Reviewer's report

**Title:** Are there differences in mean birth weight between neighbourhoods in a Nordic welfare state: a 10 year cohort study

**Version:** 1  **Date:** 27 January 2007

**Reviewer:** James Macinko

**Reviewer's report:**

General
This is an interesting study that seeks to test the effects of neighborhood level of deprivation on low birth weight in Sweden. However, as the study is currently designed it is unclear what, exactly, is the motivation for the research question. The authors could clarify this by making more of an effort to justify why they think there ought to be some kind of contextual effect of ethnic minority concentration on low birth weight births.

The study would greatly benefit from a more comprehensive framework to explain why neighborhood compositional measures should make a difference in LBW and then, because it seems this is the point the authors are trying to make, how the Swedish welfare state mediates/moderates any negative influence of these measures on individual outcomes.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
As it now stands, this study seems to show that 2 neighborhood-level contextual variables (poverty and minority concentration) do not add to individual risks of LBW in Sweden. Perhaps these are the wrong neighborhood level variables to be studying? Without a better theoretic framework of the pathways through which you expect neighborhoods to affect LBW, the study falters.

The assumption that “social policies in Sweden could explain the non-existent differences in mean birth weight…” was not tested in any way in the study. Just because there was no contextual effect of neighborhood level measures of income or ethnic isolation on LBW once individual level factors were controlled for certainly does NOT imply that social policies in Sweden are benefiting everyone equally. The fact that individual-level factors such as being a minority are associated with higher risk of LBW leads one to believe just the opposite: that some members of that society are somehow excluded from the benefits of living in that society.

Several other comments:

1. The authors do acknowledge that the ethnicity variable is not clearly defined. However, just acknowledging this does not mean it somehow removes any bias present in their study by employing a rather vague term to measure their main exposure of interest. It seems that there might be a big differences between non-Swedish recent immigrants and those who have lived in Sweden most of their lives or who might be half-Swedish, for example. If immigrant status is a proxy for lower income, then why not just stick with the NH-level measures of income? What is it about ethnicity that you want to get at in your study? There is already evidence that ethnic minorities in Sweden may have poorer access to health care, including prenatal care, due to language or other cultural factors (Lakartidningen 2002) and that ethnic minorities are less likely to have access to a regular doctor (Axen & Lindström, 2002). How can you incorporate these observations into your design?

2. Further, the neighborhood level measures are inadequate to describe why some people in some places may have a higher rate of LBW than others. What about measures such as number of prenatal care providers per capita or other measures of health resources? If you have people clustered in neighborhoods, why can’t you link a better number of neighborhood-level variables to your database and test your theories more systematically?

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 manuscript would benefit from some editing. For example, the word "resourceful" in English cannot be used as it is in the text. Perhaps use categories such as neighborhoods with "high," "middle," & "low" levels of resources. The work "integrated" is also confusing - does it mean "medium level resources" or mixed Swedish and ethnic minorities?

Finally, are most of the "ethnic" groups Swedish citizens? If so, it gets very confusing to the reader. Foreign-born is much more specific and more easily understood. But since your measures include "visible minorities" does that include second generation mixed race/ethnicity people? This needs to be clarified. Are you hinting at unequal treatment (racism) based on skin color or language? Once again, it would help if you would be more explicit with what you are measuring and the mechanisms you are proposing.

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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:** Needs some language corrections before being published

**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.