Reviewer's report

Title: Characterizing measles transmission in India: a dynamic modeling study using verbal autopsy data

Version: 1 Date: 11 Apr 2017

Reviewer: Matthew Ferrari

Reviewer's report:

In general, I am happy with the changes made by the authors and would be happy to see this manuscript recommended for publication pending clarification of the simulation experiment done to test the performance of the pooled coherence procedure to estimate R0 and a0. I've given a decision of "major revision" only because it's not immediately apparent how to judge the simulation experiment and I'd like to see a clarification of this before rendering a final decision. The authors state that they simulated a 300 year time series, broke it up into 100 3-year chunks, and used each to estimate R0 and a0. This sounds valid, though I am naturally skeptical of the tight confidence intervals on the resulting estimates. Were these simulations from a deterministic model or a stochastic model? If the latter, how was noise added to the model? Was the model fit to the situated true incidence, or the simulated mortality; e.g. a binomial sample from the simulated incidence at a rate equal the CFR? What do these resulting time series look like relative to observed time series? The authors need to clarify these questions so that the reader can assess whether this is a fair comparison of performance -- e.g. if these were output from a deterministic model, of just the incidence of cases, then I might expect the method to perform really well -- but that would be an unfair test as the time series would have too strong a signal relative to the various sources of noise that appear in the real data.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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