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: 11 October 2006

Reviewer: Jonathan Samet

Reviewer's report:

General
This manuscript gives estimates of the burden of lung cancer in non-smokers attributable to environmental tobacco smoke and air pollution among participants in the EPIC Study. The estimates are in the range of already reported values; the authors note the relevance of the findings to current policy discussions around control of air pollution.

-------------------------------------------------------------------------------

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

1. Generally, these estimates replicate well-established ranges in published reports and risk assessments. The analyses have the potential strength of using co-variate adjustments of risk, but their utility is reduced by the non-representative nature of the EPIC cohort.

2. The authors include both never-smokers and former smokers in the category of “non-smokers”. The ex-smokers are included if at least 10 years have passed since successful cessation. The risk of lung cancer has dropped at that point, in comparison with the risk for similar persons continuing to smoke. However, there is still substantial risk. Given the aggregation of smoking habits among spouses, as well as socioeconomic gradients of smoking, the estimated risk from exposure to secondhand smoke may be biased upward. The authors should provide analyses limited to stratified by smoking status, former or neversmokers.

3. The manuscript is brief and lacks much detail that would be relevant. For example, is there heterogeneity of the risk estimates across the EPIC sites?

4. The reported low prevalence of exposure to secondhand smoke in Germany is surprising in view of national statistics and is clearly an outlier from other European countries. The authors provide no particular explanation for this finding.

-------------------------------------------------------------------------------

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: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.