Reviewer's report

Title: Municipal mortality due to thyroid cancer in Spain

Version: 1 Date: 30 September 2006

Reviewer: Milena Maria Maule

Reviewer's report:

General

The authors use a Bayesian hierarchical model to study the spatial variation of mortality risk for thyroid cancer in Spain. Data are analysed at a small-area (municipality) level. The method used is appropriate for descriptive purposes and provides interesting results.

The spatial pattern of mortality for thyroid cancer, given the high survival rates, is not a good indicator of the spatial distribution of the occurrence of thyroid cancer. The authors address this point in the Discussion, where they suggest that mortality could represent incidence of the most aggressive type. Results would perhaps be easier to interpret if the analyses were restricted to the most aggressive cancer type only. This would lower the possibility that geographical differences in the risk of death (especially the high risk in mountainous remote areas) reflect geographical differences in the accessibility to health care. However, the selection of a particular histological type may not be possible if the data are extracted from the national death records.

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

None

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

1) Introduction, p.3, lines 6-10. To me the sentence “As a consequence of this increased incidence and stable mortality, prevalence attributable to cases diagnosed in the preceding 5 years has increased to a figure of 6632” is not clear. In the previous sentence it was stated that mortality among men showed a statistically significant mean annual increase of 1.21%, and among women a statistically significant decrease of 0.39%. Has mortality resulted stable in the previous decade for both men and women together, or do you mean that it has become similar for the two sexes?

2) Results, p.6, lines 4-5. In Table 1, 38 towns are listed rather than 39, and 11 provinces rather than 12. It is stated that 75% of towns are in 2 Autonomous Regions, Galicia and Asturias, but in Table 1 19 municipalities correspond to Galicia (50%) and none to Asturias. Maybe I am just missing out something of the administrative borders of the Spanish regions, but could you please clarify?

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential 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

Declaration of competing interests:

I declare that I have no competing interests.