Reviewer's report

Title: Difference in overall and age-specific prevalence of human papillomavirus infection in Italy: evidence from NTCC trial

Version: 2 Date: 9 August 2012

Reviewer: Hormuzd Katki

Reviewer's report:

The NTCC is one of the most important clinical trials for incorporating HPV testing into cervical screening programs. Analyses of data from this study will provide important evidence, not only for screening, but also on the natural history of HPV and cervical precancerous lesions. This paper presents one basic analysis of data from NTCC.

# Major Compulsory Revisions

1. Use 5-year age intervals (don’t switch to 10 at ages 40+) for table 1. This is important because perimenopause is between 45-55, and so using 40-49 and 50-60 will obscure the effect of perimenopause, which is a key hypotheses being tested. I recognize the models were fit to single-year data, but I find the raw evidence more compelling than the model fits because you have so much raw data.

2. Can you stratify the analysis by the concurrent cytology result? This is useful because HPV prevalence may differ by age for each cytology. In particular the HPV prevalence in ASCUS may drop in perimenopause due to hormonal changes in cells that create "look-alike" ASCUS unrelated to HPV infection. If so, that would be interesting to note.

3. I suggest plotting table 1, as this represents the evidence in the copious raw data. I did not find the model estimates of age-specific prevalence useful because you have so much raw data that you can just present that. Of course, you have to have the model fits to compare across cities, but I didn't find the graph enlightening.

4. The city-specific discussion is interesting. What other covariates do you have -- do you have sex behavior in particular [it seems like you do]? If you do, please adjust the prevalences for sex behavior to test your hypothesis that differences between cities are due to sex behavior differences.

# Minor Essential Revisions

# Discretionary Revisions

Level of interest: An article of limited interest
Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests