Background: Malaria remains a leading cause of child mortality in sub-Saharan Africa. Severe malaria is the main pathway to death due to malaria. Study of factors associated with protection against severe malaria is best-achieved using cases-control design. However these studies are affected by the quality and appropriateness of the choice of controls that may introduce important bias in study design and definitively alter the conclusions from the studies. It is of paramount importance that the presence or absence of an episode of severe malaria in the history of the controls is ascertained. In settings with reliable medical data from hospital records this is easily tracked back. In settings like Bandiagara, with weak health care systems, a dedicated approach to track history of severe malaria is needed. We used an adapted verbal autopsy questionnaire to identify presence of cerebral malaria in history of controls in a case-controls study of severe malaria in Bandiagara.

We have assessed the sensitivity, specificity and predictive positive and negative values of the questionnaire.

Methods. From January through August 2018 we enrolled 450 children with or without known confirmed cerebral malaria selected at health care centers in Bandiagara and Bamako, with archived medical records. Parents of enrolled children were identified, located and interviewed using the adapted verbal autopsy questionnaire. Interviewers were not aware of children's diagnosis. We compared the diagnosis derived from the verbal autopsy questionnaire to the confirmed biological diagnosis from the medical records.

Results. We will present full results on the sensitivity, specificity, the predictive positive and negative values of the verbal questionnaire, and the Kappa coefficient of agreement.

Conclusions. A good verbal questionnaire will enhance the quality of the choice of controls in case-control studies of severe malaria and overall will improve the quality and relevance of inferences from such studies.