Reviewer's report

Title: The area-based social patterning of injuries among 10 to 19 year olds
Changes over time in the Stockholm County

Version: 1 Date: 30 October 2007

Reviewer: Ronan Lyons

Reviewer's report:

General
I found this an interesting but difficult paper to read. It addresses an important public health topic - whether the social patterning of unintentional injuries in the second decade of life is stable over time. However, the paper suffers from attempting to answer too many different questions and is somewhat difficult to follow. I think the underlying message is important and the paper would benefit from restructuring to aid readers.

------------------------------------------------------------------------------------------------------------------------

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

1. I think it would help if the authors decided that the primary question was the stability of rates or gradients over time or the relative importance of economic deprivation or social fragmentation. In the abstract the primary conclusion does not relate to the aim but appears in the second sentence as a negative finding - "the association between those indices is consistent neither over injury cause nor time". This is a very unusual finding - a reduction in previously accepted inequalities in injury and so of great interest but it needs to be clarified.

2. I also struggled a little with understanding some of the statistical analyses. I suspect the analyses have been carried out but the description of the tables may be incomplete. On page 11 the final paragraph mentions simple correlations but I think partial correlations may be what are presented. Again the text at the top of table 12 referring to table 5 mentions that "during the second period.... once correction had been made for that of economic deprivation, nearly all causes correlated with economic deprivation". I suspect that the first mention of economic is an error and should refer to social deprivation? I wondered whether the poisson or negative binomial regressions could not be used to relate injury incidence to deprivation and social fragmentation categories simultaneously?

3. The results in tables 3 and 4 are fascinating. There are some very unusual findings with much lower rates amongst the least deprived 5th but really no substantial gradient with deprivation in the other 4 fifths (e.g. violence related injuries in table 3) - a very different pattern to that seen in the UK where the biggest difference is usually between the most deprived fifth and the remainder. The numbers of particular categories of injury are quite small with some unstable rates - it may be better to combine both sexes for some categories.
4. There are substantial differences in the deprivation/fragmentation classification of parishes between the two time periods with some areas moving by two categories on a five point scale. There appears to be greater social/economic mobility in Sweden than I have seen previously but this is not discussed in any great detail. I wonder what an analysis based on the earlier 1994 deprivation fifths looks like with 2004 data?

Overall, I find there is too many simultaneous changes in the analyses (areas being recategorised, partial or ? no adjustment for deprivation and social fragmentation) to understand whether the initial aim has been met.

--------------------------------------------------------------------

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

1. It would be helpful to have a list of the descriptors of external causes of injury in the paper. e.g. the group V01-19 mixes both pedestrian injuries and pedal cycle injuries within what I think is an overall term for vulnerable road users. I do not know the situation in Sweden but in the UK pedestrian activity and injuries are more common in deprived communities (lack of cars) but I suspect cycling may not be so strongly linked with deprivation (cost of bicycles). Perhaps these should be split during analysis?

2. I struggled a little with the use of the term compositional when used to define area based characteristics. My previous understanding is that this term is used for individual characteristics (age, sex, educational level, social class, etc) and characteristics of neighbourhoods such as area based deprivation or social fragmentation scores would be considered as "contextual factors".

--------------------------------------------------------------------

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

Declaration of competing interests:

I declare that I have no competing interests.
Professor Ronan Lyons