Author’s response to reviews

Title: Current situation of village doctors in China

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Author’s response to reviews: see over
Dear Editor,

Many thanks for your email of 29 Sep 2012, regarding the revision and advice of our manuscript (Manuscript ID: 1419655357646227). All of the comments were very fair and constructive, which help us to improve the manuscript significantly. Based on the comments of editor and reviewers, we rewrote the background, methods; and made major revision to the results, discussion and conclusion of this manuscript. We apologize for these mistakes in our manuscript, for the grammatically errors, we have modified accordingly, and the manuscript was edited by native English speaker.

The detailed modifications are listed below point by point:

Responses to Editor

1. Based on the commands from the editor and reviewers, we changed the title.

2. We rewrote the background, introduced the history of barefoot doctors/village doctors, especially the recent development of rural health workforce, which is relative scarce in the current studies. Also we reviewed the related studies regarding barefoot doctors/village doctors, showed the limitations of current research and the purpose of this study.

3. The methods section was also rewritten to give more details about the questionnaire making, sampling, data collection and analysis.

4. The results and discussion were also made a major revision. We added response rate, and made a comparison between village doctors and doctors from THCs.

5. We concluded the meaning of our project to the development of health workforce and the meaning for the developing counties.
6. Tables were modified according to the advice of reviewers. And two tables of correlation analysis were added.

Responses to Reviewers

Reviewer: Yingnan Zhao

Major compulsory revisions

1. The structure of this manuscript needs a major revision. Overall, it could be more concise and clear.

   a. The title could be more appropriate and meaningful to provide a clue about the contents of this article. ex. Current situation of village doctors in China

   Thanks for your constructive suggestion, and we have changed the title to "Current situation of village doctors in China".

   b. Some background information about barefoot doctor or village doctor that has been talked in context, should be provided in the introduction. Ex. On page 9 paragraph 3, pension standard should be introduced in the background.

   We have followed the suggestions, and gave more background information about village doctors, including the recent development. As there was no national pension standard, I made a brief introduction about that in the background.

   c. There is a lack of the purpose of THIS article in introduction/background.

   We appreciate these important suggestions and agree with the reviewer. We reviewed the historical articles about village/barefoot doctors, and found the limitations of the recent researches, then we introduced the purpose of this study which can be seen in the manuscript.

   d. It seems some statistical tests have been done for correlations (page 12, paragraph 3). These
should be presented in the results, in order to discuss them later on.

Thanks for your constructive advice, and we have presented the results as tables in the manuscript.

2. It is not clear that the results reported in this article are from village doctors (clinic doctors) or rural doctors, who may be the doctors working in THCs?

   We are sorry for the confused statement. This article was about the village doctors, not including the rural doctors working at the THCs. We have deleted the contents about the THCs, and focused on the village doctors in this article.

3. It reads like the authors try to make the inference about economic status of the township and the sex ratio of doctors, from page 7 paragraph 2. However, this has not been well discussed.

   This is very important suggestion. We really found that the lack of female village doctors in poor county was a real problem, but not in the rich or moderate counties. And we discussed that in the discussion section.

4. In discussion (page 10, paragraph 2), the authors have made appropriate statements and comparisons about the gender ratio issue. This study shows fewer female village doctors in rural China, which is consistent with the national trend of fewer female health professionals in general in China and other countries. By comparing the village doctors with nurses, it cannot support the authors’ statement on the imbalance problem only existing in rural China.

   We apologize for the mistake, for comparing village doctors with nurses was really inappropriate.

   We made a comparison between the village doctors with the licensed doctors and doctors working at the THCs to show the shortage of female workers in poor counties.

5. There are interesting points on the issues of aging, education and practice style, however these should be better organized and presented for an easy understanding. Some statements need to be
The issue of adequate maternal and gynecology is raised. It could be the result of sex imbalance, but not cause.

Thanks, and we made major revisions to the discussion section. And the causes of gender imbalance were complex, so we only pointed out the gender imbalance in poor Jingning, which needed policy to tackle.

Minor Essential Revisions

1. More scientific language should be used in the whole article.

We had made changes according to your suggestion to use scientific language, and the manuscript was edited by native English speaker.

2. It will make the article more understandable without grammar and syntax errors.

Sorry for the errors, we have checked all the errors and revised them.

3. Table 1, “average” means total (of 5 counties)?

The “average” means “mean” of the 5 counties, and we have change the average to mean in the manuscript.

Reviewer: Victoria Fan

Major Compulsory Revisions

(1) The authors need to make clear on their sampling approach. Did they make a listing of all village clinics and village doctors before randomly sampling them? Similarly, did they make a listing of all health workers in all township health centers (THCs) before randomly sampling them? This is not obvious at all from their "Methods" section and quite critical to determining whether the "cluster sample" is representative of the population of interest -- that is, the health worker population. Do the authors apply sampling weights to their estimates?
This was a really important suggestion, and we apologize for the shortage in the sampling methods. We did have the list of village clinics and village doctors from the local health bureau, and all of them were asked to participate in this survey, details of sampling were introduced in the manuscript. Furthermore, we removed the contents about THCs and doctors from THCs. We did not use sampling weights, because this sample was not a national representative sample, and we only want to show the situation of the five sampling counties, which were from different districts and with different economic development.

(2) How do the authors check whether their estimates from their survey are internally valid? Can the authors check their results with the Ministry of Health databases at county-level or alternatively from the Census? See paper by Anand, Fan, et al. 2008 for further information.

Our survey should be internally valid, for the questionnaires were based on the official questionnaire from MOH, and focus group and deep interviews were done when constructing the questionnaires. Then pilot survey was conducted to check the questionnaires, also strict procedure was used to ensure the validity of the survey. Based on your paper, we compared the results with the 2012 China Statistics Yearbook and 2006 China Health Workforce Report. The results of our survey were consistent with the official statistics, but with detailed information.

(3) The authors say that they received 1989 questionnaires. What was the response rate? This is critical. Were these the 1989 surveys completed? What was meant by having "useful information"? Were there surveys with 'not useful' information? The authors must report this.

Thanks for your meaningful suggestion, which is critical for our manuscript. We reported the response rate in the revised manuscript. Further, we found 1982 questionnaires were finished, so the valid Q should be 1982, rather than 1989. We have corrected the error in the article. “Useful
information” was not a scientific language, so we deleted that.

(4) Why does the N of doctors drop from 1989 (in the methods) to 1982 (in Table 2)? The paper goes on to say that there were 1979 respondents with correct information. The N needs to be clarified.

Thanks for your recommendation; the N dropped to 1979 because of the missing data.

(5) The authors start of their paper with quite a grandiose statement that they examine whether "current health workforce stocks can equitably provide and deliver sufficient and high-quality healthcare and public health services..." Assuming the best of what the authors mean (as it is not clear what they mean by this sentence), the study does not examine equity nor sufficiency nor degree of high-quality. Indeed, what the study provides is a baseline picture in 4 counties (of some 2000 counties presumably) which may or may not be equitable or sufficient or high quality. The authors need to be more modest in what the study can or cannot achieve.

We are sorry for the inappropriate statement and we have deleted that.

(6) Given the issues above with the study, it is not apparent that the study offers much new to what is already known on the health workforce in China. In particular, the Ministry of Health has a major database of health workers on similar characteristics on a much larger scale -- see Anand, Fan et al (2008) for description of this data.

We have checked the database of MOH, but the information about the village doctors was rather crude. In our study, there was more information about village doctors which have been shown in the manuscript. In fact, our study was a supplement to your paper published in 2008, which didn’t talk much about the village doctors. In addition, our project was a longitudinal study, what we have reported in this paper was just the baseline data.
(7) The authors should put the correlation as a result and also include a correlation matrix rather than go through each correlation in the discussion.

This was a real good suggestion, and we supplemented the correlation matrix into the new manuscript.

(8) One wonders more generally the value of this exercise, since it is of only 4 counties which are not representative of the province (and at best it may be only representative at the county level, though it is not clear that it even meets this minimum standard).

This was a real shortage of our paper because the sampling was not random, and the project can not represent the situation of the country. However, as the survey was cluster sampling, and 88% village doctors finished the questionnaires, the project could represent the general situation of the sampling counties. Furthermore, the sampling counties were from different areas of China with different economic status, so the project can show the situation in different economic development, from different areas. As a longitudinal study, we can follow up the evolution of village doctors. And about 30% village doctors were more than 60 years, so there will be changes in the future. Focusing on this group will be beneficial for the development of rural health, and rural residents.

**Minor Essential Revisions**

The entire paper needs to be thoroughly copyedited because the English is not grammatically correct in several locations and at times hard to understand because of these errors, e.g. how is the imbalance "more appealing" (line 2 in Background)?; what is "self-made constructive questionnaire"; etc. Incomplete copyedits to the document through part of the paper are scanned and attached. These have been noted as "? unclear ?".

We are sorry for the errors and we have corrected them. Native English speaker also revised the
whole manuscript. The “more appealing” was deleted, and the “self-made constructive questionnaire” was replaced by “self-administrated structured questionnaire” which was more appropriate.

**Reviewer: Vivian Lin**

**Major compulsory revisions**

The stated purpose of the paper is to describe the research design and baseline characteristics from the China Rural Health Workforce Project. To do so adequately, the following revisions are necessary:

- Re-write the background, so to contextualise the paper from the perspective of the importance of rural health workforce in the Chinese health reforms rather than from the perspective of the HRH literature being focused on elsewhere in the world and China not getting enough attention. There is important historical background on the development of the rural health workforce in China, along with current health reform expectations, which points to why the issue is so important at this time of major systemic reform. The historical training and level of skills of barefoot doctors should be explained (especially as the use of Chinese medicine is covered in the baseline data in the paper). More recent changes to rural health workforce policy, including training and remuneration, should also be described. Worldwide imbalance in HRH is not particularly relevant for this particular paper, nor developments in specific countries such as India. (The comparative literature review might be useful in a later paper arising from this study).

We appreciate for your suggestions. Based on another reviewer's suggestion, we changed the title of this manuscript to "Current Situation of Village Doctors in China". Although we want to describe
the research design and baseline data of China Rural Health Workforce Project at first, the content in this article was about the village doctors, not including THCs, and doctors from THCs. As a result, we think that the new title was more consistent with the contents. And based on your suggestion, we rewrote the background and deleted the content about the worldwide health workforce imbalance. History of the barefoot/village doctors was introduced in the background, and the relationship between the health care reform and the village doctors was also discussed. The training, level of skills, and the changes in the health workforce policy were also explained. Furthermore, we reviewed the related articles, and presented the purpose of this article.

- Provide much more detail about the methodology, as this should be one of the main foci for the paper and should give the reader a sense of the robustness of the study, as well as what new information will become available in the future as the data is analysed. How representative are these counties? How were these counties selected? What does it mean to randomly choose a county? Table 1 should not be compared against China over all but to rural counties in China. If these counties were representative of high, middle and low levels of development, than comparative data from these 3 levels of development in China should be provided. How was the cluster survey conducted? What was the sampling method? (The paper states that Yongchuan was sampled differently –why? What were the differences?). The paper refers to interviews and questionnaires, was it close-ended but with answers obtained verbally? What was the response rate in each county and is the profile of respondents in each county representative of that county? What were the issues canvassed in these various questionnaires? Were data item definitions comparable to national workforce statistics to enable comparisons? How was the questionnaire piloted? The discussion section refers to experiences during field work – what was the nature of the field work?
Many thanks for the suggestion about the methods. We rewrote the methods, which were divided into four parts: questionnaires, sampling, data collection, and data analysis.

The 5 counties were not representative sample, but they were from different areas, with different economic development in China. We are sorry for the saying “randomly chose a county” which was not accurate. The counties in the study had different economic levels, which can not represent the developed, developing, and underdeveloped counties in China. Although we would like to compare the data with rural counties, or three levels of development, we cannot get the aggregate data. What’s more, as the sample was not a random sample, maybe there is no need to compare.

The implementation of cluster survey was explained detailedly in the manuscript. The sampling method in Yongchuan was the same as other counties, we are sorry for the mistake.

The questionnaires were self-administered close-ended, so the village doctors finished the survey by themselves, except for the doctors who can’t complete the questionnaires independently.

The response rate was reported in the manuscript, 88% village doctors finished the survey. In hence, we could say the sample was representative of the counties.

As the questionnaires were modified from the official questionnaires from MOH, the data can be compared with the national workforce statistics.

The pilot survey was introduced in the manuscript.

We delete the “filed work” which was not clear. Sorry for the errors.

- Clarify the results section further. How does the education level of village doctors in these counties compare with national workforce statistics for rural doctors? How does the income compare? What if public health subsidy was added to the income, then what would be the average income? How does the mean age of village doctors compare with national workforce statistics for
rural doctors?

We appreciate these important suggestions and revised the manuscript according to the suggestion. We compared the education level with the national workforce statistics in the discussion instead of the results. There was not national income statistics about village doctors. If the public health subsidy was added, the income will be higher. But the measurement in this survey was crude; we made more precise measurement in the 2012 Village Doctors’ Income Survey, which have been discussed in the manuscript. Similarly, we compared the age of village doctors with licensed (assist) doctors and rural health workers from THCs.

- Strengthen the discussion section with more discussions about the education system for rural health workforce and rural health policy for HRH since there have been various policy developments over the last 10 years, often by different provinces. You should recognise the diversity of policy experiences in recent years, given provincial initiatives in implementing health reforms, and discuss the extent to which this study is suggestive of the overall experience in China.

This was fair point. We introduced the recent education policies of the village doctors in the background, and compared the education of village doctors with licensed (assistant) doctors in hospital and in THCs. But the next suggestion about education might be talked in a later paper, for large quantities of polices launched in the province level.

- Expand the conclusion to draw out the policy value and implications of the study. For instance, you can discuss the value of a longitudinal study for policy development. You may also wish to include discussions about relevant international experiences which can be drawn upon to inform policy development in China, eg Thailand.

This change was beneficial for the article. Based on the advice, we expanded the conclusion.
A good edit by a native English speaker would be helpful. For instance, ‘trend’ should not be used when reporting cross-sectional data (ie in relation to practice of Chinese medicine). What does ‘formation process’ mean in relation to aging of village doctors. The last 3 pages of the discussion section need major re-work to make sense in English.

We appreciate for your advices. This manuscript was edited by a native English speaker. And the errors, such as “trend”, “formation process” have been corrected; the last 3 pages have been revised, as showed in the manuscript.

We would appreciate your consideration of this improved manuscript for publication in the Human Resources for Health. We thank you for your time and look forward to hearing from you soon.

Sincerely,

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