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: 1 Date: 23 December 2003

Reviewer: Olivier Duperrex

Reviewer's report:

General
The author attempts to clarify the importance of deprivation at family level and at neighbourhood level as potential risk factors in child pedestrian injuries. He uses existing data on collision involving child pedestrian reported by the police and data on deprivation in a British County. Statistical models are tested to fit the data. The correlation between Child Pedestrian Involvement Rate and Child Deprivation Score by Home postcode (family level) is better predicted by a Poisson model, but with residual unexplained variation. The correlation between Child Pedestrian Involvement Rate and Child Deprivation Score by accident location postcode (neighbourhood level) is better predicted by a generalised linear mixed model with a normal mixing distribution. These results need to be validated, because they have potential impact on where to put the emphasis for preventing injuries in child pedestrian.

Discretionary Revisions (which the author can choose to ignore)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
systematic reviews on effectiveness of environment modification such as traffic calming exist and should be mentioned
Table 1: clarify the period (annual or for 1996-2002?)
p3 - last sentence of 1sr Data paragraph: 'Of most relevance ...' does not make sense
Figure 1: suggest 'accident location postcode' and 'home postcode' as titles
References: please delete personal comments

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

please clarify:
- ward: definition + average size of population (adults and children)
- centroid of postcode
- 'accident', 'collision' and 'casualty' seem to be used as synonyms in this paper - usually they refer to different 'steps' in the injury process - have all the children involved in an 'accident' been injured? - please use one term and define it

please provide:
- total number of wards
- total number of casualties
- exact number of missing data by ward and total - this could influence the interpretation of results

please give more information about:
- urbanicity: where is the information coming from? is it binary?
- Index of Child Deprivation: please clarify which components were used by DETR to create it

the conclusion should be more cautious about the use of these results; the data might too incomplete to be representative of the reality

**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:** Yes

**Declaration of competing interests:**

None