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

EVALUATION

Q 1   Please summarize the main findings of the study.

The paper analyzes the relation between public services and residents' health across Chinese provinces. The paper is
potentially interesting, but suffers from a lack of precision on the econometric part (composite indicator, spatial
model) and a database at too aggregated a level to obtain interesting results.

Q 2   Please highlight the limitations and strengths.

Major comments:
– Why a spatial Durbin model? in other terms, the study of the correct spatial form is poor. You write "According
to the different embodiment forms of spatial effects, three types of model exist" but many more have been
proposed in the literature and perhaps it should be explained step by step why you choose a specific spatial
specification (see diagram), also from a economic point of view. I appreciate the LM test, but the pros and
cons should be better described (see Tuo Liu and Lung-fei, 2019).
– Another very evident limitation of the paper is the choice (or the need) to study the relationship between
health and public services at the provincial level; in the introduction you rightly say that "spatial accessibility of
services, such as healthcare facilities, can significantly improve residents' health" but this is especially true
between areas more or less served by public services within each province. The provincial level, especially
considering the provincial extension of the Chinese provinces, seems to be too inefficient to capture the
strong differences between e.g. rural areas and large cities within the same territorial area. at this level it is
also more difficult to appreciate changes over time (Figures 2 A VS B) which I imagine have been enormous
especially in the last 20 years, but more at the level of cities VS rural areas than BETWEEN provinces.
– Another critical issue concerns the calculation of the composite indicator in several respects:
1. the indicators are or can be correlated with each other. This leads – in a compensatory method –
to 'weighing' the same information several times. Some authors calculate the main components and
use these to calculate the composite indicator.
2. The calculation and the properties of the method (entropy weighting method) need to be better
explained. Why do you use this method and not others (Benefit of the Doubt, PCA, ..., see Compind
package for R – https://cran.r-project.org/web/packages/Compind/index.html), what are the
advantages and limitations of this method.
3. How would the results change using another criterion: in short, the robustness of the results
seems to me to be a key issue, especially having calculated the Y with a criterion chosen nobody
knows how and with 30 units per year.

Minor issues

– Page 7: no need to quote the Moran index calculation, I think a few references are more than enough.
– Equation 3: "other irrelevant influences"? What are these? The error term?

Side note: the authors often write about the 30 provinces of China including Tibet, Hong Kong, Macao, and Taiwan:
without wishing to enter into an international diatribe that is not the job of a scientific journal, I would point out that
not everyone in the world considers Taiwan to be a province of China. Moreover, from a purely econometric point of
view, Hong Kong and Taiwan are highly heterogeneous provinces compared to the others. So, I would recommend
writing only about the provinces under consideration without mentioning the excluded ones.

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.**

No answer given.

PLEASE COMMENT

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

The title should be much improved.
That it was an econometric analysis was clear.

Q 5   **Are the keywords appropriate?**

No answer given.

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

Weak in some parts

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

No.

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

No answer given.

QUALITY ASSESSMENT

Q 9   **Originality** — 3/5

Q 10   **Rigor** — 3/5

Q 11   **Significance to the field** — 4/5

Q 12   **Interest to a general audience** — 4/5

Q 13   **Quality of the writing** — 3/5

Q 14	Overall scientific quality of the study

REVISION LEVEL

Q 15	Please make a recommendation based on your comments:

Major revisions.