

Reviewer's report

Title: Lung cancers attributable to environmental tobacco smoke and air pollution in non-smokers in different European countries: a prospective study.

Version: 1 Date: 3 October 2006

Reviewer: Aaron Cohen

Reviewer's report:

General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1) The authors should present results for PM10 and (perhaps) SO2 as well as NO2. A major European risk assessment (Kunzli et al. The Lancet 2000) used PM10 to quantify the effects of traffic-related air pollution, and the most recent follow-up of the US ACS study reported an association of inhalable PM (PM15) with lung cancer. SO2 has been used as an indicator of long-term exposure to stationary combustion sources in two Scandinavian lung cancer studies, which found no association. This should be replicated.

2) Authors should justify assertion/assumption that NO2 is only a marker for mobile source air pollution. Power plants and waste incinerators emit NOx.

3) Authors should justify and buttress with evidence the statement (page 8) that potential confounders have been "thoroughly controlled." Given the small relative effects associated with air pollution, such a statement offered without any quantitative argument, seems careless. For example, have the authors been able to replicate any well-established lung cancer relative risks (e.g., occupation, medical hx., social class, radon) using their own data.

4) Authors should justify and buttress with evidence the statement (page 8) that "information bias can be ruled out due to the prospective design." Measurement error is an important form of information bias. Can it be ruled out?

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.