Reviewer’s report

Title: Cancer awareness and socio-economic position. Results from a population-based study in Denmark

Version: 3 Date: 20 June 2014

Reviewer: Emily Power

Reviewer’s report:

Minor essential revisions:
Results - Response - it's not 100% clear how the response rate was calculated from the text provided in this section and I don’t think it should be up to the reader to work it out. I would recommend following a standard formula such as the one used in the Forbes et al ICBP paper which will enable readers to compare across samples more easily -

'The estimated response rate represents the response rate after adjusting the size of the denominator for the likely proportion of households that were eligible. It is calculated by assuming that the proportion eligible among households of unknown eligibility is the same as the proportion of those tested for eligibility who were eligible (equivalent to American Association for Public Opinion Research response rate formula 3).'

It may also be a good idea to include a 'minimum response rate' as they did in that paper.

When describing how the study sample compares to the 60,000 drawn from the database it's important to know which of the differences mentioned are statistically significant - I assume that all the ones mentioned are but it's not clear. I think it’s also important to indicate these statistically significant differences in Table 1.

Discretionary revisions:
Abstract - Results - recommend changing this sentence to 'No clear associations were found between social economic position and awareness of 5-year survival for bowel, breast....'

Background - third para - you mention that previous studies have only included a small number of SEP indicators. I don’t think this is strictly true. For example, Robb et al included gender, age, marital status, ethnicity, and occupation. the only additional variables this study includes are education and income.

Methods - it would be useful to know (for non-Danish readers) how representative the CRS is of the Danish population

Statistical analysis - It would be useful to know why the analysis used unweighted data
Results - response - It would be useful to include the response information in Figure 1 - e.g. the fact that 11,297 people were randomly selected from the 47,066 who you had telephone numbers for and that 1,697 of these were ineligible etc.

Results - awareness of symptoms - since the symptoms aren't listed in the measures section it would be useful to have a full list of the symptoms that were asked about somewhere in the paper so that readers can put the awareness findings into context and don't have to refer back to the ABC paper to do so. The same comment applies to the awareness of risk factor results.

Similarly, so that readers don't have to refer back to the methods section of the paper it would be useful to add '(out of 11)' after describing the median number of symptoms and risk factors recognised.

Respondents aged 50-69 and those with a close relative with cancer were also significantly higher awareness than younger respondents and those with no close relative with cancer - this should be referred to in the text as well as in the table otherwise I think it's misleading.

Results - awareness of risk factors - the sentence 'it should be noted that older age was associated with a higher propensity of recognising less than nine risk factors' makes it sound like this difference wasn't statistically significant which could be misleading plus it's awkwardly worded with a double negative, so I recommend making this more clear.

Awareness of 5-year survival - second para - this sentence needs re-wording because it doesn't make sense 'After adjustments there were found significant associations between...'. I think it would also be useful to state who had lower/higher awareness e.g. those not working were more likely to over or underestimate the 5 year survival for breast cancer and men were more likely to over or underestimate the 5 year survival for lung cancer.

Discussion - first para - recommend rewording this sentence to 'the sensitivity analyses showed that the associations with low SEP increased with lower awareness, validating our analysis approach/methods/the findings.'

You mention that females had lower awareness of the increasing risk of cancer with age here but it's not been cited in the results which I think it should be, especially since you mention this in the abstract too. I also think you should mention the associations you found with age in this para e.g. - that older people had lower awareness of risk factors.

Discussion - third para - Recommend re-wording this sentence 'These factors include barriers to health-care seeking and beliefs...'

Discussion - fourth para - I think it would be useful to cite literature that highlights the lack of awareness of vague, non-specific symptoms and not realising the significant of these symptoms has been shown to be the biggest barrier to
seeking help (Macleod et al 2009 review)

**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 work for Cancer Research UK who support the ICBP programme of work but have not been directly involved in any of the work.