Reviewer's report

Title: Deprived Children or Deprived Neighbourhoods? A public health approach to the investigation of links between deprivation and injury risk with specific reference to child road safety.

Version: 3 Date: 8 April 2004

Reviewer: Victor Kiri

Reviewer's report:

General

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

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

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Discretionary Revisions (which the author can choose to ignore)

Modelling is fine here if to generate hypothesis. However, take a step further with the results and you may stand the risk of spurious associations, particularly with such highly aggregated variables. Since we have only two factors to consider, ward-specific (and Devon overall) standardised rates can easily be obtained without a need for modelling. For instance, I can recommend the descriptive approach to estimating SMRs, adjusting for Deprivation and Urbanicity as two separate categorical variables. Its results together with the graphs and descriptive tables 1 and 2 may be just as revealing. Perhaps, enough to generate same hypothesis without the risk! This has been the preferred method of choice for aggregated data by the ONS for many years.

What next?: Accept without revision

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:

The article essentially generates hypothesis using statistical models. The need for a thorough review of the methodology is therefore necessary. I believe this is what I have tried to do. In my view, there are no issues with the appropriateness of the models used. My main concern with the approach is the strong likelihood of spurious associations in modelling at ward/postcode level, particularly with covariates which may not be specific enough. The resultant estimates suggest magnitudes of associations which at such aggregated levels may not be so accurate. Yet there are only two factors to consider and so why model at all? The author might be aware that descriptive epidemiology
extends to estimating SMRs without modelling. For example, in the case of the public health data of
the department of health, the descriptive approach to estimating SMRs (adjusted for age, sex and
even acuteness of condition) has been the method of choice by both the ONS and the National
Centre for Health Outcomes Development (NCHOD) at the London School of Hygiene and Tropical
Medicine. I am convinced that the author can obtain SMRs (or their equivalent) by a similar
approach, when standardised by Deprivation and Urbanicity (as two categorical variables).
Never the less, I have recommened acceptance of the article mainly on the correctness of the
statistical methodology without much regard to the reasons given in my original report to the first
draft.