Reviewer’s report

Title: Type-specific oncogenic human papillomavirus infection in high grade cervical disease in New Zealand

Version: 1 Date: 17 November 2012

Reviewer: Bruce Shiramizu

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Simonella et al report on type-specific HPV infection in high grade cervical disease in New Zealand. Some of the rationale for reporting on the demographics in New Zealand provided by the authors is the close geographic proximity to Australia and the lack of data on differences in ethnic composition and HPV characteristics between the two countries.

Major Compulsory Revisions

1) There are certain aspects of the design and analyses of the study that are unclear. The demographics and ethnic composition of the cohort is unclear as well as how this compares to the demographics of the whole country. The authors provide age and ethnicity for the study participants who were the ones who consented AND provided a cervical sample for HPV testing (over 19 month period). They also provided a comparison group of "Cervical screening population” over a 6 month period. However the comparison group appears to be some type of ratio rather than a raw number. Therefore there is a comparison being made from the study population and a ratio. How the ratio was calculated is provide in the Table footnote but It was unclear why this was done and the rationale. Additionally, is this an appropriate control? How does the small subset study population compare demographically to the entire Neand tional Cervical Screening Programme Register. Just as important, how does the small subset compare demographically to the whole country. Are there any biases that led to the selection of the study population including those who had specimens available as well as the consent process?

2) Regarding the recruitment process, based on the Appendix Figure A1 and the methodology, it is unclear if participation in the registry is mandatory for all women in New Zealand or if there is a separate consent process for the Register. This particular study being reported is separate from the Register however detailed information about the Register is not provided. There is a reference for the Register but given the importance of the Register to the current study, more details about the Register would have been appreciated.

3) In the consent for the Register, it appears that the Register recruitment officer has the authority and consent to contact the woman's general practitioner who the woman was referred to for a follow-up colposcopy. It is unclear what happens if the women decides to follow-up with another physician. The recruitment for this particular study appears to take place completely by mail and/or phone
correspondence. With the description of the recruitment and consent process provided, there does not appear to be an opportunity for the potential participant to ask questions or discuss in detail with the physician or health care provider.

4) Regarding eligibility, it is unclear what types of health conditions excluded women from participating. Also it is understandable that women who had a total hysterectomy were excluded however how could they have been part of the Register in the first place? This reviewer may have missed the data but the authors inquired whether the participants received HPV vaccination but there did not appear to be any data provided regarding that issue.

5) It appears that there was a potential of a wide range of delay (short and long) between when the follow-up colposcopy could have taken place. Therefore being able to have a cervical specimen for HPV testing could be widely varied. This was likely evident in the small percentage of overall participation of the original population (27%). Therefore the results and conclusions made could be highly biased. It is possible that more participants could have been eligible if cervical biopsies themselves could have been made available for HPV testing. Was this considered by the authors?

6) The ethnic differences between New Zealand and Australia do not seem to have been reported which appeared to be one of the premises for the study.

7) Statistical significances were not provided for some of the analyses, i.e. comparisons with other countries, comparisons with the control population, etc.

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.