

**Title:****Lessons Learned: Malaria Diagnostic Refresher Training in Africa Francophone Countries****Authors:**

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Since 2010, WHO has recommended that testing all suspected malaria cases with a parasitological test and high quality malaria microscopy remains the diagnostic standard. The USAID-funded MalariaCare project assists program countries to improve their accuracy of malaria diagnostic testing. We report MalariaCare's experience in implementing five-day malaria diagnostic refresher training (MDRT) for laboratory supervisors and staff in five francophone countries: Burundi, the Democratic Republic of the Congo (DRC), Guinea, Madagascar and Mali.

The 377 MDRT participants were selected from central and peripheral reference facilities and were trained on parasite detection (PD), species identification (ID) and parasite counting (PC); practice on slide preparation and staining; use of malaria RDTs; and improving quality assurance measures according to WHO guidelines. The knowledge and competency of participants was evaluated through written pre- and post-tests and practical skills assessments, with their final outcome scores classifying them into one of four performance levels based on a WHO grading scale.

Of the total 377 participants trained on basic MDRT, 97 were in Burundi, 84 in the DRC, 20 in Guinea, 59 in Madagascar and 117 in Mali. In addition, 63 participants (30 in Burundi and 33 in the DRC) were trained in an advanced course. Overall, significant improvements were made in slide reading for PD, ID and PC with average post-test scores at 93, 64 and 37 percent, respectively, representing improvements by 16, 15 and 21 percentage points; 19.9% obtained national expert level 1 or 2 status. Among these high performers, 11 were selected for a WHO francophone external competency accreditation malaria microscopy course in Dakar, Senegal, with six receiving WHO level 1 and three level 2 accreditation.

These outcomes suggest that five day MDRTs are an effective way of administering WHO's recommendation for regular refresher training of reference level laboratory staff, while at the same time highlighting that more training needs to be done to bring all reference microscopists to a quality level of performance.