Reviewer's report

Title: Global and regional trends of domestic-public AIDS financing

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Reviewer: Gabriela B B Gomez

Reviewer's report:

The study by Carlos Avila and colleagues reports global trends in government financing of HIV/AIDS from 2000 to 2010. In general, the study seems well conducted, results presented are concise and it is well written. The paper mainly highlights the increase in government funding. However, there are a few comments which should be taken into consideration before publication.

Discretionary Revisions

1. General: the authors will need to standardise the way they refer to the national programmes - HIV/AIDS programme spending or AIDS programme spending or HIV programme spending.

Minor Essential Revisions

1. General: explain the acronyms the first time they are used - LMICs, OECD, GDP

2. Abstract: in the results and discussion section, the authors mention a three-fold increase in government spending and give the cumulative total of US$ spent between 2000 to 2010. It would be clearer for the reader if the authors can give the initial spending in 2000 and the total achieved in 2010 - for reference.

3. Abstract: in the conclusion, the authors write: “Domestic spending in LMICs increases with economic growth[…]”. They found an association with GDP per capita, they didn’t explore the association of changes in GDP per capita (growth) during this period and the government investment. Please re-phrase.

4. Background - “this paper seeks to understand the independent predictors of domestic spending on HIV between 2000 and 2009 and to provide feasible projections of regional HIV spending trends.” The period looked at is up to 2010 and the authors do not present projections in the results.

5. Methods: “… a dataset was constructed by combining country reports that included the total amount of domestic spending at the country level.” Would be useful if they could specify what was combined - yearly (?) reports for different countries from 2000 to 2010?

6. Methods, research questions: I found useful how the authors state their hypothesis. The predefinition of variables to be tested helps reduce the chance of spurious findings. However, they focus the analysis on several plausible variables - and it is not clear to me how they estimated plausibility. From the literature?
7. Methods: They also refer to the “national economic expressed as GDP per capita” - might this be a typo and they meant economy?

8. Methods: It is assumed that spending on HIV is a normal good - for non-economists, what are the implications for the analysis of considering spending on HIV as a “normal good”.

9. Methods: The authors refer to the World Bank’s governance indicators - it might be useful to explain these concepts (especially the ones included in the models). They then list the governance variables included: measures of accountability, corruption, government efficiency, political stability, regulatory quality and rule of law. But because these are highly correlated, only political stability was included. But in table 2 - it seems they were all included in model (1). Please clarify.

10. Methods: Namibia, South Africa, Botswana and Swaziland were excluded from the prediction model because they were outliers - it would be useful to have a description on what made these countries outliers.

11. Methods: Last paragraph of the analytical strategy mentions that panel data [...] were corrected by using both random and fixed effects models with clustered standard errors. But the data were not corrected, several models were tested. Please rephrase.

12. Table 1: the authors refer to both SD and standard errors. Panel sample size column, I would imagine that the different values are for different years, maybe specify the years.

13. Results: All of the variables in the prediction model (4) were highly significant at the 0.01 percent level - please correct: either 0.1 percent level or 0.001 level.

14. Results: Table 2 would benefit from spelling out the name of the variables.

15. Results: The phrase before the trends in domestic-public spending - all coefficients retained the same sign and significance level except that prevalence became negative - I assume that HIV prevalence did not become negative, needs rephrasing.

16. Figure 3 - I find interesting the 2 regression lines presented, but there was no comment on these in the results.

17. 4 figures and 3 tables seem a bit much - I would suggest that figure 3 and 4 can be combined and figure 1 presented as an appendix.

18. Discussion: The discussion overall could benefit from a better structure. I would also add some discussion on how this government spending is being used. Is there evidence that governments spend the increased budget on programmes targeting those groups at highest risk?

19. A brief discussion on fungibility is needed and how this fits with the results presented.

20. The limitations of the dataset used are mentioned but not the limitations of the method used to predict missing data points.

21. Appendix 2 - this appendix is really useful as supporting information but it will
be good to know which data points were predicted and which were reported

Major Compulsory Revisions
1. This study refers to a global estimation of trends in domestic financing of HIV/AIDS programmes and its determinants, but the authors mention that they will also look at the influence of international aid on domestic HIV/AIDS expenditures (in the abstract) which is not really explored in the paper. The abstract will need to be modified.

2. Results - wrt table 1: in the text the authors say that table 1 includes “international assistance per capita” this is missing from the table but will be good to add it.

3. Results, last sentence before the discussion - it states that the amount of resources committed by governments has been increasing and almost matched international aid over the past eleven years - but we don’t know the level of international aid - data not presented.

4. In the discussion - paragraph 2: “this analysis also found that GDP, HIV prevalence and political stability are positively associated with the level of domestic spending from public sources.” This is not evident from table 2. Please rephrase.

5. Some data used in the analysis was sourced from country reports and other data points were predicted - the authors should explain how they predicted these data points in the methods.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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