Reviewer's report

Title: Singing classes for chronic obstructive pulmonary disease: a randomized control trial

Version: 2 Date: 17 September 2012

Reviewer: Stephen M Clift

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I continue to be concerned that the confounding inherent in the way in which this trial was set up may significantly compromise the conclusions reached. It appears that members of the the singing groups met for 16 upto sessions, whereas the members of the film group met on upto 8 occasions. Not only are the intervention and control conditions different with respect to the opportunities for socialising, it must surely also be the case that the participants in the singing groups had to travel to and from the groups twice as much - with all the physical effort involved in doing so. I am not persuaded that the two activities were comparable with respect to socialising - and therefore the intended control is suspect - but I feel that an additional bias was introduced by having twice the number of sessions for singing. The potential biases here should be more fully addressed and arguments marshalled as to why these issues do not compromise the conclusions reached. The last paragraph before the Conclusion addresses the issue of 'dose' of social interaction, but I don't really follow the point made in the second sentence.

I note that a change was made to the analysis of the results by undertaking covariate analysis, but I think that some discussion is warrented regarding the clear differences between the groups at baseline across a range of indicators which suggest that the singing group was less well. I am also puzzled by the fact that the trial is said to be powered at 90% to detected a difference of 10 points on the primarily outcome measure, but that at baseline the groups differ by no less than 14 points on this measure. I am not clear why a difference this large should be statistically insignificant and for that reason I recommend that the paper be reviewed by a statistician.

Some minor points that need attention:

References 14 and 15 are cited as showing that singing can be beneficial for people with chronic health issues - but neither paper is concerned with singing

Over what period did the singing groups run? I appreciate that there was a 'rolling programme', but given the numbers in total in the study I think it would help to know this, and also how many people on average attended singing groups. The experience for singers of being in a group of 15 is very different from being in a group of 3.

Similarly, it is important to have a clear idea of the numbers of people in the film
groups on average. You note in the revision that 18 films were shown, and given that there were 11 people in the film group arm of the trial, this suggests that some of the discussion groups would have been quite small.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.