Reviewer’s report

Title: The impact of India’s Accredited Social Health Activist (ASHA) programme on the utilization of maternity services: a nationally representative longitudinal modelling study

Version: 0 Date: 14 Jun 2019

Reviewer: Kerry Scott

Reviewer's report:

Review HRHE-D-19-00123

The impact of India's Accredited Social Health Activist (ASHA) programme on the utilization of maternity services: a nationally representative longitudinal modelling study

Dear Authors,

Thank you for the opportunity to review this article. Your analysis of IHDS data on direct ASHA exposure and cluster-level ASHA exposure is robust and valuable. This type of evidence of effectiveness will be of great interest in India and in other countries building CHW programs.

I have a few minor suggestions.

* I think there are more recent statistics on MMR, ANC etc. Current numbers are until 2007 but NFHS-4 presents another, more up to date, set of data.

* At the bottom of page 3 you say "India's Accredited Social Health Activist (ASHA) programme is one of the largest CHW programs globally" and then "The ASHA programme is the largest community health worker (CHW) programme in the world, in terms of the number of CHWs trained" - this seems to be inconsistent unless there is another CHW program larger than the ASHA program but where the CHWs are not trained. Also there are no citations for either of these statements. I would just suggest sticking with "largest" if that's true or "one of the largest" if it's difficult to get final numbers on the size of all other CHW programs. (I vaguely recall from last time I looked at this data that there were other programs - perhaps in Brazil, Ethiopia, or Thailand? -- that may have been as large as the ASHA program depending on which cadres you counted as CHWs.)
* You define the acronym "ASHA" twice - on page 3 and page 4.

* Perhaps consider changing the colours on the map indicating percentage of women reporting receiving services from an ASHA among all women who had a live birth since 2005. Right now, the highest percentages are indicated in reds - which generally is linked to a bad outcome. Maybe you could use deeper and more intense greens or blues to show increasingly high percentages of women receiving services from the ASHA?

* For figure 2, consider adding confidence intervals to the bars, or, if none of the differences by age, caste, etc. are significant, noting this for the reader.

And two slightly more substantial ones:

* Have you seen this study: Wagner et al. (2017) Have community health workers increased the delivery of maternal and child healthcare in India? - They used DLHS-3 and 4 data and looked at maternal and child health services by whether there was an ASHA or not, at the village level. But they found that presence of an ASHA did not influence institutional birth. Your discussion would be strengthened by commenting on Wagner's study and why your findings may be different.

* The discussion of challenges facing the program (bottom page 13) would benefit from a more robust summary (with additional citations to acknowledge the extensive research on these topics). This review (https://health-policy-systems.biomedcentral.com/articles/10.1186/s12961-019-0427-0) summarizes the literature but more importantly, you can additional files 3 and 4 to more systematically identify and cite studies noting limitations around ASHA remuneration, training, support, motivation and monitoring.

Best wishes,

Reviewer

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An exceptional article
Quality of written English
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