PA-003 CHLOROQUINE-SENSITIVE *PLASMODIUM FALCIPARUM* IN A HIGH-BURDEN MALARIA AREA AFTER OVER A DECADE OF ITS WITHDRAWAL AS FIRST-LINE ANTIMALARIAL MEDICINE: CASE OF NCHELENGE DISTRICT

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Background *Plasmodium falciparum* (*Pf*) resistance to antimalarial drugs remains a major hindrance to malaria control and elimination. *Pf* has developed resistance to nearly all antimalarial drugs including chloroquine, the first most frequently used first-line treatment for uncomplicated malaria. In Zambia, chloroquine was used as treatment for uncomplicated malaria for a long time until *Pf*-developed resistance and rose to as high as 60% in some parts of the country. This prompted the Ministry of Health to effect a drug policy change in 2003. Recent reports have indicated recovery of chloroquine susceptibility in neighbouring like Malawi, Mozambique and Tanzania. To update the information on chloroquine sensitivity in Zambia we conducted a study that assessed the prevalence of mutant *Pf* in Nchelenge district 10 years post chloroquine withdrawal.

Methods Dried blood spots for this study were collected from finger-prick blood of consenting pregnant women. Deoxyribonucleic acid (DNA) was extracted and genotyped for *Pf*crt-76 resistance marker using specific primers in a nested polymerase chain reaction (PCR). The PCR products obtained were then pyrosequenced and read using PyroMarkTM Q96MD software. The wild-type 3D7 and Dd2 were used as wild-type and mutated controls.

Results No chloroquine resistance mutation, Pfcrt 76T was detected in any of the 302 samples that were successfully amplified. This represents a 100% prevalence of *Pf* that are sensitive to chloroquine in the study population.

Conclusions This study demonstrates a total return of chloroquine-sensitive *Pf* in Nchelenge after over a decade of withdrawal of chloroquine. In combination with another drug, chloroquine could be a good substitute for the currently used artemether lumefantrine, and intermittent preventive treatment in pregnancy (IPTp) and children.