Reviewer’s report

Title: The impact of repeated vaccination on influenza vaccine effectiveness: a systematic review and meta-analysis

Version: 0 Date: 30 Sep 2018

Reviewer: Marta Valenciano

Reviewer’s report:

Thanks to the authors for reviewing the paper and submit a new version. This is an important paper contributing to the current discussion of the role of previous influenza vaccination.

1. Abstract: From the figures presented in the Results section, it is not obvious that the conclusion is "our results support current season vaccination. But the results as such, do not support current vaccination for all types/subtypes.

2. Methods:

Age group, sub-population selection: In the discussion section, authors say: "Finally, because VE can vary by age group and influenza type/subtype, this study was strengthened by the detailed stratification of results by type/subtype, as well as by using VE estimates for the most specific patient groups (e.g., age-stratified groups rather than 'all ages')." Age group selection is not explained in the methods. In table 1, we can see the age groups included. Refer to it in the methods? Also it would be good in table 1, to explain for countries in which there is no universal vaccination programme, whether the estimates included in the meta-analysis were for the overall population or for the vaccine target population.

3. Results

Page 10, first paragraph: "The results for individual seasons were inconsistent with the overall result except for the 2014-2015 season (Supplementary Table 2)". This sentence is not clear. When looking at the supplementary table 2 comparing vaccinated in both seasons compared to current season, results are quite consistent.

4. Discussion

4.1. Authors may want to discuss heterogeneity between estimates (some I2 are around 30%) and sample size issues for some estimates.

4.2. Please, review the paragraph on age groups. "Finally, because VE can vary by age group and influenza type/subtype, this study was strengthened by the detailed stratification of results by
type/subtype, as well as by using VE estimates for the most specific patient groups (e.g., age-stratified groups rather than 'all ages'). It seems to me, that the estimates selected are overall and not by age group. This would be rather a limitation as ideally, we would like to see results stratified by age group or presence of chronic conditions.

4.3. Was there any difference in observations between primary care studies and hospital studies? Any difference between study designs (TND, cohort, case-control)

5. Conclusions:

The authors conclude from the patient’s perspective. One of the objectives was to also assess the policy perspective. The reader is expecting also a conclusion from the policy perspective.

References: when referring to the study 16 (Castilla et al.), it would be more correct to say "in Navarra region (Spain)". The TND in Navarra includes only patients from this region (Hospital and Primary care level). Then, in the Spanish TND, patients from Navarra are also included. It is therefore better to specify "Navarra region" to make it clearer to which study you are referring to.

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.

Not applicable

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

Yes

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