Reviewer's report

Title: Occupation, smoking and chronic obstructive respiratory disorders in an industrial area of Catalonia, Spain

Version: 1 **Date:** 7 November 2005

Reviewer: Mark D Eisner

Reviewer's report:

General
The authors report an interesting study that evaluates an important area: the impact of occupational exposures on the risk of COPD. This is an important area because it has not been studied extensively and has major public health importance.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. The Methods do not describe adequate the questions used to assess exposure to dusts, fumes, and gases. This should be expanded and should include the exact text of the questions because exposure assessment is such a critical issue. Have these questions been used before or were they developed for the study?
2. In terms of defining occupational exposure, the timing and duration of exposure is critical. COPD is a disease with a long latency period that takes many years to develop. Moreover, it presumably takes many years of exposure to develop.
2A. Table 2 shows the relation between CURRENT occupation and COPD. This could be problematic if the current job does not reflect lifetime exposure. Longest held job would be a better exposure estimate for a disease like COPD that takes many years to develop. This is especially true for the pulmonary function impairment.
2B. Table 4. Here a more appropriate metric is used, i.e., "lifetime occupational exposure." However, as discussed in point 1, it is not clear how this was assessed. More detail in the Methods is needed. Was this a never vs. ever exposed assessment? If this "lifetime" exposure metric includes both longest and current jobs, it might "dilute" the estimate of association between exposure and COPD risk, as current jobs of shorter duration would not be expected to confer much risk of COPD (whereas longer held jobs with longer exposure duration might). Proposed solutions would be: look at exposure to longest held job or look at 15+ years of exposure (see 2C)
2C. Pertaining to this point, Table 5 has the intriguing observation that 15+ years of exposure is associated with lower FEV1 etc when examined as continous variables. One option to address point 2B would be to add the analysis of 15+years of exposure to Table 4, especially when evaluating the spirometric definition of COPD.
3. The evidence is stronger for respiratory symptoms than the spirometric definition of COPD. This requires more discussion of why this is. Is it due to bias in the self-report items? Or is there something biological going on?

4. Table 2 excludes persons who are unemployed or retired from analysis. This could underestimate the association between work exposure and COPD if exposed subjects leave the workplace due to their COPD.
4A. Were all subjects included in Table 4, regardless of work history?
4B. Persons without history of labor force participation should be excluded as they have no exposure opportunity.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
The choice of spirometric definition differs from the GOLD and should be justified. I actually think the authors chose a better definition than the GOLD which requires FEV1/FVC < 0.7 because of false positives among older persons (i.e., the ratio drops with normal ageing). But there needs to be some description in the Methods about why this was chosen.

Definition of chronic bronchitis is provided in the Tables only - it should be included in the Methods.

Discretionary Revisions (which the author can choose to ignore)
Table 3 could be deleted - it did not add much for me.

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

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

Quality of written English: Acceptable

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

Declaration of competing interests:

'I declare that I have no competing interests'