PEER REVIEW HISTORY

BMJ Paediatrics Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Respiratory Syncytial Virus prevalence in children admitted to five Kenyan district hospitals; a cross-sectional study
AUTHORS	Le Geyt, Jacqueline; Hauck, Stephanie; Lee, Mark; Mackintosh, Jennifer; Slater, Jessica; Razon, Duke; Williams, Bhanu

VERSION 1 – REVIEW

REVIEWER	Reviewer name: Emma Sherwood Institution and Country: Public Health Registrar, Public Health England Global Health Team Competing interests: None
REVIEW RETURNED	29-Nov-2018

GENERAL COMMENTS	Overall I think this is a well written and concise paper. A few minor points: Use confidence intervals where possible/available (eg paragraph 1: "the burden of RSV in paediatric admissions, the majority of which are from the rural coastal town of Kilifi, show a range of between 15-34% (3, 4)" Discussion - if word count permits I would be interested to read slightly more detail re the reasons for difference in prevalence between sites (ie why does environement/altitude/climate etc matter). Also - could there be a measurement bias or error (particularly in the site where 0% of cases were seen - is this real or due to an error in using the kits/reporting results) - would be worth mentioning that this has been considered. This study reports lower rates than other sites in previous papers - would be worth having a paragraph considering why this is - is it due to different techniques used for testing/different inclusion criteria (ie not using the WHO one) , or because of the reasons stated for varying prevalence (environment, altitude, climate etc) - how do the sites in this study differ?

REVIEWER	Reviewer name: Dr Jay Halbert Institution and Country: The Royal London Hospital, Whitechapel Rd, Whitechapel, London E1 1BB, UK Competing interests: None
REVIEW RETURNED	01-Dec-2018

GENERAL COMMENTS	Improved understanding of ARIs in low-resource settings is important for many of the reasons highlighted in this article including helping to guide evidence-based guidelines, antimicrobial stewardship and public health planning. An important contribution to the literature in this field. No changes suggested.

VERSION 1 – AUTHOR RESPONSE

Dear Reviewer 1; Many thanks for taking the time to review this letter. In response to your points;

1. **Use confidence intervals where possible/available (eg paragraph 1: "the burden of RSV in paediatric admissions, the majority of which are from the rural coastal town of Kilifi,show a range of between 15-34% (3, 4)" **

Unfortunately the 3rd reference has only published results with a 95% confidence interval extrapolated for the incidence per 100,000 patients, not for the %15.3 RSV rate found in the study and so we will be unable to cite this. The 4TH reference study does quote 34% [95% CI, 31%-38%] but without the range for the 3rd reference I will not be able to give an overall range.

I have added the 95% confidence interval for our result of difficulty feeding.

2. **If word count permits I would be interested to read slightly more detail re the reasons for difference in prevalence between sites (ie why does environement/altitude/climate etc matter). Also - could there be a measurement bias or error (particularly in the site where 0% of cases were seen - is this real or due to an error in using the kits/reporting results) - would be worth mentioning that this has been considered. **Thank you- we agree that the difference in RSV prevalence between sites is of interest but unfortunately, the word count does not permit further discussion of the topic.

3. **This study reports lower rates than other sites in previous papers - would be worth having a paragraph considering why this is - is it due to different techniques used for testing/different inclusion criteria (ie not using the WHO one) , or because of the reasons stated for varying prevalence (environment, altitude, climate etc) - how do the sites in this study differ? **

Thank you. The main techniques used in studies are PCR (which we did not have available) and antibody based tests i.e. immunochromatographic. PCR is more sensitive picking up samples with lower viral loads- however even the studies also only using immunochromatographic have higher RSV rates than our study. To help clarify this we have added this...." , including those also only using immunochromatographic testing."

Another factor may be that RSV occurs in epidemics. Although we tested during the peak bronchiolitis months at our sites, presuming this correlates with peak RSV (which would also fit with RSV peak months in many previous studies), without testing across the whole year a whole range of viruses we cannot be sure that we were not testing during a trough in RSV cases. These RSV epidemics may be occurring at different times across the country. We have added ". Although recruitment coincided with peak annual ARI cases, RSV epidemics could have occurred at other times.. "

Dear Reviewer 2; Many thanks for taking the time to review this letter.