Reviewer’s report

Title: Geographic correlation between deprivation and risk of meningococcal disease: an ecological study

Version: 1 Date: 19 April 2004

Reviewer: Marilyn Ruiz

Reviewer’s report:

General
The authors make a case for the existence of higher age-specific incidence of bacterial meningitis among the population under five years of age in more deprived wards. The use of the Townsend score as an index of deprivation seems appropriate. The statistical analysis appears to be performed with care. The mapping of the data was a relatively trivial addition, but adds somewhat to the paper.

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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)

1. I would like to be more convinced that this study added significantly to knowledge about bacterial meningoccal illness. I did not include this under the "Major" category because I do not have an authoritative background in the current state of knowledge in this area. The authors have made a strong and convincing case for the existence of the high incidence among the under-fives in the most deprived areas. But prior studies cited by the authors come to the same conclusion [14-16]. The addition of the larger sample size and use of maps did not seem to contribute significantly to the conclusion, and the maps used were not needed for this conclusion. I would be willing to revise my concerns based on the opinion of other reviewers with more direct experience with this particular disease. It would need to be more than just the maps, however, to make the case.

2. page 4, geographical information systems (should be system).

3. p 5, Why could clusters not be excluded from the analysis? Not clear.

4. p 6, Microsoft Access (needs UC "A"); also citation of Fone et al. 2002 needs to changed.

5. p 7 two "." after ...population)

6. p. 7 last paragraph is trivial and could be omitted.

7. p 13, the age-specific incidence would not higher in places with more under-fives. The overall incidence may be affected, but there would not be a "higher incidence rate in this group".

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Discretionary Revisions (which the author can choose to ignore)

1. The context and importancs of the comments related to serogroups were not clear to me.

2. p 8&14, There could be a bias in the data since the authority that did not supply postcodes was relatively affluent. It would be helpful to see a map of the Health Authority outlines. This could be added to Figure 3.

What next?: Accept after minor essential revisions

Level of interest: An article of limited interest
Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests: None