Reviewer’s report

Title: The economic costs of alcohol consumption in Thailand, 2006

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Reviewer: Johan Jarl

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The study estimates the societal cost of alcohol consumption in Thailand in 2006. The total cost, including health care-, law enforcement, traffic related property damage-, and productivity costs, sums to 156 billion baht or 2% of GDP. The study especially contributes by being the first COA study performed in a developing country and including cost estimates of alcohol-related HIV/AIDS and reduced on-the-job productivity. It is therefore interesting both the result in them self but also for international comparison. The study follows the international guidelines in the field.

1. I have one general comment that should be considered for each following comment below, and that is that there is too little information given in the text to thoroughly investigate the appropriateness of methods and assumptions. This is normally the case in article versions of COA studies where space is limited, and the methods can possibly be assumed to be acceptable as the study follows the international guidelines. However, I believe the authors should take advantage of the possibilities of publishing in electronic journals in general and BMC Public Health in particular as there is no official limitation of length or number of tables included. The paper can be extended by at least two pages without overwhelming the reader. Also additional, more detailed tables should be included. In the comments below are several areas where additional information would improve the reader’s understanding of the paper. An alternative to including more information in the article is to refer to some form of technical report where methods and assumption are thoroughly described. This is not done in the paper which leads me to conclude that no such report exists.

2. The fact that the total cost is dominated by indirect cost should be discussed more as this is not the case in most prior studies. Generally, indirect costs account for 50% of total costs, but in the current paper it amounts to 96%. Why is that? Is it an effect of the informal sector in a developing country? Is it an effect of the estimation method (or even bias)? Potentially, a part of the issue can be explained by the inclusion of HIV/AIDS as this disease stands for 38% of the total mortality costs in the paper. In any case, the dominance of indirect costs should be much more discussed in the paper.

3. It is very interesting that the cost amounts to 2% of GDP while only 31% of the population consumes alcohol. The proportion of heavy drinkers is large but probably not large enough to explain the high costs. This should be discussed in the discussion section (and not only mentioned in the conclusions), preferably
with potential explanations. This comment is closely related to the comment above regarding the large proportion of indirect costs.

4. The counterfactual scenario is ambiguously stated. It is unclear if it should be interpreted as that alcohol never existed in the Thai society or that it disappeared overnight? There are important implications for which of these two scenarios are used. The latter would have to include temporal characteristics of risk decline following abstention. That is, it does not mean that just because an individual stops consuming alcohol, the elevated risk of disease (e.g. liver cirrhosis) disappears at once. This risk decline takes time and it is therefore not appropriate, as is done in the current study, to claim that all alcohol-related cases of cirrhosis can be averted in the counterfactual. However, if the former interpretation is correct, the methods for health care etc. employed in the paper are appropriate. The downside to this interpretation is that, theoretically, productivity losses should be estimated with the demographic approach. This is however less of a problem as the human capital approach often is used to approximate this cost (and is also accepted in the international guidelines).

5. It is not true, as is stated in the Method section, third paragraph, that it is consistent with the international guidelines to not include intangible cost. Intangible costs should be included if possible but is often not for several reasons.

6. The fact that only diseases with an AAF>0 is included in the paper will lead to an underestimation of the gross costs. The reason for this is that for several diseases are heavy consumption detrimental even if low consumption is beneficial for health. I assume these costs are included in the sensitivity analysis regarding beneficial health effects which further muddles the water.

7. Why are there differences in what crimes are included in the police and court costs? Also, there is no source for the AAF for court costs.

8. The same AAF is used for mortality as for morbidity. This is normally not the case for injuries/accidents, see for example the latest Canadian COA study. Generally, AAFs are thought to be lower for non-fatal accidents compared to fatal.

9. As I understand the estimation of productivity losses due to premature mortality, there is an underlying assumption of full productivity until death. I.e. there is no reduction in productivity following old age. This does not seem reasonable to me.

10. The estimation of presenteeism and absenteeism is very interesting. However, it would have been preferred if the planned article about the presenteeism study had been published in advance of the current paper, in order for the reader to be able to evaluate the method and results. As it is now, I can not determine if these estimates are reasonable, i.e. if they are based on associations, if appropriate controls for reversed causality have been performed etc.
11. The section on page 13 that presents the sensitivity analyses should be expanded, explaining the analyses in more detail.

12. For employed, productivity losses are valued according to income. But how is non-employed mortality valued? And what is actually measured, the value of domestic production or the value of lost leisure time? In any case, do not employed individuals suffer losses in these areas as well following premature mortality? More information on how these costs are estimated is needed.

13. There is some confusion regarding why you compare the societal cost of alcohol consumption to alcohol-tax revenues. I guess you do it because it is a common political argument (although mostly a flawed argument). It is especially in the conclusion section this becomes a problem when it is stated that the government need to better balance between revenues and costs. This paper does not study this balance. Just because there is a substantial societal cost does not mean that it is a net loss to the governmental budget. It should rather say that the government needs to try to minimize the adverse effects (costs) of alcohol consumption for the benefit of society as a whole.

14. The paper needs to be check regarding formatting and language.

15. There are no reference to tables 2 and 3 in the text.

16. I suggest that all costs expressed in million of baht be expressed as billion of baht.

17. The international guidelines is not developed but published by WHO.

18. The number of decimals differs in the study, e.g. page 8.

19. Results, page 13. The USD figure is not correct.

20. Page 14, last paragraph. It has not been “proven” but rather “shown”.

21. Page 17, last paragraph. It says “[...] societal costs may not be inappropriate [...]”. I think you mean “[...] societal costs may not be appropriate [...]”.

22. Reference 3. First- and surnames of authors 3-6 are switched.

23. Table 2. Also include the per capita cost in USD.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**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