Reviewer’s report

Title: Mortality and morbidity among people living close to incinerators: a cohort study based on dispersion modeling for exposure assessment

Version: 1 Date: 20 August 2010

Reviewer: Fabrizio Bianchi

Reviewer’s report:

Minor Revisions

1) Background, top: citation 4,5,6 could be enriched by other recent studies?

2) Background, half 1st page: More recent studies on incinerators.... (9-11) (12-13): not all are more recent, while some are of different design, particularly of case-control type.

3) Background, half 1st page: These contradictory... or different ...?

4) Background, half 1st page: ... require more in-depth studies (3): since also ref 1 and 2 outlined the same, while are not cited?

5) Background, half 1st page: ... clearly superior, in the sense that has a better performance?

6) ADMS simulation, second page: ... The same are not true for any other measured pollutant... which type of relation exists among these pollutants and the fallout?

7) Exposure indicators, bottom: ... of the composite index.: need for a more detailed explanation.

8) Results, top: ... overlap with predicted heavy metals concentrations. which type of correlation?

9) Results, top: why an a priori estimation of the study power is omitted?

10) Results, middle: ... However, higher overall mortality was observed in all three exposure categories for overall mortality... to be corrected in: ... However, higher mortality was observed in all three exposure categories for all causes ...

11) Results, middle: ... without a noteworthy trend. Why the results that in men COPD RRs were high, although not significant, in the three categories, is not outlined?

12) Results, bottom: the results including and excluding adjustment by SES, reported in discussion, would be presented.

13) Discussion, top: There was no association with non-cancer related mortality and morbidity. Where?

14) Discussion, 2nd page, middle: ... (25-27) in female exposed to dioxins. to be changed in ... (25-27) in female occupationally exposed to dioxins.

15) Discussion, 4th page, middle: .... This cluster is probably due to ..... Why the
possible role of occupation outside the area is not stated?
16) Table 1: lack of "MSW plant" indication in the title
17) Table 2: micorgrams and not milligrams in NO2 concentrations

Discretionary Revisions
1) Abstract, conclusions: ...especially in women, for some cancer types.
2) The study area, top: .. as the 3.5 km: "on the basis of the literature and the diffusion model" may be added, as declared in the results.
3) Exposure indicators, bottom: ..at least 20 people for the town...: also the maximum number of residents could be added.
4) Results, bottom: a RR=5 in class IV for liver and two high results for stomach and colon rectum in class III could be added.

Level of interest: An article of outstanding merit and interest in its field

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'