Reviewer’s report

Title: Childhood MMR Vaccination and the Incidence Rate of Measles Infection: A Ten Year Longitudinal Cohort Study of American Children born in the 1990s

Version: 0 Date: 17 Dec 2018

Reviewer: Samuel Ghebrehewet

Reviewer's report:

From my perspective this is an important paper, with clear objectives and methods. The conclusions are relevant to practice, and provide additional evidence re the effectiveness of MMR vaccination programme. Below are my comments which will need to be considered by the authors.

General:

Terminologies (need to be reviewed throughout the document):

Abstract - line 19, "de-identified" would it be better to use the term - "anonymous" or "anonymised" or "non-identifiable"; line 34, "Incident diagnosed cases of measles...", this is not clear, what does this mean? also "..incident cases of measles..." is used throughout the document and needs to be clear, e.g., is it referring to "sporadic" cases; line 39, "MMR vaccine exposure..." I think it is better to reword this e.g., "MMR vaccine recipient(s)"

Methods - the sub-title "Exposures" again, "Recipients" may be a better word.

Other comments

Under outcomes - line 56, "...only 12 were diagnosed with measles post-MMR vaccine administration." Post-MMR vaccination is not defined, i.e., is it 2weeks, 3weeks, 4weeks or longer after vaccination? Later on the authors the authors seem to suggest 30 days as a cut-off point.

Under discussion - line 19-24 "It would seem, at least in the US, in more recent years with the end of endemic measles transmission that for most children administration of MMR vaccine > 15 months would be more appropriate than < 15 months." This statement does not take into account the administration of the 2nd dose. This study did not look at those who received 2 doses, therefore, in a country such as the US and most developed countries, where the general risk of
exposure to measles is low, low levels of measles antibodies after the first in those individual 
who will go on to receive 2nd dose will have little impact. The statement / recommendation 
would be more appropriate for countries where the risk of measles infection is high, i.e., there is 
low MMR uptake, especially for the 2nd dose. lines 36 - 46, it would be useful to comment or 
expand the discussion on differentiating "vaccine induced vs wild infection" through further 
microbiological tests in genomics.

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 recommend additional statistical review

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 
o rganisation 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.

I declare that I have no competing interests.

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.