Reviewer's report

Title: Human Papillomavirus Testing by Novel FTA Card vs. Liquid-state Medium: Accuracy Comparison of Three Assays in a Population-based Cervical Cancer Screening Study

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Reviewer: Jesper Bonde

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Research article

Human Papillomavirus Testing by Novel FTA Card vs. Liquid-state Medium: Accuracy Comparison of Three Assays in a Population-based Cervical Cancer Screening Study

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General comments:

The manuscript is well written, and I fully understand the logistic clinical challenge of expanding cervical cancer screening coverage in less developed regions confronted by infrastructural issues. Yet, I need the authors to more clearly describe the advantages of FTA cards, whereas now the introduction mainly states the disadvantages of liquid based sampling. What are the determining advantages of FTA cards?

Methods:

What are the criteria’s for the number of included women? To show any differences in testing proficiency I miss a power calculation; what is the needed sample size to show equal performance in HPV detection between the sub groups?

Moreover, is there any stability data on the FTA cards, in terms of how this responds to storage conditions?

Please note whether the companies participated in developing testing protocols for the FTA protocol, or whether this was in house development.

Results:

Table 2: Are the HPV positive findings concordant? Do the methods and tests find the same women positive?

Figure 2 makes very little sense in this respect. I suspect that the sample size is insufficient to show potential differences in the methodology.

Overall: The concept of looking to alternative sampling strategies for primary
HPV screening is very interesting, however, this study would benefit by being re-written for what it is, a pilot study, rather than to attempt to show proficiency of this alternative sampling strategy. Moreover, the title indicates that it is a population based study, whereas in my opinion this is a small size, proof-of-concept, split sample study, and should be correctly addressed as such.

**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:**

Jesper Bonde has been a paid advisor to Roche and Genomica, received honoraria from Hologic, Roche, QIAGEN, Genomica, and BD Diagnostics for lectures, and is principal investigator on two studies financed by BD.