

Supplementary Table 1. Control measures for blood collection through fingerprick.

Potential Hazards	Likelihood	Consequences	Control Measures
Lancet stick injury	Rare	Possibility of infection (hep B or HIV)	Wear PPE and work slowly and carefully. The lancets for finger pricks are designed in such a way that they can only be used once, thereby minimising the possibility of cross contamination.
Incorrect blood collection procedure	Moderate	No blood drawn	Follow detailed SOPs for blood collection procedures for finger pricks; dispose of all contaminated waste in the biohazard bags.
Haematoma	Rare	Bruising and painful lancet entry site	Follow correct collection procedures (SOPs), if unable to draw blood, withdraw the lancet and apply light pressure to the site. Do not attempt to withdraw blood at the same site again.
Fainting	Moderate	Subject may feel faint at the sight of blood	Lie the patient down and stay with them until they have recovered. Little sips of water and a wet towel applied to the forehead. Verbal communication throughout the procedure will reassure the subject.

Supplementary Table 2. Roles of each partner organization.

Organisation	Role
National Malaria Control Programme	Technical oversight of all research
Malaria Consortium	Development of the sampling protocol and ethical clearance Training of data collectors Field collection of blood samples and participant data Transfer of samples and data to CISM Creation of a surveillance dashboard Transference of activities to NMCP
Centro de Investigação em Saúde de Manhiça (CISM)	Financial, organizational and overall coordination Genetic analysis Long-term storage of study samples Analysis of data Scientific/programmatic dissemination of results
National Institute of Health (INS)	Malaria Indicator and ANC Surveys in Inhambane, Gaza, Maputo and Maputo City Sample analysis
ISGlobal	Supervision of epidemiological aspects Technical support for sampling strategy, data collection and epidemiological analysis Development of sequencing pipeline
Institute for Disease Modelling	Development and calibration of an epidemiological genomic model for Mozambique regions
University of California San Francisco	Development of sequencing and analytical pipelines Development of transmission network model Training and supervision of genetic and bioinformatics activities