Reviewer's report

Title: Differences between men with screening-detected versus clinically diagnosed prostate cancers

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Reviewer: Steven Oliver

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General Differences between men with screening-detected versus clinically diagnosed prostate cancers

This paper describes differences between men categorised as having clinically diagnosed or screen-detected prostate cancer within a subset of respondents within the Prostate Cancer Outcomes Study (PCOS).

This categorisation of cases was made retrospectively, based on an abstract from medical records and patient responses.

The main findings are that 90% of men in this sample were 'screen-detected' that screen detection was commoner in younger and fitter men and associated with a 6% absolute increase in the proportion having aggressive treatment.

The paper is clearly written, and tables of results are readily interpreted, the paper is appropriately referenced.

The authors acknowledge the difficulties posed by the retrospective classification of cases, and give a good and defensible explanation for their methodology.

The statistical analysis appears correct, with appropriate adjustment with inverse probability weights for the oversampling in the original PCOS sample.

Whilst information on the true extent of screening in the USA is sparse, the research findings may be of limited interest to a general readership, and may be more suited to publication in BMC Cancer or BMC Urology with a more specialist reader in mind.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. International policy and practice on prostate screening and management varies considerably. For publication in a journal of international scope both the title and the initial background section to the paper should identify that the research is based in the United States.

2. As the authors acknowledge, the estimates of the proportion of prostate cancer which was detected through screening in the mid 1990's in the USA will have been effected by selection bias within the original sample of 5,672. The authors indicate that this will probably have led to an over estimation of the the proportion screen-detected. Some socio-demographic information on non-respondents is available, is it possible to produce a more quantitative sensitivity analysis on this proportion using imputation/modelling? As estimating this proportion is the authors stated primary
objective this may be worth exploring, if the data allow.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. page 4 para 1, Please identify that incidence data are for the USA.
2. page 4 para 2, It is not appropriate to make general statements about participants in ongoing screening trials grouping North American and European trials together. The statement that most were 'non-Hispanic whites' means very different things in the different populations involved.
3. page 13 para 2 sentence 5, typographic error - "Classifying PSA as "a" screening test..."

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Discretionary Revisions (which the author can choose to ignore)

1. The findings of the paper relate to the mid 1990's, it would be helpful to set them in the context of current clinical practice and policy. Do the authors think these estimates are likely to continue to reflect US practice, are they consistent with current incidence, stage distribution? This probably merits a short comment in the discussion.

**Which journal?:** Not appropriate for BMC Medicine: an article whose findings are important to those with closely related interests and more suited to BMC Cancer

**What next?:** Offer publication in BMC Cancer after minor essential revisions

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

I declare that I have no competing interests.