Reviewer's report

Title: Uptake of Liquid-Based Cytology as an adjunct to conventional cytology for cervical screening in NSW: A cross-sectional and population-based cohort analysis

Version: 1 Date: 26 February 2013

Reviewer: Linda Sharp

Reviewer's report:

This is a clearly written paper describing a well-conducted study exploring prevalence and predictors of co-testing using LBC in women who have a routine cervical smear. While it may not have much generalisibility beyond the Australian context, the findings are likely to be of some interest to people who are interested in understanding predictors of screening uptake/participation.

I only have minor comments and suggestions and have organised these into essential and discretionary.

Essential

1. It would be good to have 95% confidence intervals around the figures for uptake of LBC given in the abstract.

2. In the introduction the authors note that the cost of an LBC test varies between labs. It would be helpful to the reader to have some idea of the “average” cost or range of cost, so to be able to put this into some kind of context.

3. The authors excluded the tests which were preceded in the previous 5 years with an unsatisfactory result. The authors didn’t provide any justification for this exclusion, but I assume it is because of relatively small numbers when the data is reported in quarters.

The main advantage of LBC in most settings is (as the authors know) that it helps cut down the percentage of tests reported as unsatisfactory. There is some data from the UK suggesting that, from a woman’s point of view, an unsatisfactory smear can be a cause of significant distress and anxiety. It might be expected, therefore, that having previously had an unsatisfactory result would be a predictor of subsequently choosing to have a LBC test: I think it would be interesting to look at this.

4. In the result section, it would be helpful to have some numbers to supplement the percentages (e.g. numbers of women per quarter to have a conventional cytology test). I think this would help clarify the context and interpret the very modest changes in % of women who have LBC over time.

5. Were there any interactions between the variables which predicted uptake of LBC? (e.g. were the predictors of uptake the same in younger and older women, or those of lower and higher socio-economic status?)
6. In table 1 it would be useful to have footnotes clarifying the source of the p values. I assume some are from a LRT with the variable fitted as continuous and others are from the “global” LRT.

Discretionary

7. In the methods, I note that the authors decided to use a 27 month cut-off for subsequent tests. I appreciate that they need to use some cut-off to allow for the fact that women don’t have smears at exactly two-yearly intervals. However, I did wonder whether there was an a priori reason for choosing 27 months (rather than, say 30 month), or whether using a different cut-off had much impact on the results.

8. As regards prevalence of LBC over time, the authors comment that uptake fell, but this seems to be based mainly on comparing the rate in the first and final quarters. Did the authors consider fitting a regression line to the data to test whether the decline was significant (e.g. using the JOINPOINT programme produced by SEER)?

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

**Quality of written English:** Acceptable

**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.