

# Strengthening Uganda's preparedness against arboviral threats

Enhancing resilience through surveillance, case diagnosis and management, response strategies and community engagement

## Background

Mosquito-borne arboviruses represent a significant global health threat, with millions affected annually. Dengue is the most common arbovirus worldwide, causing an estimated 390 million infections per year, of which 50–100 million are symptomatic.<sup>[1,2]</sup> Despite the public health burden and global distribution of dengue, the disease remains poorly understood.<sup>[1,2]</sup>

Many arboviruses were first identified in East Africa, where they remain a serious public health threat. In Uganda, of the 24 arboviruses identified, dengue, chikungunya, Zika, yellow fever, West Nile fever and o'nyong'nyong have been associated with disease outbreaks, and it is likely that many mosquito-borne viruses remain undiscovered.<sup>[3]</sup> Rapid urbanisation is exacerbating the arboviral threat, especially in Uganda, where *Aedes* mosquitoes proliferate in poorly managed water and sanitation conditions. A recent Ugandan study found arbovirus seroprevalence (the proportion of the study population carrying antibodies to arboviral infection) to be nearly 10 percent, with arboviral activity peaking during the rainy season.<sup>[4]</sup> Most positive cases were in central Uganda, with the highest infection rates observed among children aged 5–14 years and outdoor workers.<sup>[4]</sup>

## Country

Uganda

## Donor

Malaria Consortium US

## Length of project

January 2024 – June 2027

## Strategic objective

Supporting health sector resilience

## Partners

Uganda Virus Research Institute

Despite a strong legacy of arbovirus research, Uganda has yet to develop robust systems to protect against the increasing threat of arboviral diseases.<sup>[5]</sup> The Strengthening Uganda's Preparedness Against Arboviral Threats (SUPAAT) project targets high-risk regions within Uganda, where it will rectify gaps in arbovirus surveillance and preparedness.

## Project outline and objectives

Malaria Consortium is implementing SUPAAT in partnership with the Ministry of Health and the Uganda Virus Research Institute (UVRI), with funding from Malaria Consortium US.

SUPAAT aims to bolster Uganda's defences against arboviruses by enhancing surveillance, diagnosis, response strategies and community engagement. Malaria Consortium will implement the project in the districts of Wakiso and Bundibugyo, engaging healthcare workers, community leaders and the general population. Project delivery will involve training programmes, public awareness campaigns and establishing robust surveillance systems, building on existing efforts to ensure a coordinated and comprehensive approach. Specifically, our objectives are to:

- strengthen arboviral surveillance systems in Uganda
- improve diagnostic and management capabilities
- enhance vector surveillance, control and environmental management
- raise public awareness and involve the community in preventive measures
- strengthen the national policy landscape on arboviruses through the development of a national arbovirus policy and action plan.

## Activities

To support project objectives, our activities are as follows:

- Collaborate with the Ministry of Health to improve surveillance systems by training 30 data recorders at health facilities and 20 district trainers of trainees to carry out high-quality data reporting and decision-making
- Strengthen diagnostic and management skills by training 25 national-level technical experts, who will then instruct medical staff in pilot facilities to:
  - screen over 5,000 community members to isolate arboviruses in the two target districts
  - collect blood samples from 50 randomly selected non-malaria fever patients per month, to be sent to UVRI for testing to determine the cause of fever using PCR (polymerase chain reaction) assays
- Implement a sustainable vector surveillance and control system, supported by Malaria Consortium's Asia-based entomologist. This includes conducting annual vector surveillance, insecticide resistance monitoring and training for district personnel
- Engage communities through awareness programmes
- Conduct knowledge, attitudes and practices (KAP) surveys to inform communication strategies
- Support the Ministry of Health to draw up a national arbovirus policy and control action plan that integrates arbovirus preparedness into existing disease surveillance and vector management platforms
- Conduct research to guide intervention strategies and improve the effectiveness of training programmes, community awareness initiatives and policy advocacy outcomes.

## References

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

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Contact: [info@malariaconsortium.org](mailto:info@malariaconsortium.org)

Cover image: School children from St Charles Lwanga Primary School leaning about using mosquito nets, Kyotera district, Uganda. Credit: Edward Echwalu.

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