Author's response to reviews

Title: Are "Village Doctors" in Bangladesh a curse or a blessing?

Authors:

Shehrin S Mahmood (shaila@icddrb.org)
Mohammad Iqbal (migbal@icddrb.org)
S M.A. Hanifi (hanifi@icddrb.org)
Tania Wahed (taniaw@icddrb.org)
Abbas Bhuiya (abbas@icddrb.org)

Version: 2 Date: 19 April 2010

Author's response to reviews: see over
Dated: April 19, 2010

To
Editor
BMC Int Health Hum Rights

Subject: Submission of revised version of manuscript MS: 1229231087319689 - Are "Village Doctors" in Bangladesh a curse or a blessing?

Dear Editor

I received comments from 4 reviewers on the manuscript titled ‘Are "Village Doctors" in Bangladesh a curse or a blessing?’ (MS: 1229231087319689). The comments from the reviewers have been incorporated and a point-by-point response to the comments is presented below:

**Reviewer’s report 1**
Title: Are "Village Doctors" in Bangladesh a curse or a blessing?
Version: 1 Date: 21 November 2009
Reviewer: Saxon Smith

2. Are the methods appropriate and well described?
The methods are well described. However it would be informative to actually see the questionnaire sheet and its questions attached as a table. – Discretionary revisions

-------------

We are sending the questionnaire as a separate file for readers to see if interested.

3. Are the data sound?
The data appears generally sound. However, the authors did not define the method by which they obtained their “ideal situation” patient load of 30 patients per day. I would suggest that this is an unrealistic number in modern medical practice. As a result their figure of “600 MBBS doctors required” seems hyperbolic. – Major compulsory revision.

Furthermore, I did not notice any analysis relating the rates of where patients visited for second opinions. That is to say they may have seen their “village doctor” initially but subsequently also saw their MBBS doctor for the same condition. It is important to differentiate this out if the authors wish to make recommendations about up-skilling “village doctors”. – Major compulsory revision.

---Changes have been made to the estimation. However, we would like to add that patient load of 30 is taken to explain a particular scenario. Changing this number although would change the estimation, but it would not alter the situation where shortfall in qualified practitioners in Chakaria is not an issue. Our argument is that increasing the number of qualified physicians is not a feasible solution for the time being and that there are other models (like utilizing the local workforce) that we need to consider. In addition, we should also keep in mind that not all patients would require to see a physician in which case local level healthcare providers would become handy.

Consultation with second healthcare provider is now mentioned under “source of treatment” in the Results section. (pg 7)

5. Are the discussion and conclusions well balanced and adequately supported by the data?
The discussion is well written with a local focus. I am unsure as to whether the creation of the “600 MBBS doctors” would result in an increase in the uptake of their services and I believe this should be addressed. This would add weight to the argument for up-skilling “village doctors” as they seem to see a disproportionate number of minor illnesses. –

Major Compulsory revision.

----------This is now added in the discussion section.

**Reviewer's report 2**

**Title:** Are "Village Doctors" in Bangladesh a curse or a blessing?

**Version:** 1  **Date:** 5 December 2009

**Reviewer:** Anne Cockcroft

Major compulsory revisions

1. Aims of the paper

1.1 The authors mention a number of different aims, including to “to assess the role of various healthcare providers in service provision”, to “discuss realistic options in ensuring health for the rural masses”, to “explore the health-seeking behaviour of villagers”, and to look at both personal and care provider characteristics in determining health-seeking patterns. The paper only really attempts to address the first two of these aims; health seeking behaviour is not really explored to any extent (for example, using qualitative methods such as focus group discussions or in-depth interviews), and there is no attempt to examine characteristics of service-providers beyond their categorisation into different types. For example, there is no information on their level of education, their years of experience, or their views or level of knowledge about different conditions. The paper presents no information about the effect of personal characteristics, except for an indicator of household socioeconomic status; for example, there is no information about the age, sex, or educational level of services users. The authors should revise their statements about the questions the paper is intended to answer and confine them to those their study is able to answer.

---A brief description about the Village Doctors in Chakaria has now been included in the Methodology section under “Village Doctor” (Pg.5)

A short background on the service users have been added under the “Respondents” section. (pg.4)

The questions have been modified. (pg 2 and 3)

2. Methods

The methods section includes some confusing repetition and unnecessary subheadings, yet there is important information lacking. The authors need to re-write the methods section so that it flows logically and takes into account the following concerns.

--Method section has been modified. (pg.3-5)

2.1 The sampling method is unclear. In the abstract, the authors mention randomly selected households from 8 unions of Chakaria upazila. Is this the total number of unions in the upazila? The implication in the methods section is that 1000 households were selected entirely at random within the whole upazila, with no stratification of the sample. However, the methods section also mentions the Chakaria Health and Demographic Surveillance System Area, which includes
7,600 households. What is this entity? How does it relate to the whole population of the upazila? Some reference about the surveillance system would be helpful.

--A more detailed sampling method is now presented. Reference regarding Chakaria Health and Demographic Surveillance System has been added in the ‘Method’ section.

2.2 Presumably some of the household members who were ill in the last 14 days were children. The authors need to give information about who they collected information from when the ill household member was a child.

----This is mentioned in the Methodology section under “Respondent”. (Pg. 4)

2.3 There is almost no description of the analysis, apart from a rather detailed description of the factor analysis used for defining the quintiles for socioeconomic status. Even here, however, the authors give no explanation or justification for the particular list of assets they use. What is the evidence for using these particular assets? If there is previous experience with using this list, the authors should cite this. They should explain what is meant by “Almira” on the list of assets.

----------Necessary changes have been made in the ‘Method’ section. The list of asset is the same that is in use at the Chakaria Health and Demographic Surveillance System.(pg. 4)

2.4 The authors need to describe the analysis they undertook. For example, it is apparent from the results section that some of the questions could have more than one response, and they should clarify this. They also need to be clear about whether respondents selected response options from a list or whether the questions were open-ended. It is apparent that respondents answered several different questions about what they did for illness: where they went, and what type of doctor or practitioner they consulted. The authors need to clarify the questions the respondents answered, and to what extent they had overlapping answers. In Bangladesh, many unqualified practitioners put up a name plate describing themselves as “doctors” and it can be difficult for the public to know if a particular practitioner is a qualified doctor or not (apart from the price of treatment, which may be a good guide). Did the authors have any means to check the respondents’ reports of the type of practitioner they consulted?

------Cases where multiple responses were recorded are now mentioned. (Table 2)

------A survey on the healthcare providers practicing in Chakaria was carried out at the same time when the present survey was conducted. Therefore we could identify which doctors the patients went to and the type of that particular healthcare provider.

2.5 In the Results section, the authors quote statistical significance levels, but they do not give any information in the methods about what tests of statistical significance they used. They need to include this information.

----Now mentioned under Methodology section in “Data management and analysis”. (pg.4)

2.6 The paragraph on health-seeking behaviour is confusing. It is not clear in this paragraph that the random selection of “patients” was among those in the household who reported being ill in the last 14 days. The use of the term “patient” is best avoided in this
population based study. Clearly, many of the household members concerned did not view themselves as “patients” as they did not seek care.

-----Modification reflection the suggestion of the reviewer has been made.

2.7 The use of the term “recall bias” in the paragraph on illnesses is incorrect. The authors should revise the sentence.

-------Has been revised. (pg. 5)

3. Results
3.1 It is remarkable that the authors provide no information about the age and sex of the household members who reported having an illness in the last 14 days. Age and sex may well influence health seeking behaviour – whether to seek treatment and who from. It is a serious limitation if the study did not collect this information; if it was collected, it should be reported and used in the analysis. Information about the level of education would also be relevant if it was collected.

------- A brief demographic information about the respondents has been added. However, we did not add these into the analysis as that would divert the focus of the paper which is highlighting the fact that Village Doctors are essential part of the health systems of rural Bangladesh. Therefore policies to improve the health system in general can not go without incorporating them. (pg. 4)

3.2 Categorization of type of illness based on the report of the household members is probably unreliable, other than into very broad categories. The authors should present the findings from this categorisation more cautiously then they do at present. In Table 1, the authors should give numbers as well as percentages.

---------Categorization of illnesses was done by a physician. It is a limitation of our analysis that categorization was based on reported illness rather than illness identified by a healthcare provider. However, the reported illnesses were verified against the symptoms mentioned by the respondents.

---------Information has been added in Table 1.

3.3 One thing that does emerge clearly is that the data collection coincided with an outbreak of feverish colds in the area. The authors do not say when the survey took place; was it during the winter? This illness outbreak explains the very high rates of reported illness in the last 14 days; it also means it is not appropriate to generalise about health seeking behaviours or requirements for medical manpower from the findings (see below).

-------------The survey took place in February 2007 which is towards the end of winter in Bangladesh. Changes have been made to the estimation for required number of physicians taking into consideration the treatment seeking rate. However, even with a 30% prevalence rate the required number of physicians would be more than four times the existing number of physicians in Chakaria. The argument we are trying to put forward is that, given the current situation it is not feasible to expand the number of physicians to this level and therefore we should make use of the locally available resources (like Village Doctors). Also we should keep in mind that not all the cases would be serious enough to need treatment from a physician, rather care at primary level would be enough to meet their healthcare demand.
3.4 The findings presented in the paragraph headed “treatment seeking” are confusing. The authors should give numbers as well as percentages. Were the reasons given for not seeking care in response to an open-ended question? The percentages mentioned add up to more than 100%. Could respondents give more than one response? The authors should pay more attention than they do to the report of half the respondents who did not seek care that they did not feel that they needed treatment – they may well have been right!

-------------Numbers have been added (pg 6). The question was semi-structured. Some reasons were given and respondents could also add. The responses were multiple.

3.5 Under “source of treatment” there is confusion about division into public/private sources and into qualified/unqualified providers. In the division into public/private facilities, presumably the private facilities included both qualified practitioners and unqualified practitioners (including village doctors).

-------------Yes, the private facilities include both qualified and non-qualified providers. Here we wanted to highlight the low utilization of the public facilities in the area. (pg 7)

3.6 The analysis by type of illness is probably unreliable, especially for those categories with (presumably) only small numbers of reports. Table 2 should include numbers as well as percentages. There is an argument that for numbers less than 100, only the number should be shown.

-------------Numbers are now added in Table 2.

3.7 In the last paragraph under the heading “source of treatment” the authors state that 73% of the “patients” chose their healthcare provider based on their belief they were getting good quality care. Without numbers being given, it is hard to tell which “patients” are included in this statement. Is it confined to those ill persons who actually consulted some sort of health care provider (thus excluding the 66% who did not seek care)? In the same paragraph the authors say that 38% of the “patients” chose the health care provider because of proximity to their home. The 73% and 38% already come to more than 100%; did the question allow more than one response?

-------------This analysis is confined to those who sought care from a healthcare provider. The questions allowed multiple answers as people had more than one reason for choosing a particular healthcare provider. The questions were asked specific to the reported illness and therefore if someone did not consult a healthcare provider we only recorded the reason for not consulting any healthcare provider.

3.8 The only section of the paper that includes statistical analysis is that examining socioeconomic status and health seeking behaviour. The first sentence in this section belongs in the Discussion section.

-----Changes have been made.

3.9 The reported analysis compares the lowest quintile with the highest quintile of socioeconomic status for reported illness and health seeking behaviour. This has the advantage of increasing the contrast, but it excludes the majority (about 60%) of the population. The authors should at least report the findings from all five quintiles, and preferably use a test of trend to examine the trend from lowest to highest quintile. Another option could be to compare the lowest quintile with the
rest of the population. The authors could consider both options and perhaps report the findings from both.

Findings from other quintiles are now reported. Table 3 has been modified to incorporate the change.

3.10 Table 3 is very difficult to interpret as it stands. The authors should show the fractions on which the percentages in Table 3 are based. It is not clear why the numbers in the columns for treatment seeking are so small. Which people are included in this "treatment seeking" analysis? The large numbers in the columns for illness reporting appear to be based on the total number of household members in the surveyed households. But this is inappropriate. The categorisation into socioeconomic status quintiles was by household, not individually. Therefore the analysis should be based on the number of households who had at least one member ill in the last 14 days, not based on individuals.

Changes have been made to Table 3.

3.11 The authors should state the tests of statistical significance they used to produce the p values shown in Table 3. The statistical significance of the difference in illness reporting between the lowest and highest quintile is inflated by the much larger numbers included when undertaking the analysis at individual level and including all members of the households; the difference may well not be significant when, as they should, the authors undertake the analysis at household level.

Changes to Table 3 have been made. P values are mentioned in the table.

3.12 Later in the section on socioeconomic status and treatment seeking, the authors describe the proportions of "patients" in the lowest and highest quintile consulting qualified and unqualified doctors; we also need to know how many of the qualified doctors were in public (government) facilities and how many were seen privately. The authors then say that although the differences were not significant there was an overall increasing trend in consulting qualified doctors among the higher quintiles. This implies they carried out some sort of statistical test for trend, across all five quintiles. Did they do this? If so, they should describe the test.

4. Discussion and policy implication

4.1 The authors' claim for the required number of qualified doctors to treat patients, based on the findings from the survey, is seriously misleading. First, they ignore the fact that the high prevalence of recent illness was unusual and related to an outbreak of a feverish cold illness in the area (even though they state this earlier in the paper). Second, they assume that all people ill in the last 14 days needed to see a doctor, whereas at least half of them, by their own report, did not need to see a doctor. Third, they assume that although the reported illnesses were during a period of 14 days, all the ill people would go to see the doctor on the same day. Their calculated requirement for qualified doctors is greatly inflated.

The estimation has been modified following the suggestions of the reviewers.

4.2 The review of the benefits of task shifting is uncritical and most of the references are in relation to task shifting to cope with the AIDS epidemic in Africa, which may not be relevant to the situation in Bangladesh.
The references were used to mention a few examples where informal healthcare providers have proven to be useful and this gives us hope that as far as primary healthcare provision is concerned Village Doctors can be trained to provide necessary healthcare. Also reference 31 is based on experience from Bangladesh.

4.3 The authors do not cite a paper from this reviewer published in another BMC journal, which reported, in more detail and from a series of three large representative national surveys in Bangladesh, on the use of qualified and unqualified practitioners and of government and private facilities. The paper also included findings from focus group discussions about the reasons people chose different health care providers. The reference is: Cockcroft A, Andersson N, Milne D, Hossain MZ, Karim E. What did the public think of health services reform in Bangladesh? Three national community-based surveys 1999-2003. Health Res Policy Syst. 2007 Feb; 5:1. This is now cited in the paper. (pg 8 and 10)

4.4 When the authors' suggest incorporating village doctors within the formal health care system, with referrals to qualified doctors etc, they should mention the strong opposition to such a scheme from the doctors' professional body in Bangladesh (this is described in reference 9 cited by the authors). This argument is now added in the discussion section. (pg.10)

Minor essential revisions
2. Figures
Figure 1 does not really add much and could presumably be incorporated into Table 2. Figure 2 duplicates information given in the text. Either the figure can go, or the information in the text can be removed.

-------- Figure 1 portrays percent of patients consulting only MBBS or Village Doctors and so on. Whereas, Table 2 shows consultation with various healthcare providers for specific conditions. We would prefer to have both of these tables and figures to highlight the fact that Village Doctors are the major source of healthcare irrespective of type of illness.
We would prefer to have both the figure and the text. Figure 2 would give us a visual representation which is useful at times.

3. References
Several references are included in the text in Harvard style (under “socioeconomic status and health seeking behaviour” in the Results section) rather than in Vancouver style (consecutive numbers in the text). The word “book” needs to be removed from a number of the references at the end of the text.
--------Trying to use BMC style for endnote but having problem. Would require help from BMC.

Reviewer's report 3
Title: Are "Village Doctors" in Bangladesh a curse or a blessing?
Version: 1 Date: 4 January 2010
Reviewer: Henry Perry
Reviewer's report:
Discretionary Revisions:
I think improvements in the article would be helpful. Here are my suggestions. Some of these analyses may be intended for other publications, but if there is an opportunity to include them here, it would be helpful:

1. A few words about the process through which a person becomes a ‘village doctor’ would be helpful. Are there any formal training programs? Is it an apprenticeship process? And so forth.
   -----This is now included in the manuscript under the “Village Doctor” section of Methodology. (pg 5)

2. Where do drug sellers fit into this scheme of local providers of health care in Chakaria? Could village doctors also be considered drug sellers?
   ---------In Chakaria around 82% of the Village Doctors sell drugs alongside their practice. Therefore we could consider them as drug sellers by and large.

3. Why are homeopathic doctors distinguished from village doctors?
   -----The study focused on the modern practice of medicine and therefore we considered only those Village Doctors who were practicing allopathic medicine.

4. How representative of rural Bangladesh is Chakaria?
   -------Chakaria lags behind in terms of many of the health and development indicators from the rest of the country. However, the health systems of Chakaria faces challenges that are common to the rural health system of Bangladesh.

5. Any further analysis of differences in care-seeking behavior for acute versus chronic conditions, for more serious conditions, for children, and for women would be of interest. Also, we know that patients in these settings seek assistance from multiple types of providers. This is not really addressed in the reporting of the data except to a minimal extent (regarding % of patients who see an MBBS doctor in combination with other types of healthcare providers).
   -----We agree that this would be interesting. However, data limitation for chronic illness would not allow us to do justice in conducting this analysis.

6. In the discussion, the statement that 600 MBBS doctors would be required to attend to all the ailments of patients if they all went to an MBBS doctor needs to be more clearly justified and more fully discussed. How many MBBS doctors are there currently in the Chakaria area? The calculation that led to the need for 600 MBBS doctors implies that every sick patient would see an MBBS doctor EVERY DAY that he/she is sick. This is not a realistic assumption.
   ---------Modification in the analysis following suggestion of the reviewer has been done. Number of existing MBBS doctors in the area is now mentioned in the discussion section. (pg. 9)

7. The Discussion and Policy Implication section doesn’t give adequate attention to thinking about how to incorporate existing “informal” village health care providers into other commonly used approaches to providing access to essential primary health care services in Bangladesh (government community-based workers, NGO CHWs – especially BRAC’s Shasthya Shebikas, and so forth). Shasthya Shebikas are supported with local revenue from the communities, and government community-based workers have a sustainable source of support. Thus, at least these types of village-based workers
are not subject to the short-term funding issues which plague many NGO programs in Bangladesh and around the world.

-------------Modifications have been made in the “Discussion” section.

8. The discussion at the very end of the government program to train “Palli Chikitshaks” is important. How many of the village doctors in Chakaria were trained as part of this program in 1978? The last paragraph states that they are “considered better in terms of quality.” Better than what? MBBS doctors? What is the potential for some type of similar program which would provide newly trained “Palli Chikitshaks” with up-to-date training on how to manage common serious illnesses (and to incorporate some kind of supervisory or accountability system to encourage compliance)? In my view, the statement in the final paragraph needs further elaboration: “the major challenges facing these models of using community-based agents to provide health services … lie with issues like competence, trust and sustainability of the programmes.” Selection, training and supervision of community-based agents are also critical.

---------The village doctors who were trained as “Palli Chikitshaks” are considered to provide better quality services than the other informal healthcare providers. This is now mentioned in the discussion.

Further modifications have been made to the discussion section following reviewer’s comments.

9. The whole issue of task shifting and how many doctors are needed to meet basic healthcare needs is a critical one from the global perspective. Several recent references on this that have gained a lot of attention are listed below. They or similar articles might be brought into the discussion. Forecasting the global shortage of physicians: an economic-and needs-based approach.


I am attaching as a separate document a chapter of a book entitled Physician Assistants: Their Contribution to Health Care (1982) by Henry Perry and Bina Breitner. This addresses the whole concept of physicians, physician extenders and village health workers. Some of the concepts discussed here might fit nicely into the discussion section.

----These references have been incorporated and the discussion section now includes additions from these references.

10. It is not clear from the paper whether the MBBS doctors are working in government health facilities or as private independent practitioners. This would be useful to know. Also, there needs to be a little more discussion of the paramedics (SACMOs). Finally, do we know why local people choose not to go to MBBS doctors? Is it just the opposite of why they choose village doctors (which was cited in the article)? We would like to assume that MBBS doctors provide a higher quality of care than do village doctors. Is there any evidence for this? (Quality includes not only technical quality but also the quality of the interpersonal interaction as well!) This is an important issue. The data clearly show that patients want quality care. Defining this and creating ways in which to
communicate to local people that providers are providing quality care is a key issue, and addressing this issue is an important policy consideration.

The MBBS doctors in Chakaria are working in both public and private facilities. We haven’t asked people about why they did not choose a particular type of healthcare provider, such as MBBS doctors. The question asked was why they chose the healthcare provider they consulted for this particular illness.

11. I think there is more literature on use of informal providers in Bangladesh and elsewhere that should be cited in the discussion.

More references have been added.

12. The study raises the question of just how many local healthcare providers there are in Chakaria and what they do. Is there information on this that could be productively incorporated into the article? Related to this, there is no mention of childbirth and local delivery attendants. This is an important aspect of primary health care and should be at least mentioned some way or other.

Number of healthcare providers (Village Doctors and MBBS doctors) have been mentioned.

Although childbirth and delivery is an important issue, the present study only looked at health seeking pattern related to acute illness with in the last 14 days preceding the survey. Therefore, this could not be added in the manuscript.

**Reviewer's report 4**

**Title:** Are "Village Doctors" in Bangladesh a curse or a blessing?

**Version:** 1  **Date:** 6 December 2009

**Reviewer:** M A Hamid Salim

**Reviewer's report:**

The importance of village doctors in the absence of qualified graduate (MBBS) doctors to ensure health care services to the rural population in Bangladesh is well demonstrated. There are several ethical concerns to involve these village doctors to provide health services, It might be interesting to discuss what proportion of their prescriptions are inline with the standard practice and also the importance of regulatory mechanism.

Prescription pattern of the Village Doctors were not analyzed in the present study. We realize the importance of regulatory mechanism and it is now incorporated in the discussion section.

Few other concerns are:

1. It is demonstrated that the village doctors are the most preferred health care providers because of their accessibility and as well as quality of services provided by the village doctors- 73% of the patients responded that they were received quality healthcare from the village doctors. It is important to explore how community perceived quality for the services they received from the village doctors.

Villagers’ perception about quality is a major issue. Unfortunately this was not included in the study and we do not have information on it. However, this could be a future direction for research into improving rural health system of the country.
2. The survey conducted in Chakaria seems during the seasonal flu as such exacerbated with the prevalence of illness. As a result the number of physician (600 physicians) needed to ensure health care in Chakaria looks very high-need to be revised. It might be interesting to demonstrate how many qualified doctors and how many village doctors are currently practicing in Chakaria.

--------
The estimation of required number of MBBS doctors has been modified reflecting the suggestion from the reviewers. The number of MBBS doctors as well as number of Village Doctors practicing in Chakaria at the moment is now mentioned.

Thanking you

Shehrin Shaila Mahmood
Mohammad Iqbal
SMA Hanifi
Tania Wahed
Abbas Bhuiya