Reviewer’s report

**Title:** Impact of a Protein-based Assay that Predicts Prostate Cancer Aggressiveness on Urologists’ Recommendations for Active Treatment or Active Surveillance: A Randomized Clinical Utility Trial

**Version:** 0  **Date:** 07 Apr 2017

**Reviewer:** Jeffrey Tosoian

**Reviewer’s report:**

The authors perform a randomized two-arm study of board-certified urologists in which they measured the impact of incorporating a protein-based assay into the urologists recommendations for care in men harboring low to low-intermediate grade prostate cancers. Physicians completed a first round of Clinical Performance and Value (CPV®) vignettes. The intervention arm was then exposed to the protein-based assay via a 15-minute informational video, and both groups completed a second round of vignettes 6 to 8 weeks later. Physician management choices for each case were classified as either: 1) preferred treatment, 2) suboptimal treatment, 3) involving the patient without recommending AS or AT, or 4) no treatment recorded. On regression analysis, they found that urologists in the intervention arm were more likely to choose the preferred recommendation for the given cases and more likely to involve the patient in treatment decisions that controls.

The study is reasonably well performed and well-written. There are some areas that can be improved or clarified, which I have noted below.

**Major:**

1. It is necessary to provide at least a cursory description of how the "preferred treatment" is selected for each case. Given this clinical decision (AS vs. AT) is widely acknowledged as one that is not black and white, how did the authors choose a preferred (i.e. "correct") treatment in these cases?

2. Please clarify/elaborate on how management 3 (per above) - involving the patient without recommending AS or AT - is specifically exclusive from the other recommendations. For example, if a patient is involved in a treatment decision and the preferred treatment is selected, it is correct that this would be classified as approach 1 rather than 3? These options are mutually exclusive in this analysis, correct?

**Minor:**

1. There are several areas in which more pertinent sources should be cited, including:

   - The statement citing reference 5 should additionally/alternatively cite Cooperberg et al, PMID 26151271
-References 11-13 should include a more comprehensive review which better summarizes all of the points made in the statement, such as Tosoian et al, PMID 26954332

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

Re #4 - I personally have no financial incentives related to the manuscript content. Our institution has discussed potential research collaboration which would potentially involve the receipt of research funding. I believe I have completed the review critically and objectively (per below), but I wanted to point this out to the editors so that you can decide whether an additional review is required. Thanks.

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