Author's response to reviews

Title: Low prevalence of methicillin resistant Staphylococcus aureus as determined by an automated identification system in two private hospitals in Nairobi, Kenya: A cross sectional study

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Author's response to reviews: see over
The Editor,
BMC Infectious diseases.

RE: RESPONSE TO EDITORS COMMENTS

Thank you for your feedback and the recommendations given to make my work publishable in your esteemed journal. My response to your suggestion are as follows:

1. The authors should confirm the presence of mecA gene in the 27 isolates. Without the information, we would not be able to consider the manuscript further.

   **Action:** Whereas it would be desirable to go ahead and perform PCR to look for the *mecA* gene before identifying an isolate as an MRSA, this will not be possible since the data presented was obtained from the information system available in our automated culture system. It is important to note that for a routine diagnostic laboratory, identification of isolates as MRSA is largely based on phenotypic tests which involve testing for susceptibility to oxacillin and/or cefoxitin. The Clinical Laboratory Standards Institute (CLSI) has published guidelines for interpretation of antibiotic susceptibility which they renew annually. Since 2010, all their guidelines recommend that in circumstances where both cefoxitin and oxacillin are tested on a *S.aureus* isolate, resistance to either should result in the isolate being identified as MRSA. It is known that cefoxitin resistance is a better surrogate for *mecA* mediated resistance compared to oxacillin. However, phenotypic resistance especially to oxacillin can also be mediated through modification of penicillin binding proteins and hyper production of beta lactamases. It is for this reason that CLSI do not limit the determination of MRSA based on phenotypic tests to cefoxitin resistance. I have attached a page from CLSI antimicrobial susceptibility guidelines (point number 14) which I hope will provide further clarification on this point.

2. Methods: spell out the MIC breakpoints for oxacillin and cefoxitin for interpretation of MRSA.

   **Action:** This has been done and appears in the track changes.

Once again I am grateful for this opportunity.
Regards

Geoffrey Omuse