Reviewer's report

Title: Invasive Haemophilus influenzae infections in Germany: impact of non-type b serotypes in the post-vaccine era

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Reviewer: Jodie McVernon

Reviewer's report:

This paper presents new and important population-level surveillance data on the epidemiology of Haemophilus influenzae infections in Germany following introduction of Hib conjugate vaccines. The data are clearly presented and their limitations described. Analyses are appropriate. The work is well discussed and generally well referenced (see comments on carriage data, below).

Minor essential revisions

· When comparing the features of Hib infections in the post-vaccine era with other Hi disease, I believe it is important to make note of the vaccination status of the type b cases. The median age of onset of 11 months is relatively young, suggesting to me that these are cases occurring following incomplete vaccination. Historical studies comparing conjugate vaccine failures with polysaccharide vaccine failures or unvaccinated cases have found a higher incidence of underlying conditions, mainly immunologic abnormalities, in the first group.

· The use of the word ‘anamnestic’ is perhaps inappropriate in this context – my best understanding of the authors’ true meaning is that they are referring to possible predisposing conditions? This would be a clearer wording in English, if indeed the true meaning

Discretionary revisions

· Figure 1 – it would be interesting to represent nc Hi separately from non b capsulated strains here, if possible without compromising readability. Perhaps a single column, shaded with 4 different colours/patterns, could be used for each reporting year to allow easier interpretation of trends?

· Similarly, it would be of interest to know whether the Poisson analysis was used to assess numbers of non-b capsulated strains reported over the years separately from the non capsulated strains (appears all non b included together). If there were reasons for doing so, based on statistical power, it would be helpful to mention these.

· The predominance of serotype f among the non-b capsulated strains is consistent with the relatively high carriage of this serotype in populations where it has been studied. Reference to carriage data (from Germany, if at all available) may be of interest.
**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 have no competing interests to declare