Reviewer’s report

Title: For patients with breast cancer, geographic and social disparities are independent determinants of access to specialized surgeons. A 1998-2008 population-based multilevel analysis.

Version: 1 Date: 16 April 2012

Reviewer: Ruth Cunningham

Reviewer’s report:

Major Compulsory Revisions

Methods:
1. Please provide some justification for the use of so many area based socioeconomic measures, and consider reducing the number used. As there are no individual measures available, I would have thought that the composite Townsend Index would have been a sufficient proxy for socioeconomic status for the purposes of this analysis. Moreover, by including so many likely correlated variables in the model, the chances of finding an independent relationship between any one of them and the outcome is greatly reduced.

Results:
2. I was very surprised to see that 46.9% of all the cases included in this study fell into the most deprived quartile, and am concerned about what this means for the validity of the Townsend Index in this context. What is the deprivation profile for breast cancer cases in all of France? – is it similar to the Cote D’Or, or more like the distribution in most of the world where breast cancer is more a disease of the less deprived? Please provide more detail on the Cote D’Or region’s socioeconomic make up, if this is the likely explanation for the Townsend distribution, or otherwise comment on this surprising finding.

Minor Essential Revisions

Abstract:
3. Please specify the reference groups for the presentation of results by distance to centre and rurality.

Background:
4. Please change “surveys” in the first sentence to “studies” as survey refers to a particular study type.

Methods: Data collection and studied variables
5. Please specify the year used for place of residence variables (presumably the year of diagnosis).

Discretionary Revisions
6. Year of diagnosis will also be a prognostic factor for survival and could be adjusted for in the analysis.
7. Another way of looking at this data which might have more policy relevance would be to examine the proportion of survival differences by geographic and socioeconomic measures which is explained by differences in access to a specialist surgeon. As the authors state, we do not know why those from more deprived areas are less likely to access specialist surgeons, and the discovery that those living closer to specialist services are more likely to be seen by them is unsurprising. But if we knew that the relationship between bc survival and rurality or deprivation was mostly (or hardly at all) determined by access to a high volume breast cancer surgeon then we could use this information to try to reduce socioeconomic or geographic disparities (by focusing on improving access to specialist services or by looking elsewhere). I would like to see the authors use their data to perform this additional analysis.

8. Further discussion of other studies which have examined the relationship between socioeconomic status and surgeon type would be useful. The two studies mentioned were from France and examined colorectal cancer. While few studies have this as their primary question, other studies have examined the socioeconomic profile of those treated by specialist vs non-specialist surgeon (for example: Kingsmore D. Specialisation and breast cancer survival in the screening era. Br J Cancer 2003; 88: 1708–1712).

**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.

**Declaration of competing interests:**

I declare that I have no competing interests