Author's response to reviews

Title: Geo-mapping of time trends in childhood caries risk - a method for assessment of preventive care

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Author's response to reviews: see over
Miss Emilie Aimé  
The BioMed Central Editorial team

Dear Miss Emilie Aimé,

Attached, please find a revised version of our manuscript "Geo-mapping of time trends in childhood caries risk - a method for assessment of preventive care" (MS: 1964435654614942).

We are delighted for the good remarks and all helpful comments and suggestions made by the reviewers. The revised manuscript is amended accordingly. Below, a point-by-point description of the changes made is presented.

**Reviewer #1**  
**Discretionary revisions**

2.1.1 In the Introduction, we have emphasized the arguments for developing the geo-map concept along time trends and its implications. We argue that there is need for a developed method that compares repeated geo-maps, in order to evaluate the effect of preventive measures on childhood caries.

2.2.1 In the Methods section, we have clarified that the rationale for classifying a positional change as “evident” is based on the change over time in the *statistical evidence* for an elevated (or lowered) relative risk.

2.2.2 In the Result section, we have clarified that, although the proportion of immigrants increased over the time period, the rank positions of the parishes at issue were similar in 2006 and 2010, respectively. As we pointed out in the Discussion, further statistical adjustments of the relative risks can provide insights to what extent a clearly altered contextual (socioeconomic characteristic) position had an impact. However, we did not observe any considerable positional rank changes over time in the socioeconomic indicators.

**Reviewer #2**

1. In the Introduction, we have more clearly specified our question posed (see point 2.1.1 from Reviewer #1). Moreover, we have copied a general statement from the Abstract, “There is a need for new approaches to population-based monitoring of caries risk over time”, into the Introduction.

2. - We have included the percentage asked for (i.e., 93 %) in the first sentence of the Method section.
   - In the Methods section, we have added a sentence about the age distribution of the two study populations. The age-distributions of the children examined in 2006 and 2010, respectively, did only differ marginally (proportions of children aged ≥5 years: 49.3% in 2006 and 50.3% in 2010).
   - We have specified “post-secondary education” as “any schooling beyond the high-school level”.

3. Thank you (no changes needed).
4. Thank you (no changes needed).

5. In the Discussion, we have withdrawn the statement concerning caries burden: “… in fact, it may be questioned whether or not it is possible to reach even lower.”

6. Thank you (no changes needed).

7. Thank you (no changes needed).

8. Thank you (no changes needed).

9. Throughout, we have clarified our terminology “caries-free” by inserting the definition (dmfs=0).
   - In table 1, we have placed the numbers “7 → 35” more to the right.
   - In the Methods section, we have clarified the description of “parish-specific changes”. We now write: “*Evidential, positional* changes in the caries risk estimated for the children living in a specific parish in 2006 and 2010, respectively, were assessed by …”.

**Reviewer #3.**

Indeed, possible participation bias is an issue of concern (which we addressed in the second paragraph of the Discussion). However, we have only limited data reflecting the coverage rates on the parish-level. Based on the data available, we have no indications that the coverage rates were systematically lower in the residential parishes with relatively unfavorable socioeconomic conditions -- within the Halland region of Sweden. As the reviewer points out, participation bias might be of serious concern in developing countries.

We thank the reviewer for suggesting the recent publication, which we have included as a reference (reference no. 22).

Halmstad, February 29, 2012

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