Reviewer’s report

Title: Estimating the clinical benefits of vaccinating boys and girls against HPV-related diseases in Europe

Version: 2 Date: 12 October 2012

Reviewer: Johannes A Bogaards

Reviewer’s report:

The authors have addressed most of my concerns in an appropriate manner. However, there are still some unresolved issues.

First, the authors offer no real explanation for the fact that their estimates of the incremental reduction in the incidence of HPV16/18 infection from gender-neutral versus girls-only vaccination is so much larger (40% in females; 65% in males) than the estimates provided by Brisson et al. that were mentioned in the Introduction. They only show that their model produces comparable output for genital warts. What about HPV16/18 infection? It would be worthwhile if the authors delved deeper into a structural model comparison in order to explain differences/similarities with other published models.

Another matter that struck me by surprise is the assumption that, in the penile cancer model, females can only be transiently infected, and that this would explain the relatively mild herd immunity among men with regard to penile cancer. How can this be? Are the females in the penile cancer model different from the ones that may develop vaginal, vulvar or cervical cancer? It seems to me that the use of several independent sub-models introduces artefacts, the magnitude of which remains unclear.

Finally, in the accompanying letter, the topic of investigation is specified as “the potential maximal clinical epidemiological benefits of HPV vaccination”. In response to my concern that the authors might seriously overestimate the benefits of HPV vaccination in men, it is states once again that “this study was developed in order to assess the potential maximum benefits of HPV vaccination”. Nonetheless, throughout the MS there is no explicit mention of a “potential maximum”; on the contrary, when discussing issues of vaccine compliance and efficacy, the authors claim to estimate “the incremental benefits of boys and girls under more realistic scenarios” than those suggested by me. This begs the question, what precisely do the authors aim to estimate: the potential maximum possible benefits, or the benefits under a realistic scenario? This is important, because the choice of parameters should not be clouded by preferences that favor one or the other strategy.

Level of interest: An article of importance in its field

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