Reviewer's report

Title: Chronic respiratory disease among the elderly in South Africa: Any association with mine dumps?

Version: 2  Date: 30 December 2014

Reviewer: Bert Brunekreef

Reviewer's report:

Authors have made some changes but seem to have largely misunderstood what I was asking for. So I will try to be more specific:

"Confounders need to be specified in advance; then, unadjusted and adjusted associations need to be presented." The MS lists potential confounders but still does not include all of them in all analyses as was asked for. Population group was clearly different between exposed and unexposed (table 2) but for some reason ignored in the analysis. Smoking was a strong determinant of several outcomes and was also clearly different between exposed and unexposed but not controlled for in the adjusted analysis. Unadjusted effect estimates are hidden in supplemental tables to which the authors never refer (see also below). So again: I suggest to reorganize the tables to show unadjusted and adjusted effect estimates side by side with a focus on effect estimates for the exposure of interest (living close to a dump) and not showing the effect estimates for all the covariables which now makes for cluttered tables. If shown at all, put these in the supplement.

"The analysis also needs to take into account that responses are likely to depend on the community to some extent. Some form of multilevel modeling is needed to obtain correct effect estimates, and unbiased confidence intervals" - there is multilevel analysis now but not by community as I suggested but by province and population group. So I suggest to do a multilevel analysis using community only as level. No need to show differences between analyses with and without level (if that is the difference between models 1 and 2, this is not clear).

MS is also lacking in properly identifying tables and models. E.g., table 3 in the MS is never explained in the text. Table headings refer to model 1 and model 2 but these are never explained in the text. Supplemental tables are never referred to in text. Table headings of supplemental tables 2 and 3 are identical but numbers are not so this needs to be explained. Supplemental tables 2 and 3 have footnote references as in MS tables 3 and 4 but no footnotes.

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:

no COI