Author's response to reviews

Title: Burden of disease in Thailand: changes in health gap between 1999 and 2004

Authors:

Kanitta Bundhamcharoen (kanitta@ihpp.thaigov.net)
Patarapan Odton (patarapan@ihpp.thaigov.net)
Sirinya Phulkerd (sirinya@ihpp.thaigov.net)
Viroj Tangcharoensathien (viroj@ihpp.thaigov.net)

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Dear Editor,

Thank you for giving us the opportunity to respond to the reviewers comments on “Burden of disease in Thailand: changes in health gap between 1999 and 2004”.

Attached please find responses to the reviewers comments and a revised manuscript (with tracked changes).

As instructed by the BMC Public Health Editorial Team, we are submitting a revised version of the manuscript via the electronic manuscript processing website. We have formatted the revised manuscript according to BMC Public Health guidelines. I look forward to hearing the outcome of this submission, and in case any further information or clarification regarding the manuscript is required, please let me know.

Sincerely yours,

Kanitta Bundhamcharoen

Corresponding author
International Health Policy Program (IHPP)
Ministry of Public Health
Nonthaburi 11000, Thailand.
kanitta@ihpp.thaigov.net
Response to reviewers comment

We would like to thank the reviewers for their thoughtful comments and believe that the manuscript has been strengthened by incorporating their feedback.

Title: Burden of disease in Thailand: changes in health gap between 1999 and 2004
Version: 2
Date: 5 October 2010
Reviewer 1: Michael Linnan

Reviewer's report:

Minor Essential Revisions

1. While there are minor grammatical errors, (mainly verb tense, and plural choice) the English is easily comprehended. There is only typographical error noted, in the 5th sentence, first para in discussions section, there needs to be a space inserted between 8% and than.

   Thank you for spotting the error. It has been corrected.

Discretionary Revisions

1. The report primarily is a descriptive one and the authors do a good job in providing necessary information to the reader who is familiar with burden of disease studies and the methodology. The authors noted some changes between the previous BOD study in Thailand in 1999 and a second follow-on study in 2004. They discuss changes in some of the data sources and other pieces of information that feed into the calculations of the BOD in 2004.

There is little commentary or discussion about whether the observed changes between 1999 and 2004 are due to actual substantive changes in epidemiology or whether it is due to improvements or changes in the data available for the 2004 assessment. It would be informative to those readers not familiar with Thailand to have some discussion regarding this.

   Thank you for the suggestion. We recognize this point and it was mentioned (para3, page 10) that a setback of estimating BOD trends is the lack of, and inconsistency of data sources between the two periods. Thus, the observed changes in BOD profile in 1999 and 2004 are due to actual change in epidemiology of a certain number of diseases of which time series data exist. For example, traffic accidents, cancer, and infectious diseases. Also substantial changes in epidemiology on HIV/AIDS mortality existed as mortality and also years of life loss due to opportunistic infections had significantly reduced in 2004 both men and women, after the introduction of universal ART in 2001. A small paragraph was inserted in the discussion section as followed:

   Although there are improvements or changes in the data available for the 2004 assessment, the observed changes in BOD profile in 1999 and 2004 are due to actual change in epidemiology of a certain number of diseases of which time series data exist. For example, traffic accidents, cancer, and infectious diseases. Also substantial changes in epidemiology on HIV/AIDS mortality existed as mortality and
also years of life loss due to opportunistic infections had significantly reduced in 2004 both men and women, after the introduction of universal ART in 2001. Yet YLD estimates for some diseases suffer from inconsistency of the data sources used in the two assessments. (page 11, para 2)

2. Given the enormous amount of resources that have been used to develop the capacity for BOD studies in Thailand as well as the decade long time frame the activity has been underway, the authors should point out the impact that the BOD activity has had using examples of national health policy, or at least point to specific changes in national health policy that have occurred as a result of the effort in Thailand.

   Thank you for the suggestion. A brief account on policy translation of BOD was given in the Table 4 “Summary lessons from conducting 1999 and 2004 BOD, Thailand”. We have also added a small paragraph in the discussion section as followed:

   As generating BOD estimates requires considerable resources, it is therefore essential that the results have an impact on health policy. In Thailand, evidence on BOD was disseminated to relevant health policy makers, particularly, the Thai Health Promotion Foundation, and the MOPH. In the national five year health plan and the Thai Health Promotion Foundation’s master plan, BOD was referred to and applied as program priority setting. A number of milestones in policy development in the Thai Health Promotion Foundation were observed [40]. In addition, there were nine national alcohol policies during 2003-2007. In 2007, a national plan to address primary and secondary prevention of chronic NCD called “Thailand healthy style strategic plan” [41] was formulated as a result of increased awareness among decision-makers. (page 11, para 3)

**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

**Reviewer 2: Aminur Rahman**

**Reviewer’s report:**

1. Is the question posed by the authors well defined?

   DALY is a useful calculation to measure burden of disease (BOD) which helps to set health priority of country and also facilitates comparison of burden of disease across different countries. Thailand has a reasonable data collection system and had been successful in producing national level BOD. However, a crucial limitation is a considerable proportion of miss-classification of causes of death (COD) in vital registration. Therefore Verbal Autopsy was used to verify the COD reported by vital registration. Moreover, incidence and
prevalence of illnesses are not routinely collected and accurately reported, however, which were later improved. The alternative methods of assessing mortality and morbidity in a country like Thailand are quite reasonable and this could be model for other LMICs.

2. Are the methods appropriate and well described?

Yes, the methods utilized for calculating DALY was appropriate.

3. Are the data sound?

Unlike low-income countries death registry system in Thailand is much better, however, similar to other LMICs mortality data has limitation of correct diagnosis of cause of death. To adjust the limitation the authors utilized verbal autopsy methods to validate the cause of deaths which were derived from death registry. This is a feasible option for the LMICs. In LMICs morbidity estimation is very difficult due to lack adequate data. However, the authors of the study utilized various data sources and validated and adjusted with some standards. As there is no other options for estimating morbidity in LMICs this modified method should be accepted.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

The manuscript adheres to the relevant standards for reporting and data evidence.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

In the discussion session the authors arguments on double burden of disease in Thailand is convincing. The manuscript has conclusion in the Abstract section but does not contain any section labeled as “Conclusion” in the main text. However, the lesson learned section provides some conclusive remarks. To improve the manuscript the conclusion section needs to be added.

A new section on conclusion is appended at the end of the manuscript, as followed:

**Conclusion**

The study highlights unique pattern of disease burden in Thailand where non-communicable diseases is increasingly the major disease burden while burden from HIV/AIDS is still high due to mortality and significant years of life loss among prime adults. Negligent change on burden from injuries was observed. Regular assessment of DALY requires continuing improvement in data sources particularly on cause of death statistics, and strengthening of institutional capacity to maintain this important normative work.

6. Are limitations of the work clearly stated?

Yes, the authors clearly stated the limitations of the study.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes, authors acknowledged relevant work in the manuscript.

8. Do the title and abstract accurately convey what has been found?
Yes, the title and abstract almost accurately convey what has been found in the main text.

9. Is the writing acceptable?
Yes, the writing is acceptable with minor essential revisions, as suggested as well as editing the English language. The paper provides new knowledge especially for the LMICs for estimating burden of diseases.

**Minor Essential Revisions**

1. In the last paragraph of the “Introduction” authors stated the objective. “This study assesses the changes in national level BOD between 1999 and 2004 in Thailand with the application of the 1999 VA to adjust COD in 1999 and 2004”. But the authors did not mention why they assessed the changes. Therefore the sentence seems incomplete. To my understanding this has been done to set priority for health system. Clarifying this will be helpful for the readers.

   We assessed the changes of BOD in 1999 and 2004 in order to update and revise priority setting in health policy in Thailand. This comment has been addressed together with the next one as follows after heading 2 of minor essential revisions section.

2. In the last paragraph of the “Introduction” the authors used the phrase “………..BOD between 1999 and 2004” this is to some extent confusing, As readers may understand that this from 1999 to 2004. The authors in fact assessed the BOD in 1999 and 2004 and then compared. Therefore the sentence needs rephrasing.

   The last paragraph of introduction section is revised as followed:

   This study assesses the national level BOD in Thailand in 1999 and 2004 with the application of the 1999 VA to adjust COD in 1999 and 2004 and then compares them in order to contribute to priority setting in health sector investment and program reorientation.

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

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'