Reviewer’s report

**Title:** Observational study of a new strategy and management policy for measles prevention in medical personnel in a hospital setting

**Version:** 2  **Date:** 13 Apr 2019

**Reviewer:** Vicky Sheppeard

**Reviewer's report:**

I am afraid I still have some concerns with this manuscript.

Background p4 lines 27-33: these lines infer that waning immunity from measles vaccination is a common phenomenon. That is not true and not supported by the references quoted. Nor is it supported by the data in this paper where the older vaccinated generation have higher seropositivity than the younger group. The most likely reason that people from vaccinated generations are not immune is that they were not vaccinated or had primary vaccine failure. Reference 10 is a media release, and reference 11 does not support the contention.

P5 line 7: WHO recommend immunity, not Immunisation for health care workers

P5 line 13: what is the relevance of measles in Europe to this paper? Suggest delete this sentence.

P5 line 59: is the Chang Gung cluster related to Tigerair? If not please start a new paragraph

P6 line 21: Omit the phrase "prior to the implementation of the new policy"

P7 line 7: omit the phrase "who were unvaccinated or rejected vaccination" as the aim was to find all seronegative personnel regardless of the reason.

P7 line 15: state that the measles vaccine was also free of charge

P7 line 30: "identification of contacts and antibody negative personnel" seems to be knowledge stage rather than decision stage in the model

P11 line 18: again, this seems to me knowledge stage

P11 lines 50-59: this paragraph would probably be ether as the second paragraph in results

P15 lines 36-45: measles vaccination continues to be recognised as very effective and no authoritative source recommends revaccination of young adults. The Dominguez paper describes an outbreak amongst infants not yet vaccinated. These lines should be deleted.

P15 lines 48 on: I suggest you apply a more nuanced interpretation of Chen's work. Did they use a sensitive assay? Just because measles antibodies are lower after vaccination it does not mean
the individual is susceptible. Measles vaccination is also thought to induce lifelong immunity. Further, while Liu's paper suggests that recent coverage of 2 dose measles in Taiwan is high, coverage prior to 2000 seems only average, and a second dose seems to have only been offered since 2000. As your health care workers were born prior to 2000 many may be unvaccinated or have received only one dose.

P16 line 51: herd immunity is not the correct concept for health care workers, and I don't see the relevance of mentioning the vaccine shortage here - the hospital was clearly able to purchase more than enough vaccines for its front line staff.

P17 line 18: insert "vaccine" after measles

P17 lines 42-53: is the time to check immunity and vaccinate when a measles case is detected? Surely it's better to have all front line staff protected against measles at all times, particularly as diagnosis of primary cases is often delayed.

P18 line 45: again, I question the use of herd immunity concept in the case of health care workers

Reference 13: this is very outdated. ACIP have a 2013 statement

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.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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I am able to assess the statistics
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Needs some language corrections before being published

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