Reviewer's report

Title: "Sleep Disparity" in the Population: Poor Sleep Quality is Strongly Associated with Poverty and Ethnicity

Version: 1 Date: 3 May 2010

Reviewer: Sara Arber

Reviewer's report:

- Major compulsory revisions.

1. The paper mentions the use of sample weights. However, there needs to be an explanation of the nature and extent of these weights. Many statisticians would recommend that analysts do not use weights when conducting multivariate analyses such as those in this paper, since weights may distort the statistical significance of variables in logistic regression models. If the weighting variables are already included as variables in the logistic regression analyses, it would be preferable for the authors to undertake the analyses without the use of weights.

- Minor essential revisions

2. The paper should refer to a recent UK study of sleep problems based on a representative large-scale survey which analysed socio-economic characteristics and sleep problems after adjusting for health and other potential mediators:

3. The response rate of 28% is very low. There needs to be a fuller discussion of the likelihood of any potential biases related to the low response rate.

4. The authors include ‘disabled’ in the category with ‘unemployed’. It would be more appropriate to recategorise the ‘disabled’ either as a separate category or grouped with ‘other’.

5. The authors construct an interaction variable of race and poverty level which is usefully included in the multivariate models in Table 3. It would also be valuable to include this interaction variable in the distributions of variables displayed in Table 1.

6. In the adjusted models in Table 3, it was unclear why the authors included marital status in Model 3. The positioning of the marital status variable in these hierarchical models needs some discussion and justification. NB. It is usual to include marital status as a socio-demographic variable, and therefore enter
marital status into models before socio-economic variables. Some justification for including marital status at the same time as health variables would be helpful. At present, the changes in odds ratios that the paper discusses between models 2 and 3 are attributed to differences in health between the race/poverty subgroups, but they may also be partly due to marital status differences.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

'I declare that I have no competing interests'