Reviewer’s report


Version: 0 Date: 23 Apr 2019

Reviewer: Donal Bisanzio

Reviewer's report:

The submitted article described the spatio-temporal distribution and demographic characteristics of Lyme disease cases in England and Wales from the 1998 to 2015. The results of the manuscript highlighted the geographical distribution of passive reported cases filling an important gap in the knowledge of epidemiology of Lyme disease in UK. Although the paper uses an imperfect data source, the authors apply rigorous methods to drive their conclusion. Thus, given the novelty of the reported insights and the robust analyses, I suggest the editor to consider the manuscript as publication on the BMC Public health journal. However, I would like to ask the authors to address this questions before having the article accepted:

Line 70-71: The authors has written that erythema migrants is a symptoms which is sufficient for case confirmation. However, I would suggest the author to report citation to this sentence. CDC guidelines do not consider the erythema migrants a way to define a case of Lyme diseases but a 'probable' case which need to be tested. Thus, I think that it is important for the authors to provide the reference of their sentence.

Given the time windows targeted by the study, the authors should report if the Lyme case definition has changed in UK since 1998. This could have affected case reporting.

Environmental characteristics are important drivers in the eco-epidemiology of Lyme disease. I suggest to the authors discuss the geographical distribution of cases taking in account the environmental characteristics of the areas where high incidence was calculated. Have those areas suitable forest for ticks?

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

Declaration of competing interests  
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

No competing interest

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons
CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal