Reviewer's report

Title: Direct economic burden of hepatitis B virus related diseases: Evidences from Shandong, China

Version: 3 Date: 4 June 2012

Reviewer: Fujie Xu

Reviewer's report:

The authors should be commended for a large and timely study on the costs of HBV and it complications. The study was well designed but the data analyses and reporting need significant improvements.

Major compulsory revisions

1. The authors should provide a flow chart summarizing the sampling of participants for interview.
   1) all patients meeting ICD-codes from Major Epidemic Network database
   2) numbers excluded due to duration of hospital stay <=7 days and other medical reasons for hospitalization
   3) 45 excluded due to uninsured status and number of refusal etc

2. Re-do the analyses after excluding the 45 uninsured patients. This would simplify analyses and would focus on the message of economic burden on the insured patients. It is important to stratify the analyses for patients recruited from tertiary hospitals and secondary hospitals because the level of hospital is your sampling frame and the costs may differ by level of care.

3. Provide the ICD-10 codes for the six HBV diseases in Methods

4. Delete the row labeled as "Total" in Table 2-5. Not sure what the numbers mean--the AVERAGE?

5. Number in Table 2-5 were for "per admission"? Have the authors estimated the total costs in a year and divided the cost by the number of admissions if the patient had two or more hospital admissions. Was this mis-label as per case in the past 12 months (not per admission)?

6. The authors should report the medical cost from the CURRENT hospital admission for which the costs were directly obtained from the hospital financial database. Please report the costs obtained from interview in a separate table or row in order to estimate the total medical cost in past 12m.

7. The distribution of medical costs usually skewed to the right (a long tail) and median is probably more appropriate than mean. Alternatively the authors can report the distribution by categories (e.g.: related to the annual median household income level--% cost lower than the income, % cost greater than 1 time and % greater than 2 times of income etc).

8. Overtreatment and over-medication are among the reasons for high costs. The
authors may discuss the high cost of acute HBV (uncessary treatments? and the cost of nutrition supplements etc as means to contain cost.

Minor essential revisions:

1. The language needs some polishing and significant re-writing. For example, the word "interview" should be used instead of "survey" Nursing worker shoud be replaced with "fees for caretakers"; "inspection fees" should be replaced with "diagnostic and workup fees"; etc.

2. AX may not qualify as author based on obtaining funding.

3. Descriptive results: Shorten the text by reporting the most seminal findings only in the text. In the current version, the readers have to note the cost numbers for the 6 disease categories and compare to the household income level laters in the manuscript-- a lot of mental work! The authors may report the estimate costs (e.g. medical cost ) and scale it to the income level.

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:

None to declare