USAID COMMUNITY CAPACITY FOR HEALTH PROGRAM

Community-Level Interventions Increase Malaria Diagnosis and Treatment Among Children Under Five


Mahefa Miaraka

PROGRAM SUMMARY

The USAID Community Capacity for Health Program, locally known as Mahefa Miaraka, is a five-year (2016–2021) community-based integrated health program funded by the United States Agency for International Development (USAID). The Program is a collaborative effort among the Ministry of Health, USAID, and JSI Research & Training Institute, Inc. (JSI). Mahefa Miaraka provides tools and capacity-building training to approximately 10,000 community health volunteers (CHVs) who provide basic maternal health, child health, and family planning services to their local communities. The Program also works with national and local government stakeholders to strengthen the health sector and health policies.

MAHEFA MIARAKA

- OPERATES IN **7** REGIONS OF MADAGASCAR
- COVERING A TOTAL OF **4,708** VILLAGES
- WITH A TOTAL POPULATION OF **6.6** MILLION PEOPLE
- OR **28** PERCENT OF THE COUNTRY'S TOTAL POPULATION

Mahefa Miaraka

OVERVIEW

In 2018, malaria incidence in Madagascar was 38 per 1,000 population, with a mortality rate of 12 percent.[1] Mortality among children under five (CU5) was estimated at 11 percent.[2] Malaria is endemic in the country, especially in the coastal areas and parts of the central highlands. Where health services are far away, transportation means limited and/or costly, and health centers understaffed, CHVs fulfill an important role in promoting malaria prevention messages, diagnosis and treatment of simple malaria cases, and alerting health authorities to a sudden increase in malaria cases. These are the conditions in most of the districts in which Mahefa Miaraka worked.

Madagascar adopted its revised National Strategic Plan for Malaria Control 2018–2022 in November 2017. The Plan focuses on improving malaria control in higher-burden zones and initiating malaria elimination efforts in the low-burden parts of the country. Mahefa Miaraka's malaria activities aligned strategically and operationally with those set forth in annual plans (known as malaria operational plans [MOPs]) of the USAID-supported President's Malaria Initiative and with the Government of Madagascar (GOM)'s health policies and priorities.

Mahefa Miaraka worked with the GOM to create a strong and resilient health system, with a focus on primary health services and participation from local communities. The Program supported approximately 10,000 trained CHVs to conduct various malaria activities described in this technical brief, representing approximately one-third of all CHVs in Madagascar. The Program significantly affected the National Malaria Control Programme's (NMCP) annual results over the period of its implementation (2016–2021).

APPROACH

A three-pronged approach describes the Program's contributions to the implementation of an effective response to prevent and control malaria outbreaks, and to sustain an effective response.

Active partnership and collaboration at all levels.

Mahefa Miaraka supported the NMCP at every level of the health system. Program staff participated in the national Roll Back Malaria (RBM) committee and on various RBM subcommittees. The RBM subcommittees addressed technical issues, such as the quantification of malaria commodities; monitoring and responding to weekly status updates and case outbreaks; incorporation of CHV data in the health information system; and updating community-based treatment protocols.

Program staff worked with regional and health district management teams (l'équipe de management régionale [EMAR] and l'équipe de management du district [EMAD]) to implement plans specific to their areas. Mahefa Miaraka assisted these teams with such tasks as the quantification of malaria commodities; monthly data processing, analysis, and reporting; supervision; quarterly and biannual planning and implementation reviews; and coordination of the response during local malaria outbreaks.

Mahefa Miaraka staff participated in the review and updating of the NMCP's National Strategic Plan (2018–2022) and contributed to the development of annual MOPs. Program staff were part of the National Coordination Committee for the 2018 mass bed net distribution campaign. Staff also participated in World Malaria Day events each year.

1 National Malaria Control Program, 2018
2 National Malaria Control Program, 2018

Mahefa Miaraka

Strengthening community health structures.

The Program strengthened CHV skills for the promotion of health education messages and the provision of essential health services. Mahefa Miaraka supported health center staff to plan, provide tools and supplies for, and manage CHV activities. When a malaria outbreak occurred, Program staff worked with village health authorities, local leaders, and health teams from the health center and district level to develop and implement a joint response tailored to local needs.

Providing community-level services to fight malaria.

The Program collaborated with local community stakeholders, reinforcing their capacity to effectively carry out community mobilization work and malaria prevention and treatment activities. CHVs visited households and held small group meetings during which they discussed the importance of sleeping under long lasting insecticide-treated nets (LLINs), destroying mosquito habitats, seeking health care for fevers, and encouraging prenatal care visits (which include intermittent preventive treatment in pregnancy [(IPTp] for malaria).

RESULTS

CHVs diagnosed and tested 802,380 CU5 fever cases for malaria from January 2017 to December 2020, representing 85 percent of CU5 fever cases reported by CHVs during this period. Testing rates increased during the period 2017–2020, from 82 percent of CU5 fever cases tested in 2017 to 88 percent in 2020.

KEY ACTIVITIES

Enabling CHVs to fulfill their responsibilities within a supportive health system. The program provided technical and financial support for CHVs to:

- Attend basic and follow-up training in community-level Integrated Management of Childhood Illnesses
- Receive on-the-job supervision by health center staff
- Participate in monthly review meetings at the health center
- Conduct community-level malaria case reporting, surveillance, and planning
- Manage the ordering and (re)supply of malaria commodities

Supporting a package of community-level activities to test and treat malaria in CU5, and counseling and referral of pregnant women to health centers. CHVs received training to test all CU5 fever cases using rapid diagnostic tests (RDTs) and to treat all RDT-positive uncomplicated malaria cases with artemisinin-based combination therapy (ACT). CHVs provided counseling and referral to the health center of pregnant women for antenatal care (ANC) visits. Pregnant women received health cards for themselves and their CU5, LLINs, and IPTp with sulfadoxine-pyrimethamine (SP) at specific intervals during their ANC visits.

In 2019, the use of artesunate suppositories (AS) at the community level for pre-referral treatment of severe malaria among CU5 became available in Madagascar. Pre-referral treatment with AS by trained CHVs started in January 2020, including in areas supported by Mahefa Miaraka.

Engaging with CHVs and community members for social behavior change (SBC) activities and community mobilization on malaria. Mahefa Miaraka used several mechanisms to provide health education and key messages to community members. CHVs promoted LLIN use and care seeking for fever through home visits, community health education sessions, and the Model and Mentor Families approach (see Model and Mentor Families technical brief). They also led listening groups on local radio broadcasts.

The Program promoted the use of LLINs using the household health card (carnet de santé), which explained the importance of sleeping under mosquito nets, especially for CU5 and pregnant women. It broadcast information on malaria prevention and care seeking through 24 local radio stations. Program staff also supported high visibility events, such as World Malaria Day, and village cleaning campaigns to reduce mosquito breeding sites.

Case management reporting to help identify potential local outbreaks, and operational support to activate and sustain the community investigation response. The Program supported the EMAD and health centers to identify unexpected increases in malaria cases, and to coordinate community investigation responses (screening, testing, and treatment of cases). The Program's work in Manja district in July–August 2020 was an example (text box). When local communes reported a rapid increase in malaria cases, Mahefa Miaraka mobilized health staff and community leaders to work together to contain the outbreak. The outbreak was rapidly controlled because of this work.

Containing a sudden increase in malaria cases in Betamenaka and Befamonty communes, Manja District, Menabe Region

Health center and Program staff observed a rapid increase in reported malaria cases in July–August 2020 in rural Betamenaka and Befamonty communes. Moreover, the health centers reported stockouts of RDTs and ACTs. Program staff helped plan the redistribution of commodities to meet the most immediate needs; however, the quantities distributed were insufficient and the case load kept increasing. An onsite investigation found that the high risk of criminal attacks and seasonal farming habits were driving the population outdoors at night without protection against mosquitos. Following discussions with local administrative and health authorities in September, Mahefa Miaraka staff supported the EMAD and health centers to test people with malaria symptoms, treat RDT-positive malaria cases, conduct community sensitization activities, and supervise local CHVs. As a result, malaria cases gradually dropped and the situation stabilized after three weeks.

CHVs treated a total of 377,262 RDT-positive malaria cases among CU5 with ACTs during this same period, representing 87 percent of all positive malaria cases detected among this age group during 2017–2020, on average (Figure 1). Of the 595,198 confirmed simple malaria cases among CU5 reported between 2017 and 2020, CHVs treated 377,262 (63%), with health center staff treating the remaining 217,936 cases (37%).

Between October 2019 and February 2021, the Program helped train 16 EMAR, 107 EMAD, 588 health staff, and 5,501 CHVs in 32 districts on pre-referral treatment of severe malaria among CU5 using AS. **A total of 1,128 CU5 in the Menabe, Melaky, and Sofia Regions received pre-referral treatment with AS in 2020.**

CHVs also played an important role in the referral of pregnant women for ANC services at health centers. Pregnant women received SP a minimum of three times during ANC visits as preventive treatment for malaria. Between 2017 and 2020, CHVs referred more than 197,000 pregnant women for ANC (1st visit).

From 2017 to 2020, the Program broadcast more than 3,532 radio spots on malaria. CHVs held more than 54,000 listening groups on malaria that drew approximately 236,500 listeners. **CHVs conducted more than 406,110 home visits to sensitize households on health issues, including malaria.**

FIGURE 1. DIAGNOSIS AND TREATMENT OF CU5 MALARIA CASES IN REGIONS SUPPORTED BY MAHEFA MIARAKA, 2017–2020

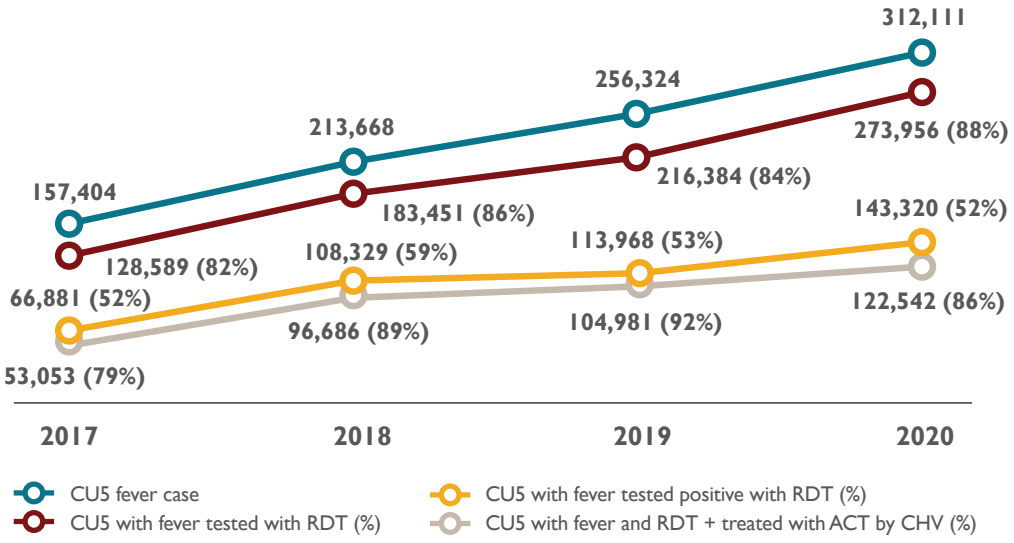
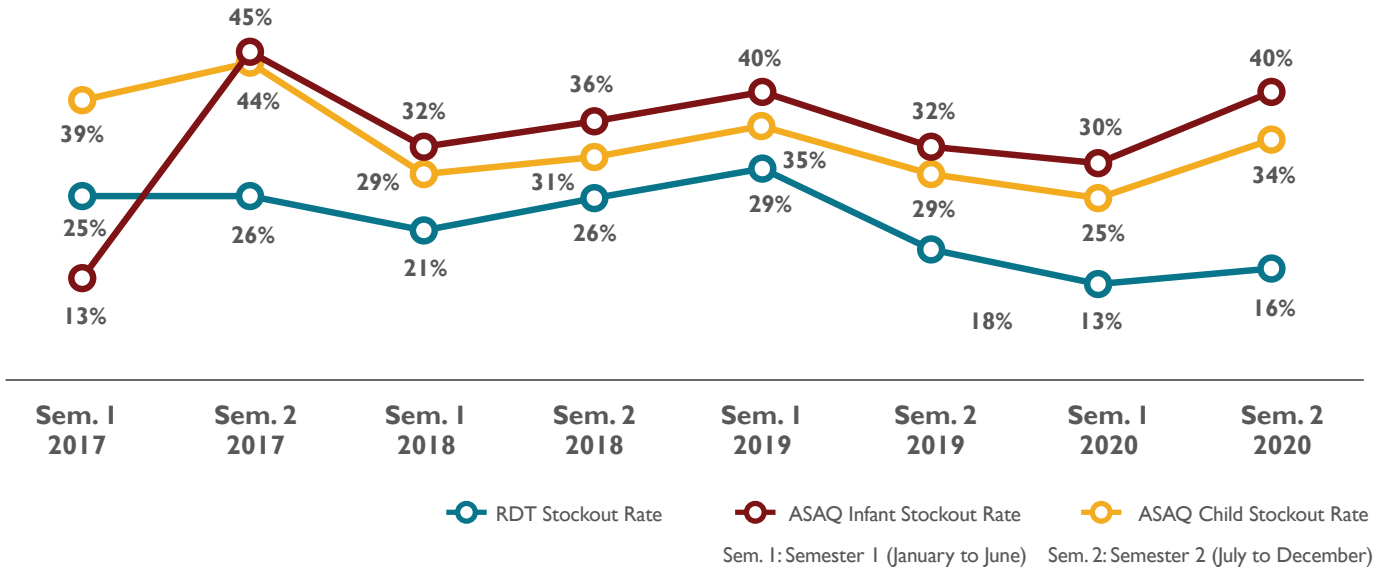


FIGURE 2. AVERAGE REPORTED MALARIA COMMODITY STOCKOUT RATES AMONG CHVS, PER SEMESTER, 2017–2020, ALL PROGRAM REGIONS



Sem. 1: Semester 1 (January to June) Sem. 2: Semester 2 (July to December)

In 2016, a shift in the distribution systems for malaria commodities occurred, from social marketing outlets to basic health centers, leading to some disruptions in supply. Data from the Mahefa Miaraka-supported regions showed a fluctuating trend, with good improvement in 2019 in the rate of malaria commodity stockouts among CHVs (2017–2020) (Figure 2).

The regional health office in the Sofia Region, in particular, demonstrated impressive results in reducing stockouts at health center and community levels. The following text box describes the strategy used in Antsohihy District in that region.

CHALLENGES

Commodity supply shortages at health center and community levels negatively affected the continuous provision of malaria services. The irregular and insufficient supply of malaria commodities explains the annual variation in CU5 malaria treatment rates observed in regions supported by the Program. Because of supply chain problems at higher levels of the health system, districts were compelled to provide quantities that they had on hand, not actual consumption estimates, leading to commodity shortages for health centers and CHVs. Mahefa Miaraka helped resupply CHVs when commodities become available and facilitated NMCP interregional, intraregional, and district redistribution efforts.

Maintaining CHV competency and motivation were challenging given their big workload across different health areas. CHVs need materials and refresher training and supervision to maintain their skills. They also need guidance and a

Community involvement in managing the availability of malaria commodities: Experience from Antsohihy District, Sofia Region

In 2017, Antsohihy District experienced very high rates of malaria commodities stockouts at health center and community levels. In response, a regional multisectoral committee was established to analyze data on commodity availability. The committee sent health center and community-level data to the district where NMCP staff consolidated the data for the district and submitted them to the central agency responsible for commodity resupply (SALAMA Centrale d'Achats de Médicaments Essentiels). CHVs prepared a monthly consumption estimate and discussed their needs during monthly review meetings at the health center level. Local commune managers and other community members held their own monthly stock review meetings. Mahefa Miaraka staff helped with all aspects of these participatory processes.

As a result, stockouts of RDTs were reduced from 11 percent in 2017 to zero in 2019. The number of CU5 treated increased from 459 in 2017 to 7,675 in 2018, and to 7,974 in 2019 (October 2018–September 2019). This strategy has since been recognized as a success story, and adopted in other districts of Madagascar.

sense of connection with the larger health system. In response to this challenge, the Program supported monthly review meetings for CHVs at the health centers and their supervision by the health centers. Average attendance at review meetings was high (> 75%) as were monthly CHV reporting rates.

Sustaining new product supply to meet demand. The Program introduced a new intervention in 2019: the use of AS in 19 priority districts. However, supply was insufficient to meet demand. The redistribution of AS among the Centres Santé de Bases (CSBs) and communities with high malaria incidence had to be organized. This situation lasted for the entire first year. For the effective introduction of new testing/treatment interventions, a sufficient quantity of commodities should be available when training is conducted, and any interruption or lapse in supply between the training period and actual implementation of the new intervention should be avoided.

RECOMMENDATIONS

Involvement of and coordination with local stakeholders for rapid and effective outbreak identification and response.

Mahefa Miaraka's approach of working in close cooperation with regional and district health teams, health center staff, CHVs, health and village authorities, and local communities facilitated early outbreak identification and a locally developed and owned response. Desired results (case identification and treatment, behavior change, community engagement and mobilization) are more likely to be sustained. Similar localized outbreak identification and response activities should be expanded to other parts of the country.

Drug and commodities quantification.

Coordination of quantification efforts at national and subnational levels should be continued to reduce the effect of stockouts on the testing and treatment of malaria cases at lower levels of the health system. Capacity-building in quantification at CSB dispensaries and at the district level remains a priority to accurately record commodity needs.

Community-based treatment of children 6 to 14 years and adults in malaria elimination districts.

In addition to CU5, other age groups are at risk of contracting malaria, which affects their health and their households in many different ways. Advocacy is needed to roll out CHV treatment of simple malaria cases with ACT in children 6–14 years and in adults in malaria elimination districts. Treatment with primaquine and case investigation can then be undertaken by health centers according to current protocols.

Continue SBC activities for the use of LLINs, care seeking for fever, and referral of pregnant women.

Mahefa Miaraka's work with local communities demonstrated how a combination of several health education interventions can promote community dialogue and facilitate positive health behaviors. SBC activities are essential for communities to be engaged and proactive in finding local solutions to local problems.

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