Reviewer's report

Title: Literature review of the burden of prostate cancer in Germany, France, the United Kingdom and Canada

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Reviewer: John Yaxley

Reviewer's report:

This manuscript aims to characterise the clinical, economic and humanistic burden of disease associated with prostate from France, Germany, the UK and Canada.

As per the BMC Urology guidelines, I would separate the results from a discussion on the results. In this manuscript the results and discussion are together in the results section. Also, try to avoid discussing incidence outcomes in the same paragraph as discussion on mortality outcomes.

Abstract: acceptable

Introduction:

Add that the USPSTF has suspended its recommendation against PSA screening, particularly following the NEJM publication in 2016 re-evaluating the contamination of the control arm.

I would suggest a comment on the ProtecT randomised trial, with a <2% prostate cancer specific mortality over 10 years in a predominately (~75%) low risk cohort. This would support the potential for 'over treatment' in the low risk cohort. Thus increased active surveillance / monitoring could potentially decrease the economic burden of prostate cancer treatment. However the ProtecT study also identifies 20% of men in the active monitoring arm that develop clinical progression into advanced disease, ureteric obstruction, urine retention and requirement for ADT. This progression impacts on QOL and economic burden in the active monitoring cohort. I would also explain that physicians are aware of 'over treatment' and add a sentence showing the increased uptake of active surveillance over the last decade in the 4 countries evaluated to highlight the attempt to decrease over treatment of low risk prostate cancer.

When discussing the potential complication of 'curative treatments' the complications of radiotherapy treatments should also be discussed, rather than just discussing radical prostatectomy outcomes.
In contemporary urological practice MRI scans are also increasingly used as a triage tool in evaluation of an elevated PSA, in an attempt to decrease the number of men proceeding with a prostate biopsy as primary evaluation of an elevated screening PSA test. The decreased number of prostate biopsies and decreased number of men diagnosed with low risk prostate cancer from random biopsies may also have the potential to decrease economic burden. You could discuss this in the introduction, or alternatively in the concluding remarks after discussing genomic profiling.

Methods: Acceptable and limited to publications after 2006

Results

Again, you need to outline the results as related to the tables. Discussion of these results should be in a separate section under 'Discussion'.

Although the methods states that searches were limited to publications after 2006, only 8 publications relate to incidence data after 2006, with the latest incidence data from the year 2011. This gives an impression the manuscript does not relate to contemporary outcomes. In Germany and France only 1 manuscript relates to incidence per 100,000 after 2006.

The paragraph on ethnicity should be in a discussion section, not results.

The incidence of PC can also relate to the selection of population groups (west of Scotland) and also the quality/methods of data collection. Where incidence per 100,000 is vastly different, a comment on the possible bias of group or data collection methods should be discussed.

When discussing mortality from prostate cancer it is well known that at least 15-20 years of follow up is required for enough prostate cancer specific deaths to occur to influence outcome data. When discussing the six studies on 5-year relative survival rates, the stage shift from PSA screening is the most likely cause of improved 5 year outcomes, combined with improving treatment options of advanced/metastatic disease. In table 2 on mortality there is only 4 publications with mortality outcomes specifically after 2006, again giving an impression that this data is not relating to contemporary urological practice. I would specifically address the outcomes of these publications compared to earlier data.

The first paragraph of the Bray et al paper discussing PC incidence should be discussed in the paragraph on incidence, not in between paragraphs on mortality data. This will decrease
confusion and maintain continuity of discussion. The mortality section of the Bray et al can remain in the mortality discussion section.

The final paragraph on data from 1975-2004 is interesting, but again gives the reader a sense of lack of relevance to contemporary urological practice after 2006. The number of men that undergo radical prostatectomy in in the US and UK has changed from 2004. I would suggest that this paragraph is deleted, or delete the last sentence.

Economic Burden of PC

This is a complex area with costs of RP, radiotherapy, advanced disease and metastatic disease evolving with new technologies. New diagnostic tests such as 3T MRI / genomic tests, PET PSMA scans, robot prostatectomy costs, brachytherapy technology, increasing use of chemotherapy agents earlier in metastatic hormone naive disease and more anti-androgens available, all add to the cost burden. This could be briefly outlined in the discussion section on economic burden.

Quality of life

I agree the scope of the literature review limits the options to discuss QOL, otherwise satisfactory discussion here.

I hope the above suggestions will be of benefit in revision of your manuscript.

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

Yes

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.

Not relevant to this manuscript

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

Acceptable

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