Reviewer's report

Title: Estimating uncertainty of alcohol-attributable fractions for infectious and chronic diseases

Version: 1 Date: 14 January 2011

Reviewer: Frank de Vocht

Reviewer's report:

This manuscript describes an interesting method to estimate the uncertainty of attributable fractions (of alcohol in this specific paper).

However, I have some comments I hope the authors can address.

# Major Compulsory Revisions

1. My main comment issue is that it is very difficult, if not impossible to follow what the authors have actually done. It is unclear where their data comes from, how they used it and what the impact of their adjustments were.

   Presumably their intent is that others will use this method? In order for this to be possible, they should add more detail about their method.

2. Preferably, they should either give one example with proper referencing of the sources and/or provide the R script of the method.

3. The paper very much focuses on the mathematics, but since these calculations have been done specifically for several areas the results should be put in context. What do the numbers and what does the uncertainty mean?

4. If points 1-3 are properly addressed this seems like a promising method. Yet, the results are not compared to any other methods or data. The authors should discuss why this method is the method everyone should use, or if this is impossible they should discuss this.

# Minor Essential Revisions

5. Page 2. A cut-off of 150 grams/day has been chosen. Is this based on available data, which should then be referenced. Also the authors should discuss the impact of this: % of data censored and the impact on the results of this.

6. The authors made some assumptions to derive a "valid" estimate for alcohol consumption for part of their AAF function. However, they combine this with a RR function from meta-analyses. These functions are presumably based on underreporting by study participants resulting in more excess risk per unit. If one then artificially 'ups' the units the results seem biased.

7. Page 6. 'Expert judgment' in this context sounds like a synonym of "we picked a random number”. I am sure this is not what happened, but the authors should discuss this to strengthen their point.
8. Table 1. Is ‘per capita alcohol estimates’ the correct measure, since this is based on current drinkers and none-drinkers in the population to derive the average. If used in combination with the prevalence of drinkers and former-drinkers this presumably underestimates the true consumption in these groups?

# Discretionary Revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests