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

**Version:** 1  
**Date:** 23 November 2014

**Reviewer:** Prabhat Jha

**Reviewer's report:**

1. Good paper. Confirms findings from other populations.

**Major revisions/key questions**

- Page 5- comment if NSW smoking prevalence and mortality rates/risks by cause are typical of rest of Australia.

- Page 6- reverse causality is addressed, but the authors might still be overestimating hazards among recent quitters. Can they add an analyses where current smokers are defined as current smokers plus recent quitters (say within 2-3 years). This is particularly important as the follow up period is short, and it may not be so easy to exclude the first few years of follow up.

- Page 8- details on the re-survey smoking prevalence by age would be helpful, perhaps in the way of another table. Was there substantial quitting between baseline and re-survey, in a way that would suggest the estimated HRs might be conservative?

- Page 9- smoking prevalence in the cohort was only 7.7% vs 13% in Australia. Can they comment on any overall differences between cohort and Australia's population? This is particularly relevant for Figure 5 (page 11)- is the decade of life lost applicable to all of Australia or only to the cohort? This is unclear in the results. (The Pirie paper (MWS) and Jha paper (NHIS) took the relative risks and applied these to the absolute death rates for the UK/US; the NHIS population was representative but the MWS and this study are not, hence these differences in absolute risk might be important to comment).

- comment on any change in the tar/other component of cigarettes smoked by various birth cohorts (as occurred in France).

**Minor comments**

- Table 2- clearer labels please on smoking duration *(years).*

- the figure showing RRs by decade of birth shows no clear relationship of risk among former smokers by birth cohort? How does this square with the figure showing male/female combined risks for ex-smokers by age of cessation?

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

None