



# USE OF MALARIA MOBILE DASHBOARDS AND SCORECARD APPLICATIONS TO ACCESS DATA AT HEALTH FACILITIES HAS IMPROVED SERVICE DELIVERY AND COMMODITY MANAGEMENT IN COTE D'IVOIRE AND MADAGASCAR

## WHO ARE WE?

The U.S. President's Malaria Initiative (PMI) Measure Malaria (PMM) project is funded by the United States Agency for International Development (USAID). Its main objective is to support strengthening of the routine health information system (RHIS) and malaria surveillance, monitoring, and evaluation (SME) in the 20 USAID-supported districts in Cote d'Ivoire and 12 USAID-supported regions in Madagascar .

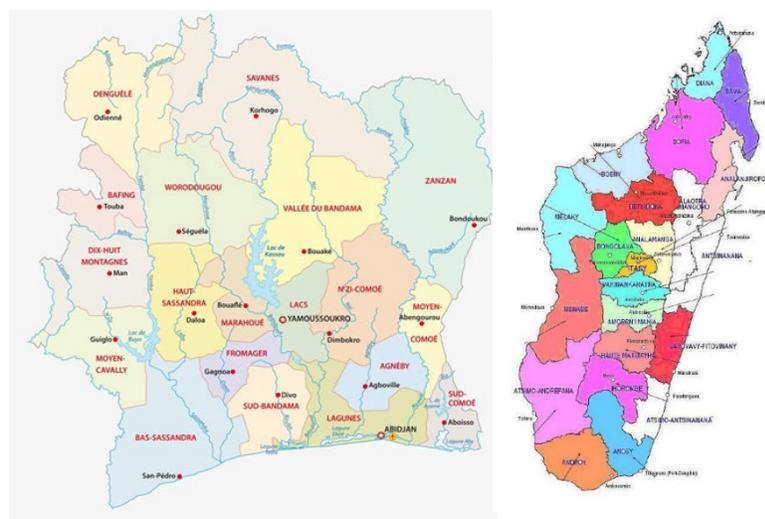
Building on the lessons learned and successes of USAID's MEASURE Evaluation project in scaling up web-based health information models and approaches, the PMI Measure Malaria project seeks to address health facility access to health information by developing and implementing innovative malaria mobile dashboard and scorecard applications (apps) to **empower health providers to make decisions based on evidence.**

## WHERE ARE MALARIA MOBILE APPS ARE USED?

The implementation of the pilot phase in Cote d'Ivoire and Madagascar aimed to test the effects of the use of malaria mobile scorecard and dashboard applications on service delivery and commodity management.

In Cote d'Ivoire, 20 health facility managers from the districts of Adjame-Plateau-Attécoubé, Anyama, Grand Bassam, and Port Bouet-Vridi were selected and trained on the use of the mobile apps. In Madagascar, 42 health facility managers were selected from Toliara II district and trained on the use of the mobile apps.

During district coordination and health facility meetings, users analyzed outcomes and developed action plans to monitor and review progress.



## IMMEDIATE ACTIONS TAKEN TO INCREASE USE OF MALARIA MOBILE APPS FOR THE IMPROVEMENT OF MALARIA INFORMATION ACCESS AT THE HEALTH FACILITY LEVEL

Following dissemination of the assessments' results on use of malaria mobile apps, country stakeholders expressed great interest in increasing access to malaria information at the health facility level and took action to address identified problems.

### WHO

The World Health Organization (WHO) provided new versions of tablets and internet connections to 42 Health facilities in Madagascar.

### IMPACT Malaria and ACCESS

PMI IMPACT Malaria and USAID's Accessible Continuum of Care and Essential Services Sustained (ACCESS) requested and received trainings for their technical advisors in Cote d'Ivoire and Madagascar, respectively, on use of the malaria mobile apps to implement in their supported regions.

### NMCP

As a Global Fund recipient in Cote d'Ivoire, the National Malaria Control Program (NMCP) scheduled the purchase of new tablets and internet connections to scale up the use of the mobile apps at the facility level.



### Why is internet access essential to download updated results from the malaria mobile apps?

The results of the first assessments in both countries revealed that despite offline data access from the previous online display at the quarterly district coordination meetings, some health facilities could not download the updated results due to limited internet connection speeds during the monthly meetings.

Following the dissemination of these results, WHO in Madagascar purchased monthly high-speed internet access for the 42 malaria mobile app health facility users of Toliara II. In addition, the NMCP and IMPACT Malaria in Cote d'Ivoire and the ACCESS project in Madagascar planned to purchase high-speed internet access for use by the health facilities to scale up the use of malaria mobile apps.



Agboville district data review meeting facilitated by PMM and NMCP using malaria mobile apps. Photo courtesy of PMI Measure Malaria.



### Why are new versions of mobile devices required to download graphs and tables from the malaria mobile apps?

In the first assessment of Madagascar's use of mobile apps, 11% of the health facility managers trained could not download graphs and tables due to tablets running older versions of the Android operating system (5.0 or earlier). The calculation of thousands of malaria cases across the different selected indicators for display on the mobile device screens requires tablets running newer versions of the Android operating system (7 or higher).

As a result of this limitation, WHO purchased tablets running Android version 10 and internet connectivity for the 42 health facilities of the district of Toliara II. The ACCESS project in Madagascar and IMPACT Malaria in Cote d'Ivoire will purchase new version tablets to scale up the use of mobile malaria apps.



Toliara II district training on using malaria mobile apps facilitated by PMM. Photo courtesy of PMI Measure Malaria.

## Overview of Indicators from the Baseline to the End of Pilot Phase Implementation in Cote d'Ivoire and Madagascar

Cote d'Ivoire from March 2022 to May 2022

**86%** of health facilities continued systematic malaria RDT to patients with fever

**71%** of health facilities have an average decrease of 5% for malaria-positive cases

**71%** of health facilities have an average increase of 23% for mosquito nets distributed

Madagascar from August 2021 to June 2022

**100%** of health facilities continued systematic malaria RDT to patients with fever

**100%** of health facilities have an average decrease of 34% for malaria-positive cases

**100%** of health facilities have increased mosquito net distribution by 69%

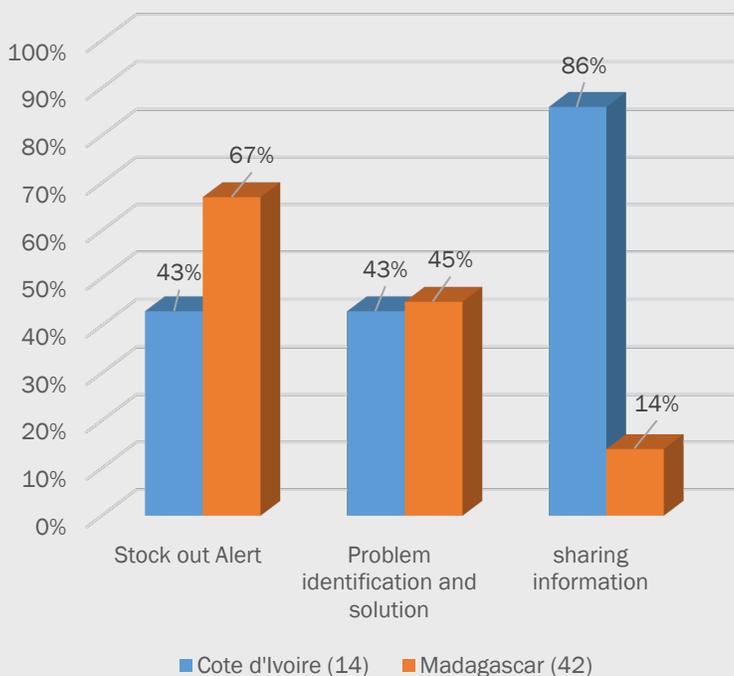
## MAJOR RECOMMENDATIONS IMPLEMENTED TO ADDRESS PROBLEMS IDENTIFIED WITH THE USE OF MALARIA MOBILE APPS

The malaria mobile apps were first used in August 2021 in Madagascar and March 2022 in Cote d'Ivoire to review and monitor data during the district quarterly coordination meetings. During these meetings, plans of action were developed for health facilities with issues that required interventions. Prior to the next quarterly district meeting, action plan follow-up and data review take place every month at the health facility, with the participation of community health workers and leaders.

Among the priority actions recommended to address issues identified with the use of malaria mobile apps, were increasing—or maintaining—systematic malaria RDT to patients with fever, improving malaria case management, and decreasing mosquito bed net stock-out. Health facilities were also recommended to increase their sensitization campaigns on the use of mosquito nets to prevent malaria and advising patients to seek care at the health facilities when they have fever.

The implementation of these recommendations has significantly improved preventive services, malaria case management, and commodity management. In Madagascar, between August 2021 and June 2022, the mosquito net availability rate increased in the Manombo Sud health center from **0% to 100%**; the percentage of pregnant women with IPT3 in Manoroka health center increased from **15% to 68%**; and the CTA availability rate for those ages 14 years and older in Saint Augustin increased from **85% to 100%**. In Cote d'Ivoire, between March and May 2022, a significant increase was observed in the mosquito net distribution rate for Yaou health center, from **25% to 100%**; DM Public Akoupe-Anyama health center increased from **17% to 47%**; and PMU Public Grand Bassam increased from **11% to 71%**.

### Reasons for Use of Malaria Mobile Apps by Health Facility Managers



*One health facility manager in Madagascar said: “these applications encourage us to use data and regularly verify malaria indicator progress.”*

*The district supervisor of Toliara II said: “The applications helped to strengthen knowledge of health facility managers and encourage them to verify and analyze data, develop action plan to solve the problems identified.”*

*Another health facility managers stated: “...these apps helped in decision making to avoid stock-outs. I cannot imagine myself losing access to these apps during my transfer from Toliara to Ampanihy.”*

## Challenges to the Use of Malaria Mobile Apps at the Facility Level

Health facilities with low-speed internet connections were not able to download graphs and tables. The same problems were found in the health facilities with tablets running older versions of the Android operating system (5.0 or earlier).

The requirement for health facility managers to login to District Health Information Software, version 2 (DHIS2) will limit users' access to the malaria mobile apps.

Limited capacity to analyze and interpret results will prohibit health facility managers from using the malaria mobile apps.



Agboville district data review meeting facilitated by PMM and NMCP using malaria mobile apps. Photo courtesy of PMI Measure Malaria.

## Lessons Learned and Malaria Mobile App Use Sustainability

**Monthly health facility and quarterly district meetings** are the best platforms to gather all stakeholders to use malaria mobile apps to review data and monitor service delivery and commodity management progress and to exchange best practices.

**Development of action plans based on findings from the malaria mobile apps** has increased health managers' accountability to their own performance and commitment to improvement of malaria services.

**Inconsistent changes on the malaria indicator trends and performance scores progress** urge health facility managers to verify the quality of the data.



Coaching of the Port Bouet Vridi district manager on use of the scorecard. Photo courtesy of PMI Measure Malaria.

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