Reviewer’s report

Title: Exploring the Uncertainties of Early Detection Results: Model-Based Interpretation of Mayo Lung Project

Version: 1 Date: 14 July 2010

Reviewer: Antonio Mutti

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The manuscript "Exploring the Uncertainties of Early Detection Results: Model-Based Interpretation of Mayo Lung Project" by Lu Shi et al. is a re-assessment of the Mayo Lung Project (MLP), a randomized controlled clinical trial of lung cancer screening among male smokers, exploring additional statistical models. The manuscript is interesting and acceptable for publication.

However, the manuscript is very difficult to read and the message difficult to grasp by the average reader. Moreover, the performed simulation did not take into account other possible models, Sensitivity & Risk difference, Systematic error & Risk difference and finally Sensitivity & Systematic error & Risk difference. Authors should give an explanation about it. Even if the conclusions of the study are convincing, the parameters indolent cancer and risk difference were always considered as single factors, even if indolent cancer parameter is probably less interesting than risk difference.

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