Reviewer's report

Title: Tobacco smoking and all-cause mortality in a large Australian cohort study: findings from a mature epidemic with current low smoking prevalence

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Reviewer: Aage Tverdal

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Tobacco smoking and all-cause mortality in a large Australian cohort study: findings from a mature epidemic with current low smoking prevalence.

This is a good study on a well-known subject. It adds information specific for Australia (or New South Wales) but as the authors write in their discussion: “Moreover, as the British Doctors Study illustrates, cohort studies do not need to be representative to produce effect estimates that are generalizable”.

One evident weakness of the study is the lack of information on cause specific mortality.

The manuscript is well written and the tables and figures are good and easy to read.

Some specific points:

Major

1) My guess is that cardiovascular disease makes up a great part of the deaths. Total cholesterol and blood pressure are not accounted for. The authors refer to high blood pressure as the number one risk factor for global disease burden. This could be commented.

2) Age (age attained) was the time variable in the Cox regression models. The relative risks tend to diminish as the absolute risks get larger. The absolute risks increase with increasing age. Therefore it is likely that the proportionality assumption is violated for many of the variables. In this case the authors have used “a stratified or time-dependent form of the model”. Could you expand on these models?

3) One item on the questionnaire read: “Have you ever been a regular smoker?”. What is meant by the term regular? Is it daily smoking? If a person smokes ten cigarettes every Saturday, and only on Saturdays, is he/she a regular smoker? Every Saturday seems regular to me.

4) How many of the smokers smoked a pipe or cigar or a combination?

5) Have many past smokers switched to smokeless tobacco (snuff)?

6) What is the correlation between age at baseline and duration of smoking?

7) As background (line 7 from bottom) the authors write: “..., Australia has relied on the findings from other studies conducted in the UK and US,...., to underpin
estimation of the population impact of smoking”. How do the findings from this study fit in?

Minor
1) In table 2 some figures are with and some are without the comma. For instance 3,814 and 3085.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.