Reviewer's report

Title: Exposure, reach and impact of a mass media campaign targeting sexual health amongst Scottish men who have sex with men: a pragmatic outcome evaluation

Version: 1 Date: 17 April 2013

Reviewer: Scott Geibel

Reviewer's report:

Major Compulsory Revisions:
Clarification of intervention components, recruitment method, and possible revision of statistical analysis (see detailed comments).

Minor Essential Revisions:
Reorganization of Background and Discussion.. overemphasis on overall mass media evaluation and less on the study itself (see detailed comments).

Discretionary Revisions:
Overall this was well-written, and have included a few discretionary recommendations in the detailed comments below.

I think this paper can fill a gap in the literature regarding intervention evaluations for MSM. At the same time, my feeling is that there is more elaboration, discussion, and apology than necessary on the part of the authors regarding the gold standard requirements for mass media evaluation and the lack thereof in this paper. I feel some revision is needed here, as well in a need for a better intervention description, and I have some questions about the methods and statistical analysis:

Abstract:
I would suggest taking out the sentence “A pragmatic and opportunistic approach to outcome evaluation was adopted” and use the word count to put more detailed statistics in the Results paragraph. Without odds ratios and p-values, the abstract seems a bit weak to me. Also, the abstract states that MSM “engaging in high risk sexual behavior” were targeted, but it seems to me the Methods section says you interviewed anybody present in the gay bars. Isn’t the “high-risk” an assumption that’s not true in all cases in your sample?

Background:
1st paragraph- by “health psychologists” are you referring to “behavioral scientists” and the applied use of behavior change communication theory?
I thought this section contained a very good summary of the evidence regarding mass communication effects. But it reads as though you are setting yourselves
up—I got the impression that you were preparing the reader that you were about to fill a gap by presenting a more rigorous evaluation design, but in fact I was disappointed to find otherwise when I got to the Methods. There are a lot of shortcomings in mass media evaluations for reasons you cite, but you don’t discuss why this is the case. For example, sometimes when campaigns are funded, there are pressures to begin implementation quickly—and baseline pre-intervention evaluations may get delayed in protocol development and approval processes. Often funding for evaluations is not sufficient, and a compromise for a weaker design has to be made. You might consider these issues in the Background right before the last paragraph. Normally, I would expect more discussion of the literature related to MSM and interventions, and not such a large exposition on mass media evaluation methodology.

Methods:

The campaign: If the research team was completely independent of the campaign, how do you know there was no attempt to ground the intervention in behavior change theory? I think that the intervention description could use a bit more info—how many settings were targeted? How many website hits? More importantly, what were the mass media components… just a website? Radio? TV? Posters? How many? Brief discussion of a “campaign” based on “principles” really are not enough to give the reader a clear picture of what the actual components of the campaign were.

Design and procedure: I’m not a big fan of your “pragmatic and opportunistic” terminology. I feel it weakens your case that the data has value. I also question whether true time-location methodology was used, as with TLS you would have created a sampling frame that contained times and numbers of eligible respondents, then systematically sampled from that sampling frame. Unless I’m wrong, your actual design description might read something like this: “We conducted a targeted cross-sectional survey of MSM at seven gay bars in Glasgow… any MSM present during the hours of… were asked to participate.”

Also, the methods section is not the appropriate place to explain why lack of funding undermined your design; that belongs in the discussion section.

Suggest moving the sentence “In total, 1313 men were approached and 822…” to the first sentence of the results section.

Statistical analysis:

I’m a bit confused with your statistical analysis and particularly the Table 3 structure. Looking at Table 3, I can’t really tell what the first row in each category means, and if the chi-square test only applies to that row. It looks like the first row always equals 100%, so is this just the denominator? The chi-square test is positioned on that row, so is it just testing the distribution of your denominator, or the distribution of the data below it? I suggest just putting the overall denominator at the top of the table, and then putting the data categories below so it is clearer. For data where it is a subsample, you could put find a way to clarify that denominator below.
If you used Pearson’s chi-square test of independence to test for significant differences in campaign exposure (no, low, medium, high) among each category in the Table 3, then this is not the appropriate non-parametric test to use. Hypothetically, you want to determine if the positive health-related outcomes increase according to increased levels of exposure to the campaign. The chi-square only tells you if there is variance in the distribution, but it’s not as sensitive to possible gradual trend changes. If you are using SPSS, then you should go by the Mantel-Haenszel Linear Association Test, or the “Linear-by-linear association” test which appears in SPSS chi-square results. If you did use this test, then it needs to be stated clearly.

In your description of logistic regression, it looks to me in Table for that you are always running a “binary” logistic regression for all the outcomes… is that correct? Please clarify.

Results

Some description of sample characteristics in the text is needed. Educated, mostly employed, and *very few engaging with multiple unprotected partners in past year.* Some of this is important to highlight. Definitely these men are not all “high-risk” as you say in the abstract!

Reading the results, I could glean a few more details of exactly what the intervention components were, but this needs elaboration in the Methods.

Discussion:

The first paragraph of the Discussion section was already discussed in the Background… not necessary to revisit background here.

There is discussion of observation of no linear relationship with exposure dose-response levels, but I’m not certain that your statistical analysis was appropriate (see notes above about table 3 and the chi-square test).

The sections of the Discussion on findings of similar MSM evaluations and need for RCTs are overly long, and in my opinion you are seriously undermining the value of this contribution to the literature by spending so much time saying how terribly deficient this study is. This study is what it is, and I recommend you reframe the Discussion sections to (a) highlight the significance of your findings, (b) what it means within the broader context, (c) succinctly explain the limitations of the study, and (d) conclude.

**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