Reviewer’s report

Title: Epidemiology of influenza in West Africa after the 2009 influenza A(H1N1) pandemic, 2010-2012.

Version: 1 Date: 10 Apr 2017

Reviewer: Edward Goldstein

Reviewer’s report:

The paper under review describes an influenza surveillance scheme in several West African countries between 2010-2012. The results are valuable because of both the quality of the design and the scarcity of analogous data in the West African region. The paper is well-written and its results are stated clearly. Below are some suggestions:

1. 3rd line on page 10 says: "For ILI cases, the first 4-5 consenting, eligible case-patients were enrolled on weekdays.” While it is understandable that there are limitations on the subsequent virological testing of patients with ILI, this surveillance system is not suitable for serving as a proxy for ILI activity in the community because when ILI levels are high enough, there are 4-5 patients on essentially each weekday, and hence weekly ILI levels should be quite flat when flu circulation is high enough. There reviewer would recommend to record the number of all patients with ILI, as well as the share that those patients represent among all patients in the clinics (still having 4-5 ILI cases subjected to virological testing). This way, both the weekly ILI levels in the community (percent ILI among patients in the participating clinics), and the percent of those that are positive for influenza can be recorded, as it is done in a number of countries.

2. For both the Fall and the Winter/Spring seasons, could the authors examine the Spearman correlation between the peak week and the peak percent positive (presumably pooled for all countries and years, though there might be enough data to disaggregate the analyses by groups of countries with similar overall percent positive). The point is to test whether earlier peak corresponds to higher percent positive at the peak.

3. What is the correlation between the weekly (or monthly) percent positive among ILI and percent positive for SARI by age group/influenza subtype? Are there country-specific differences (that might indicate differences in diagnosis or testing practices)?

4. A key issue involving a good deal of uncertainty is the burden of severe outcomes (deaths and hospitalizations) associated with influenza circulation in Africa. Several methodologies for utilizing surveillance data for estimating the burden of severe outcomes associated with influenza are available. The reviewer would suggest to connect those methods with the influenza surveillance data streams in future work.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**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.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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