Reviewer's report

Title: Predicting Risk of Avian Influenza A(H5N1) in Egypt: The Creation of a Community Level Metric

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Reviewer: A. Danielle Iuliano

Reviewer's report:
In this paper, the authors developed a composite risk index to understand household level motives and drivers contributing to avian influenza A(H5N1) infection vulnerability in Egypt. While I fully agree with the authors that most publications surrounding influenza A(H5N1) outbreaks have focused on epidemiology and virology rather than focusing on drivers and motives behind the epidemics, this research paper is not fit for publication in its current state. Data for this survey was collected in 2010 and the authors make no effort to describe its relevance to the situation today in Egypt. Since 2010, Egypt has undergone a political revolution, seen increases in poverty levels and poultry prices, and has documented the largest outbreak of human infections of A(H5N1) to date, all of which may have impacted the way Egyptians live and interact with poultry since this survey was conducted. Further, the authors analyzed survey participants in wealth categories that seemed to not be standardized across the villages. While they seemed to use a standardized wealth ranking exercise between villages, key informants (not the authors) divided their village population into the four wealth categories independently from one another. If different cut offs were used between key informants, data would not be comparable across villages. The authors then created subsets within these categories, where almost half of the participants dropped out because the categories were not collectively exhaustive, and it was unclear why these sub categories were chosen without incorporating the alternative categories. It was also not clear whether this categorization was based purely on the information provided by one person (the key informant in each village) or if it was verified with the household or by any other means. The methods used in the focus groups also need to be refined. It was unclear to me whether the five questions listed were answered collectively as a group, or individually in front of everyone,
or individually in a closed voting manner. If it was done as a group, how was consensus reached? If it was done privately, where does group influence come into play?

The methods relating to how the composite risk score were developed also need to be explained in further detail. Were all of the categories either 0 or 1 or was it a continuous scale from 0 to 1?

While the authors explain how the score for the community norm category were determined, they did not explain how the responses to questions in the other categories turned into scores. For example, the authors mentioned that food insecurity was rated on a scale of 0-4; however, they did not explain how this score was then transformed into the 0-1 category used in the composite risk score. As this score is the main finding in this paper, the methods for this section need to be written clearly and completely. It was challenging to interpret and understand the results given the lack of clarity in the methods section.

**Are the methods appropriate and well described?**

If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**

If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**

If not, please explain in your comments to the authors.

Unable to assess

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**

If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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Please indicate the quality of language in the manuscript:

Acceptable
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