Reviewer's report

Title: Invasive meningococcal disease epidemiology and control measures: a framework for evaluation

Version: 1 Date: 30 October 2006

Reviewer: Sally Blower

Reviewer's report:

General
This is an interesting paper. I have several major compulsory questions that need to be addressed

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

1) The authors have developed an extremely complex model – could they achieve similar results (as those they present in the paper) with a much simpler stochastic model? Therefore can they justify the complexity of the model that they have developed?
2) The authors mention, in passing, previous modeling work, but these previous studies are not discussed. The authors should explain (briefly) the structure of the previous models, and the results that were found from analyzing these models. Thus it can be ascertained as to whether the question posed by the authors is new and as to whether their results differ from, or are similar to, results from previous studies.
3) Whenever the authors mention % they should also report the results in absolute numbers.
4) A major concern is that the authors present an extremely detailed model, but present only a few results. I would suggest that substantially more results are presented in the manuscript.
5) Although the authors do not present a cost-effectiveness analysis they should comment on whether it is likely that such a vaccination approach is likely to be cost-effective. For example, they could present an analysis of cases averted per vaccinated case.
6) Given the complexity of the model a more detailed sensitivity analysis should be presented.
7) I am unclear as to what the authors mean by “a linear relation is assumed between direct vaccine protection in the community and the extent of herd immunity” – the authors should clarify this point and discuss the potential consequences of relaxing this assumption.

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

Discretionary Revisions (which the author can choose to ignore)