PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	The effect of the national essential medicines policy on health expenditures and service delivery in Chinese township health centers: evidence from a longitudinal study
AUTHORS	Zhang, Xin; Wu, Qunhong; Liu, Guoxiang; Li, Ye; Gao, Lijun; Guo, Bin; Fu, Wenqi; Hao, Yanhua; Cui, Yu; Huang, Weidong; Coyte, Peter

VERSION 1 - REVIEW

REVIEWER	Andréa Dâmaso Bertoldi Federal University of Pelotas Brazil
REVIEW RETURNED	18-Sep-2014

GENERAL COMMENTS	Line 51 and 52: The impact of the NEMP on average outpatient expenditures was statistically insignificant. I suggest changing this expression. It is not adequate refer some statistic test as insignificant. Tests are statistically significant or not. Line 22 (Table 1): No information on methods about why some Log-variables were adopted. Line 41: The impact of the NEMP became significant (p<0.1). 10% cut-off on p value seems to be a big error. Significant level was not defined on methods section. It should be mentioned. Line 48: Outpatient reductions were of borderline significance (p<0.1). The same comment above!

REVIEWER	Chenggang Jin School of Social Development and Public Policy, Beijing Normal University, China.
REVIEW RETURNED	30-Oct-2014

GENERAL COMMENTS	1. Selection problem. According to the policy of Ministry of Health, 30% of township hospitals was selected to start the NEMP in 2010, and then other 30% of them in 2011, and finally the rest of township hoslital in 2013. So there may be selection problem because the the best township hospital were selected in 2010. 2. Model specification and the results On page 5, the the first-difference model (fomula 3) is planned to be used for two period panel data. However, in table 3,4, 5. NEMP*after was used to estimate the impact,

	which are not consistent with the statistical model stated in Data and Method Section. 1. Selection problem. According to the policy of Ministry of Health, 30% of township hospitals was selected to start the NEMP in 2010, and then other 30% of them in 2011, and finally the rest of township hoslital in 2013. So there may be selection problem because the the best township hospital were selected in 2010. It should be discussed. 2. Inconsistency between Model specification and the results On page 5, the the first-difference model (fomula 3) is planned to be used for two period panel data. However, in table 3,4, 5. NEMP*after was used to estimate the impact, which are not consistent with the statistical model stated in Data and Method Section.

VERSION 1 – AUTHOR RESPONSE

Reviewer Name Andréa Dâmaso Bertoldi

1. Please state any competing interests or state 'None declared':None declared
Answer: Thank you for your reminder. I have stated at the end of the paper that we have no competing interests.

2. Line 51 and 52: The impact of the NEMP on average outpatient expenditures was statistically insignificant. I suggest changing this expression. It is not adequate refer some statistic test as insignificant. Tests are statistically significant or not.
Answer: Thank you for this suggestion. I have changed the expression you have noted. The phrase now reads "the impact of the NEMP on the natural logarithm of average outpatient expenditure per visit was not statistically significant in all the models".

3. Line 22 (Table 1): No information on methods about why some Log-variables were adopted.
Answer: Both per capita GDP and health care expenditures were log transformed. These variables follow a right skew distribution and were log transformed to ensure that they more closely follow a normal distribution. In addition, logarithmic transformation may decrease the occurrence of heteroskedasticity. Accordingly, we have added text in the methods section in order to clarify the rationale for use of such transformed data.

4. Line 41: The impact of the NEMP became significant ($p<0.1$). 10% cut-off on p value seems to be a big error. Significant level was not defined on methods section. It should be mentioned.
Answer: We appreciate your comment. We have defined the significant level in methods section and changed the inappropriate expression. Accordingly, we now use the 5% and 1% level as standard for statistical significance in this manuscript.

5. Line 48: Outpatient reductions were of borderline significance ($p<0.1$). The same comment above!
Answer: Based on your suggestion we have deleted this expression.

Reviewer Name Chenggang Jin

1. Please state any competing interests or state 'None declared': no competing interests
Answer: Thank you for the reminder. We now indicate that we have no competing interests.

2. Selection problem. According to the policy of Ministry of Health, 30% of township hospitals were selected to start the NEMP in 2010, and then other 30% of them in 2011, and finally the rest of township hospital in 2013. So there may be selection problem because the best township hospitals were selected in 2010. It should be discussed.
Answer: We are grateful for this observation. Clearly, the staging of the National Essential Medicine Policy might introduce the potential for selection bias. We now note this potential bias in the limitations section of the manuscript.

While referring relevant literatures on fixed-effects study, such as the article "The new cooperative medical scheme in rural China: does more coverage mean more service and better health?" published in Health Economics as well as other studies who also using the same method. This potential for time selection preference may be captured by unobserved time invariant variables to a large extent. Because unobserved characteristics affecting program participation do not vary over time with treatment status, the fixed-effects estimator used in this study would overcome this potential bias. We now provide a discussion of this potential selection problem in the discussion section of this manuscript.

3. Inconsistency between Model specification and the results
On page 5, the first-difference model (formula 3) is planned to be used for two period panel data. However, in table 3,4, 5. NEMP*after was used to estimate the impact, which are not consistent with the statistical model stated in Data and Method Section.
Answer: We appreciate your advice. We have modified the methods section of the manuscript to ensure that the OLS and fixed-effects models are specified consistently.

VERSION 2 – REVIEW

REVIEWER	Chenggang JIN School of Social Development and Public Policy Beijing Normal University China no competing interests
REVIEW RETURNED	01-Dec-2014

GENERAL COMMENTS	It have been modified in response my previous comments. no further comments.