Reviewer's report

Title: China rural health workforce project: research design and baseline description

Version: 2 Date: 12 September 2012

Reviewer: Victoria Fan

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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?

(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.

(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.

(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.

(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.

(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.

(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.

(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).

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 ?".

**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.