Malaria treatment and drug resistance

Prompt and adequate treatment is a central component of malaria control and of reducing mortality. However, the malaria parasite, Plasmodium, may develop resistance within several years after the introduction of new drugs. Therefore, monitoring the efficacy of present and novel drugs is essential. Molecular markers of drug resistance support such monitoring.

Data for treatment policies

National antimalarial drug policies are based on information as to the efficacy of available drugs. In western Uganda, the molecular markers of drug resistance suggest that a drug-based preventive approach for the prevention of malaria in pregnancy may have lost efficacy. In southern Rwanda, we recently detected Plasmodium falciparum K13 mutations, which in Southeast Asia are associated with reduced susceptibility to the artemisinins. In a current study, we aim at clarifying if and to which extent these and other mutations affect treatment outcomes in Rwanda. In a further study in India, similarly, the molecular markers of the predominating Plasmodium species are correlated with treatment outcomes.