Reviewer’s report

Title: Potential for international spread of wild poliovirus via travellers

Version: 1 Date: 4 March 2015

Reviewer: Zindoga Mukandavire

Reviewer’s report:

The authors developed a mathematical model to estimate the international spread of polio infections which has been described as a public health concern by the WHO. This paper covers a very interesting topic. I have the following comments:

Major

1. The model description is not clear. There is need to include more detail on the model formulation and clarity on how different data sets were used in the model analysis and validation.
2. It is not clear as to how asymptomatic and symptomatic cases were factored in the model.
3. Explicitly show how vaccination and importation of cases were incorporated in the model.
4. Is there evidence to support that disease incidence is constant as assumed in equation (3)?

Minor

1. Equations in the Methods section should be moved to a Supplementary Methods (i.e. equations (1-4)).
2. Page 3, Paragraph 2, Rephrase to avoid repetition “In response to ongoing importations of poliovirus into polio-free countries, on 5 May 2014, the WHO’s Director-General declared the international spread of wild poliovirus a public health emergency of international concern (PHEIC).”
3. Table 1 should also include table parameter values and references.
4. Lines 4-7 of paragraph 1 in the Discussion section should be moved to the Methods section.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests