Author's response to reviews

Title: Molecular Epidemiology of Drug-Resistant Malaria in Western Kenya Highlands

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Author's response to reviews: see over
Dear Editor,

Re: revision of MS#112671334192333 - Molecular Epidemiology of Drug-Resistant Malaria in Western Kenya Highlands

In response to reviewer Dr. Thomas Loescher:

1. We have deleted the last two sentences in the background section and combined the last paragraph of the background with paragraph above (para. 1, page 4).

2. We completely agree with the interpretation of the reviewer on the role of drug resistance on malaria epidemics in East African highland. In the conclusion section (para. 1, page 12), we stated that "the role of drug resistance as a driving force for malaria outbreaks in the highlands has not been established. If drug resistance were the main driving force, the lowland and highland sites should expect similar epidemic pattern of malaria incidence. Moreover, drug resistance level should increase over time until a new antimalarial drug is adopted. Thus, the number of malaria patients would be expected to increase gradually over time, but malaria incidence should not exhibit a large inter-annual variation. In contrast, dramatic fluctuations in malaria incidence in the African highlands were observed [9, 46-47]. Significant association between climate variability and malaria incidence suggests that climate factors may play an important role in the East African highlands [47]. Further studies are required to examine the interactions between climate factors and drug resistance on malaria incidence in African highlands".

The two reviewers are acknowledged.

Thank you very much.

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