Reviewer's report

Title: Smoking and primary total hip or knee replacement due to osteoarthritis in 54,288 elderly men and women

Version: 2 Date: 14 August 2013

Reviewer: Peter Lee

Reviewer's report:

Looking back at the points I raised earlier, my main problem is that, although I have previously published work on the magnitude of the effect that misclassification of smoking habits might have in biasing relative risks, I simply do not understand the final figure.

I had expected to see details of how the magnitude of the relative risk would change after adjusting for different defined fixed levels of specificity (or of sensitivity - though that is hardly of interest as nonsmokers don't usually claim to smoke), but here I am not even sure whether the x-axis is relative risk or is specificity/sensitivity.

Can the methods and/or legend be expanded to make it precisely clear what the objective of the method is, and what the figure purports to illustrate.

I also note that the figure is not actually cited in the text at all, is shown as being Figure 2 under Figure legends, and is actually labelled as Figure 7 at the bottom of the figure itself.

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I am a long-term consultant to the tobacco industry