

# ‘The Mvule tree clinic’

## Case Study: A starting point for integrated malaria control in Busiro North

Screams could be heard from across the road as little children’s tiny pink feet and fingers were pricked for a sample of blood. Shaded by a big Mvule tree, the ones waiting in line to be weighed peered anxiously to see what was happening ahead. The children together with their caregivers had gathered as part of a baseline survey designed to determine the knowledge, attitudes and practices towards malaria as well as burden of the disease in Busiro North, Wakiso district in the central part of Uganda.

The information from this survey will be used as a ‘starting point’ to measure the impact on malaria transmission of a new comprehensive, integrated malaria control project to be implemented by Malaria Consortium Uganda. Malaria Consortium is the world’s leading not-for-profit organization dedicated to the control of malaria and other communicable diseases.

The project is to be implemented in all three sub counties of Busiro North (Kakiri, Namayumba and Masulita), a rural and malaria endemic area in Wakiso district, immediately benefiting over 100,000 people, many of whom experience multiple episodes of malaria each year. Though much evidence has been gathered to demonstrate the effect of individual malaria interventions, there is little evidence that assesses the impact of a comprehensive, integrated malaria control project. This project aims to prove the effectiveness of an integrated approach to malaria control, which will include the distribution of Long Lasting Insecticide Treated Nets (LLINs), malaria diagnosis, support to intermittent Preventive Treatment in Pregnancy (IPTp) in the health facilities, and community sensitization on malaria. If funding is available Indoor Residual Spraying (IRS) may also be included. If successful, the findings will be used to advocate for the necessary resources to implement a similar concept on a much larger scale.



*A treatment center in Busiro North, set up as part of the baseline survey*

### Survey design

The survey methodology had been developed and used by Malaria Consortium Uganda during previous studies conducted in other Ugandan districts including Kabarole, Kamwenge and Kyenjojo. The cross-sectional survey involved four components: a household survey, a malariometric indicator survey, an inventory of Community Medicine Distributors (CMDs), trusted community volunteers who help carry out malaria control activities in their village, and an assessment of health facility data. It incorporated a number of good practices and innovative approaches to survey design.

**In Uganda, malaria is the leading cause of death and illness, it accounts for 25% of out patient attendance, 20% of all health facilities admissions and 15% of in-patient deaths.**  
*(Uganda DHS 2006)*

### Examples of some of the good practices used in the household survey:

- Households for the survey were randomly selected after registration of the entire village
- Informed consent was obtained from all interviewees
- Questionnaires were pre-tested and adapted accordingly to suit the local context
- Every effort was made to minimize non-respondents including informing the head of households in advance of their selection in the survey and when the interviewers would be expected
- Trained, experienced interviewers were used, all of which spoke the local language, Luganda
- Interviewers were accompanied by CMDs, who assisted in the community acceptability of the survey and helped to mobilize the communities for various aspects of the survey
- District, sub county, parish and local council leaders were involved at all stages of the survey. They were consulted and sensitized about the proposed project and the different malaria control strategies to be used



*A health worker gets a sample of blood from a child in Busiro North during the malariometric indicator survey*

### Malariometric indicator survey

Children under five who lived in the homes selected for the household surveys were also invited to participate in the malariometric indicator survey which took place the following day. A malariometric indicator survey aims to determine the level of malaria in the community. All children were tested for malaria using rapid diagnostic tests (RDTs) and if positive, were treated with Artemisinin Combination Therapy (ACTs) in line with the national treatment policy. Blood samples were also taken for malaria diagnosis under a microscope, the gold standard test for malaria, to provide an estimate of the level of malaria in the community at the start of the project period. The temperature of every child was also recorded. Fever (temperature higher than 37.5°C) is one of the most common symptoms of malaria in children under five years old and is often used for a clinical diagnosis of the disease. Haemoglobin was also measured as an indicator of anaemia, a complication of malaria, and if detected, children were treated with iron supplements. Other basic health services were also provided as an additional benefit to the community, including an assessment of nutritional status (height versus weight) and the delivery of vitamin A and deworming tablets. Children were referred to a local health facility if deemed necessary.

### Results

The baseline assessment was conducted in February 2009. In total, 510 households were surveyed and 988 children under five years attended the malariometric surveys, across 30 villages. Of the children examined 17% tested positive for malaria (using RDTs) and were immediately treated with ACTs, however microscopy revealed 23% actually had malaria parasites i.e a malaria infection at the time of the survey. 25% of children were febrile (child with fever) at the time of the survey and of those 30% tested positive for malaria. 32% of the children were diagnosed with anaemia and treated with iron supplements. These baseline results show that malaria is a significant problem affecting young children in Busiro North. Project activities have now started in order to try and reduce this high burden of malaria in the area and their impact will be monitored over time.

**Of the children examined 18% tested positive for malaria and were immediately treated with ACTs.**

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