

## OPTIMAL CONTROL OF MALARIA TRANSMISSION IN NIGERIA

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*Plasmodium falciparum* malaria is a public health problem in tropical countries with 247 million cases annually occurring globally and 86% in Africa. Malaria is endemic in Nigeria and remains one of the leading causes of morbidity and mortality in the country. There are several works done on the modelling of malaria but those that have been used to understand and assess the impact of the use of various control strategies in low and high transmission regions in Nigeria are yet to be done. Therefore, in this study, we designed a population-level mathematical model for human-mosquito interactions with multiple interventions towards the elimination of *Plasmodium falciparum* malaria in Nigeria. Sensitivity analyses on the model with two different baseline parameters for high and low transmission regions were performed. The interventions applied were focused on mosquito biting rate and the human recovery rate to reduce the spread of malaria in low and high transmission regions in Nigeria. This model suggested that the inclusion of various control strategies for the effective control of malaria in both low and high transmission regions of Nigeria will guide the Public health officers and policymakers in the choice of control strategies required for each region and it will also support the use of control strategies and/or elimination of *Plasmodium falciparum* malaria in Nigeria.

### REFERENCE

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