Reviewer's report

**Title:** Estimates of observed sensitivity and specificity can be biased when reporting the results of the second test in a screening trial conducted in series

**Version:** 1  **Date:** 3 September 2009

**Reviewer:** Luiz Zeferino

**Reviewer's report:**

The study question posed is well defined and it represents an important aspect that must take into account for the accuracy assessment of the cancer screening tests, mainly for “a test if negative series design” and for misclassification as non-cases due to incomplete disease status ascertainment.

The study’s assumptions for modeled the study design seemed clinically appropriated, nevertheless I do not have statistics expertise to make comments for the derived formulae; the methods seemed extensively described, but this is not a negative comment or a aspect that should be revised by the author; maybe some tables referred in the Methods could be suppressed.

The study contribution is related to the performance evaluation for the second test in a test if negative screening trial, indicating that there are two major biases in this analysis.

**Level of interest:** An article of importance in its field

**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.