

## Peer Review Report

# Review Report on Analysis of the impact of public services on residents' health: A spatial econometric analysis of Chinese provinces

Original Article, Int J Public Health

Reviewer: Rita De Siano

Submitted on: 11 May 2023

Article DOI: 10.3389/ijph.2023.1605938

### EVALUATION

#### **Q 1** Please summarize the main findings of the study.

The econometric analysis reveals the presence of spatial autocorrelation of population health conditions and public services spillovers which suggest the advantage of higher regional integration allowing clustering in public service supply.

#### **Q 2** Please highlight the limitations and strengths.

Although the determinants of population health condition is a very crucial issue in the economic literature, it is not clear which is the contribute of this study to the ongoing debate. Authors declare that the main contribute of the study is to offer a "rigorous data analysis from a spatial perspective". However, in my opinion it is precisely the spatial analysis that presents the greatest criticalities.

#### **Q 3** Please provide your detailed review report to the authors. The editors prefer to receive your review structured in major and minor comments. Please consider in your review the methods (statistical methods valid and correctly applied (e.g. sample size, choice of test), is the study replicable based on the method description?), results, data interpretation and references. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

In this paper authors intend to investigate whether access to public services may affect health conditions of the population in 30 Chinese provinces. The investigation additionally checks for the presence of a spatial interdependence of health conditions across provinces and spillovers from public services spillovers supplied in nearby provinces. The econometric analysis reveals the presence of spatial autocorrelation of population health conditions and public services spillovers which suggest the advantage of higher regional integration allowing clustering in public service supply.

Although the determinants of population health condition is a very crucial issue in the economic literature, it is not clear which is the contribute of this study to the ongoing debate. Authors declare that the main contribute of the study is to offer a "rigorous data analysis from a spatial perspective".

However, in my opinion it is precisely the spatial analysis that presents the greatest criticalities.

I think that the paper could be published provided major revisions are made.

First of all, authors should clarify the novelty of their analysis and make explicit the progress they make in the literature compared to the previous analyses.

Regarding the econometric analysis, there are different shortcomings.

1. The Spatial Durbin model is not built correctly. This model specification, in fact, should include not only the spatial lag of the dependent variable but also the spatial lag of "all explanatory variables". Hence, authors have to include the spatial lag of all controls, too, and not only those of the main variable of interest.
2. Despite following the correct procedure to identify the best spatial model specification, authors improperly include also the estimation and discussion of the two alternative models (SAR and SEM).
3. The spatial lag of the dependent variable does not determine a spillover effect but a measure of the spatial autocorrelation across provinces.
4. Spillover effects are given, instead, by the indirect effects of independent variable.

5. I suggest to include, as robustness check, the use of a spatial weight matrix based on a measure of proximity different from the inverse distance which is which is still a geographical measure of distance like that of the main spatial weight matrix.
6. Neither a robustness check can be represented by the estimation of the SAR and SEM model specification.
7. A linguistic revision will definitely improve the study and facilitate the reading.

#### PLEASE COMMENT

**Q 4** Is the title appropriate, concise, attractive?

NO

I suggest the following one:

Public Services and Health conditions: a spatial analysis of Chinese provinces

**Q 5** Are the keywords appropriate?

yes

**Q 6** Is the English language of sufficient quality?

No: 7. A linguistic revision will definitely improve the study and facilitate the reading.

**Q 7** Is the quality of the figures and tables satisfactory?

Yes.

**Q 8** Does the reference list cover the relevant literature adequately and in an unbiased manner?)

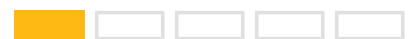
yes

#### QUALITY ASSESSMENT

**Q 9** Originality



**Q 10** Rigor



**Q 11** Significance to the field



**Q 12** Interest to a general audience



**Q 13** Quality of the writing



**Q 14** Overall scientific quality of the study



#### REVISION LEVEL

**Q 15** Please make a recommendation based on your comments:

Major revisions.