

MAPD supports improvement of malaria diagnostics capacity, outcomes and leadership

USAID's Malaria Action Program for Districts has built the technical and leadership capacity of Uganda to ensure accurate and appropriate malaria diagnostics. This is a key development in the country's fight against malaria, and ensures that patients can get timely and appropriate treatment for the right disease.



Uganda's diagnostic capacity built through the WHO External Competency Assessment Course for Malaria Microscopy

BACKGROUND

Timely and accurate malaria diagnosis and treatment is key in the fight against malaria. This is paramount in countries such as Uganda, where malaria remains a significant public health concern, with all the population being at risk.

Since 2011 the Government of Uganda, with guidance from the World Health Organization, changed its malaria policy from presumptive treatment to parasite-based diagnosis. This means that whereas in the past, clinicians would determine whether patients were suffering from malaria based on clinical signs alone, now all suspected malaria cases must be diagnostically tested. And then, only those with confirmed malaria - i.e. with a positive test - can receive treatment.

Though a useful guideline shift - as it promotes accurate diagnostics, appropriately gives malaria treatment only to those who need it, and allows those that don't have malaria to be further investigated to find the accurate cause of illness - practices are hard to shift, and adherence to this new test-and-treat policy by clinicians and healthcare providers remained stubbornly low.

Not only this, but the trust in malaria rapid diagnostic tests (mRDTs), and the ability to accurately conduct and read malarial microscopy slides – both of which contribute to testing and adherence rates—were worryingly low even 5 years after guideline change.

To address these gaps, USAID's Malaria Action Program for Districts (MAPD), a five-year malaria-focused project working in 49 of Uganda's districts, has built key diagnostic systems at national, district and health facility levels. Impressive improvements in motivation, performance, adherence, quality assurance, quality control, and malaria surveillance have followed. Specific MAPD-led developments include the following.

Central level support

- a) WHO accreditation/certification of 48 National Malaria Reference Group microscopists. Now the country has globally recognized, certified, expert microscopists. These not only provide improved services at their work locations (laboratories, research centres, health facilities etc.), but build national capacity through guideline development,

mentorships/supervision of other microscopists, and support to nation-wide external quality control.

- b) Set-up of a National Malaria Slide Bank that will be used for training, competency assessment and supervision of laboratory staff.
- c) Development of, and capacity building in, the Malaria Diagnostics Quality Assurance Manual and Training guidelines. This has streamlined implementation, training/mentoring and quality management for parasite-based diagnosis across Uganda.
- d) Technical assistance and mentoring to all other actors working in malaria.

Sub-national Level

- a) Capacity building of health facility staff and community health workers.
Capacity of 1,458 health staff (lab staff, nurses, clinicians, midwives and village health workers) has been built to improve testing rates and quality. Using on-site mentorships, MAPD has been able to reach 171% of its staff capacity building target, while ensuring system, rather than individual, development.
- b) External Quality Assurance (EQA)
The quality of facility staff to conduct and read malaria microscopy slides has been improved through institutionalizing EQA. The WHO-certified microscopists have built capacity of district malaria/health staff to conduct EQA. This means that microscopy slides are collected from the facilities and read by these external experts. Readings are compared with those of the facility staff.
- c) Support supervision
MAPD developed districts' capacity to conduct facility diagnostic mentorships and supportive supervision.

All these efforts have led to Uganda having a more robust and confident diagnostic capacity, both in terms of technical ability and consistency, and in the oversight and leadership of this essential malaria control component.

OUTCOMES

Testing and adherence rates in MAPD areas have shot up, with testing rates rising from 57% at the start of the project's second year (Oct 2018) to 95% at year end, while adherence improved from 62% to 88% over the same period. MAPD's national level development and technical support to actors working in non-MAPD areas have also had results, with testing rates reaching 68% and adherence 75%. MAPD will continue to support so improvements continue.

In terms of quality assurance, slide discordance rates (the proportion of difference seen on the same slides but with difference readers) have dropped in MAPD areas from 12% (Oct 18) to 5.1%, and the overall MAPD facility diagnostic accuracy of laboratory technicians stands at 85% (Kappa 0.85).

NEXT STEPS FOR DIAGNOSTIC DEVELOPMENT

MAPD will continue these nation-building efforts, and looks forward to opening the National Slide Bank in its next program year (end 2018/early 2019).

This success story is published as part of a series from the USAID's Malaria Action Program for Districts project. For more information, see www.malariaconsortium.org/resources/publications/977/ or contact: Dr Sam Gudoï, s.gudoï@malariaconsortium.org

USAID's Malaria Action Program for Districts aims to improve the health status of the Ugandan population by reducing childhood and maternal morbidity and mortality due to malaria. The project will support the Government of Uganda for a period of five years, focusing in particular on children under five years of age and pregnant women.

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