Reviewer's report

Title: Economic Burden of Dengue in Cambodia

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Reviewer: Kaliannagounder Krishnamoorthy

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The paper presents costs and burden due to dengue in Cambodia and this is of considerable research interest as it attempted to carry out costing exercise and estimation of burden in terms of DALY which are defensible for evidence based policy decisions. Focus is also given on the limitations in the estimations. Opportunity cost could have been considered for more realistic estimates.

Points considered for the assessment:
1. The questions (What are the costs of illness due to dengue and its burden?) posed by the authors are well defined.
2. Methods are appropriate and well described. However, specific comments on the methodology are given below.
3. No primary data was used.
4. Manuscript adheres to the relevant standards for reporting.
5. Discussion and conclusion part requires revision (suggestions are given below).
6. Limitations of the study have been stated. Suggestions are given below to include all the limitations/assumptions followed in the estimates.
7. The authors have used secondary data of published articles only.
8. As the paper deals with both economic and disease burden of dengue, the title may be modified as “Economic and disease burden of Dengue in Cambodia”. Conclusion under abstract requires revision (suggestions are given below)
9. The quality of written English is acceptable.

Specific Comments:
Abstract:
Methods of costing and DALY estimation should be given.

Background:
Third paragraph may be condensed by deleting general description of health indicators.

Methods:
This section should include details on the source of secondary data used (though mentioned in the abstract that national surveillance data was compiled – not
mentioned here), limitations in the secondary data, assumptions followed in the estimates and whether the cost was calculated based on the source of treatment. How the incidence was calculated for age class above 20 from the ACS data from 0-19 years old individuals data?

Table 2 does not give any assumption on cost distribution. If the proportion of costs is based on certain assumption, it should be justified.

Inclusion of household cost only for children need to be justified.

The incidence of dengue was extrapolated from the data obtained through ACS in an area with about 14,000 population. Are there any assumptions followed such as uniform distribution in space and time, uniform risks etc?

Details on the control strategies need to be given. Was the allocation same during the period considered for estimates?

Due to variability in the cost between source of treatment, sensitivity analysis may be useful to show the influence of this behaviour on the costs. Conclusion of increase in dengue related cost is not supported by the estimates. The cost is influenced by the treatment seeking behaviour. This needs to be mentioned.

Results:

More details are necessary in this section. Is there any age/gender specific variation in incidence and DALYs?

Break-up costs may be given for different cost items and different source of treatment.

DALY for morbidity and mortality may be shown separately.

Discussion:

The reasons for high variability in cost between years need to be discussed. In spite of 1.5 times increase in cases, the total cost was only about half of that estimated in 2006. The major reason is the uncertainty in seeking care. Sensitivity analysis of this factor will be useful. Otherwise the real economic burden will be an underestimate. (Refer table 4 where the burden in 2008 was just about half of that estimated for 2006).

Verify the calculation of estimated death rate for different years.

Conclusion:

It should focus on the findings of the present study. Cost of dengue and cost of preventive programme need to be compared. In the absence of vaccine, this part of the conclusion should focus on the feasible solutions such as community based vector control and early case detection and management.