, and would be grateful if you could consider this reworked manuscript for publication in BMC Public Health.

Yours sincerely

Penny A. Cook