Author’s response to reviews

Title: HIV/AIDS length of stay in Portugal under financial constraints: a longitudinal study for Public hospitals, 2009-2014

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Reviewer reports:

Julian Perelman (Reviewer 1):

Abstract

The abstract concludes that cost-containment measures have improved the efficiency. However, the reduction in LOS can be interpreted also as a cut in quality. I would be more cautious in the way results are interpreted.

Thank you for your remark. The sentence was not clear enough, so we have changed it.

Introduction

The Introduction has been substantially improved, and now highlights very clearly, from a theoretical viewpoint, the aim of the paper.

The sentence "However, in the particular case of Portugal, income variations are not likely to have affected the demand for in-patient admissions and days because of the very low co-payments and very wide exemption": the point with low-income people is not that may have lower access due to the crisis, but higher use because of deterioration of health conditions. The previous sentence indeed refers that low-income people have a higher use of health care.
We agree the second sentence was misleading and unclear, and we decided to suppress it. We have highlighted the main point of higher use of health services among low-income people, due to deterioration of their health status.

Methods

- The variable hospital's current ratio OF WHAT?

“Current ratio” was the English translation we have widely found of “rácio de liquidez global”.

- The "current assets" and "current liabilities" variables must be defined, including the source, and how they were calculated.

The variable “Current ratio” was taken from the report and accounts of each hospital from years 2009 until 2014. Most reports had calculated the current ratio. When it was not calculated, we used the formula provided in the paper with the information from a summary table that identified current assets and current liabilities. We have made it more clear in the text.

- The main explanatory variable, which relates to the paper's objective, is the year, because the paper has been announced as examining the impact of the crisis. This must be stated clearly in the variables section. All other variables are covariates, which control for potential confounding.

We have made it clear in the “outcomes and covariates” subsection.

Results

Again, the paper is about the impact of the crisis, so that yearly changes should be presented first and given the main focus. All other results can be mentioned thereafter, because they are interesting but unrelated to the main research question or hypothesis.

We have improved the Results section.

Discussion

Again, the Discussion should first focus the year trend and its relationship with the crisis. All other results are interesting but unrelated to the topic of the paper (i.e., it is not a paper about the LOS determinants of HIV, which would be much less appealing).

I would be less affirmative about the decrease in quality, which is a possible hypothesis, but is not confirmed by the data: in-patient mortality and readmissions have decreased over the period.
Disentangling if the LOS reduction was related to efficiency improvement or quality cuts would require another study, so here you can only present hypotheses.

The statement that the "reduction in in elective stays after 2012 may also confirm the budget-related supply-side effect" is unclear to me.

We have improved the Discussion section, making the ideas more clear. We suppressed sentences that were misleading or unclear.

Alberto Freitas, Ph.D. (Reviewer 2):

The majority of my comments were somehow considered or discussed in the limitations of the study.

Some remaining concerns:

Reviewer 2 [R2]: The number of secondary diagnosis was included in the analysis. Why not a comorbidity measure/score?

Authors [A]: We adopted a similar methodology as other studies.

[R2]: --> Please provide adequate references for the referred other studies, and further discuss that methodological option.

Reviewer 2 [R2]: The number of procedures were also included in the analysis. What does this measure? There are many differences between procedures, e.g. between medical and surgical procedures.

Authors [A]: We do agree. The number of procedures, also used in other studies, was used as variable to measure severe hospitalizations.

[R2]: --> Please provide adequate references for the referred other studies, and further discuss that methodological option.

Other studies:


Both number of secondary diagnosis and number of procedures are easily calculated in the DRG dataset. Most scores are calculated based on these variables, but we aimed to measure the impact/association of each variable alone.

We have already discussed the limitation of those variable in the end of the Discussion section.

[R2]: p.7, "The number of secondary diagnoses and the number of procedures both increase estimated HIV/AIDS LOS". How can we be sure of the direction of the association?

Authors [A]: The estimated coefficients related to these covariates are positive and significantly different from zero.

[R2]: --> Results show a positive association between the number of procedures (an also the number of secondary diagnoses) with LOS. That does not necessary mean that the number of procedures increase LOS; why not the opposite, i.e., why not say that LOS increases the number of procedures?
Thank you for your comment. We do agree and we corrected the sentence: “The number of secondary diagnosis and the number of procedures both increase estimated HIV/AIDS LOS” was replaced by: “Patients with higher number of diagnosis (or higher number of procedures) have an increased estimated HIV/AIDS LOS”.