Reviewer's report

Title: Effectiveness of the trivalent influenza vaccine in Navarre, Spain, 2010-2011: a population-based test-negative case-control study

Version: 2 Date: 1 October 2012

Reviewer: Heath Kelly

Reviewer's report:

I thank the authors for their modifications to the manuscript in response to comments from 2 reviewers. My further comments are based on my own previous comments and those of reviewer 2.

1. For the sake of completeness, I suggest the authors report the VE against hospitalisation, even though the estimate is not conventionally statistically significant. The point estimate will be instructive, given that the estimates presented in the revised manuscript suggest the VE against hospitalisation for laboratory confirmed influenza will be lower than the VE against influenza treated in the community. This finding, initially counterintuitive, has been reported previously.

2. I am still struggling a little with the model. Will the authors please clarify? In one model the exposure is receipt of seasonal influenza and monovalent pandemic vaccine, but the model with only seasonal vaccine as the exposure includes monovalent vaccine receipt as covariate. Is this correct? Does any model in Table 2 include seasonal vaccine only? That is, are patients who have received pandemic vaccine excluded? As pointed out by reviewer 2, the treatment of previous vaccination in these models is complicated, given that previous vaccination is such a reliable predictor of current vaccination. These are not independent terms in the model. I note Table 3 has results for the vaccines separately. I think these are important results. It appears as if pandemic vaccine effectiveness by itself is waning. This has also been reported previously, as has the apparent increased protection from both vaccines – presumably a boosting effect. However I acknowledge there can be residual discussion about terms to be included in the model. Will the authors please make a theoretical case for the model they have adopted? Which covariates are likely to be genuine confounders?

3. I am confused by one of the results. VE> 50 years = 69%, VE<50 years = 73%. I would have expected an all age VE to be somewhere between these estimates but all estimates were <67%.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

no competing interests