



# MCSP Madagascar Technical Brief

## Improving the Prevention and Management of Malaria During Pregnancy

February 2019

[www.mcspprogram.org](http://www.mcspprogram.org)

### Project Overview

The United States Agency for International Development (USAID)-supported Maternal and Child Survival Program (MCSP) supported the Ministry of Public Health (MOPH) in Madagascar to accelerate the reduction of maternal and newborn mortality over the course of its 5-year implementation period (2014–2019).

MCSP's interventions aligned with the Roadmap to Accelerate the Reduction of Maternal and Neonatal Mortality, especially strategy 3: "Providing essential integrated and quality services around pregnancy and childbirth focusing on teenagers and youth health."

The program intervened in the 16 USAID priority regions to:

1. Provide the MOPH with technical support at the national level in the areas of maternal and newborn health (MNH), immunization, and family planning.
2. Increase access to and improve the quality of MNH and immunization services in the US Government priority regions.
3. Strengthen providers' capacity to offer long-term family planning methods.
4. Improve prevention and treatment of malaria in pregnancy (MiP).
5. Strengthen pre-service training institutions' capacity to educate midwives according to international standards and competencies.
6. Initiate a process to increase the number of nonspecialist doctors capable of providing essential surgery services.



Photo by Karen Kasmauski, Jhpiego

### Introduction

In Madagascar, malaria remains a major public health issue. It is ranked as the fourth leading cause of morbidity in health centers and the fourth leading cause of hospital mortality, per the country's health management information system in 2016.

According to the 2016 Malaria Indicator Survey, only 10.3% of pregnant women take a minimum of three doses of intermittent preventive treatment of MiP with sulfadoxine-pyrimethamine (IPTp-SP) as recommended by World Health Organization (WHO), and 17% of women ages 15–49 received messages regarding prevention of malaria by IPTp. Furthermore, management of severe cases of malaria does not follow national treatment guidelines.

As a result, MCSP has prioritized support to the MOPH in the capacity-building of health care providers at all levels of the health system to improve the quality of malaria prevention and treatment services.

## Approaches and Interventions

To reduce malaria morbidity and mortality, MCSP supported the MOPH's implementation of the National Malaria Strategic Plan, in line with WHO's recommendations.

### At National Level

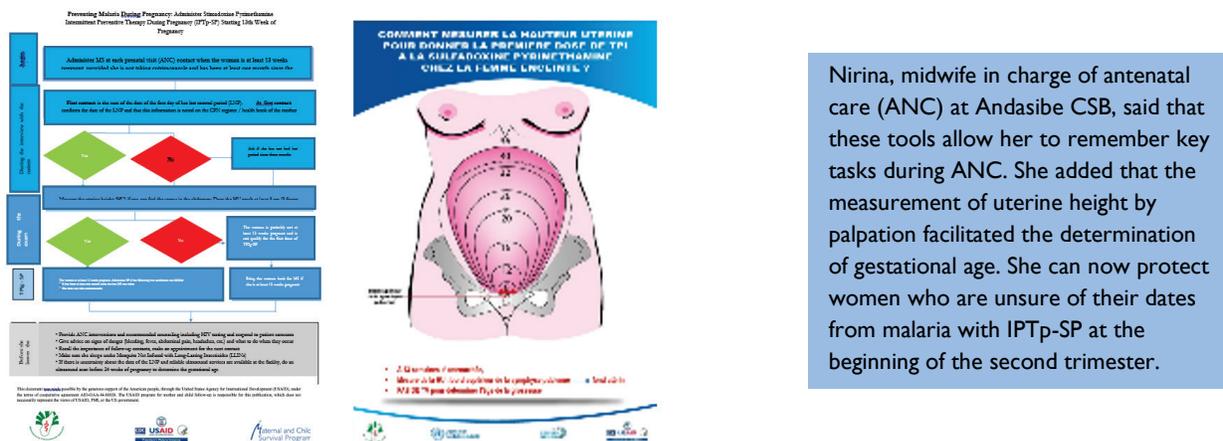
In partnership with Roll Back Malaria, MCSP supported the MOPH's National Malaria Control Programme with the revision of the national malaria policy and the harmonization of protocols and national documents related to MiP and case management according to the most recent WHO recommendations. MCSP also supported the revitalization of the IPTp technical working group, participated in the celebration of World Malaria Day, supported the MOPH's malaria program review, and provided technical inputs for the promotion and integration of community-based IPTp provision into the national strategic plan.

### At Service Delivery Level

Key interventions include provision of malaria prevention and treatment during pregnancy, including use of SP; counseling on use of insecticide-treated bed nets; and case management for pregnant women. For the general population, MCSP also supported prevention, diagnosis, and treatment of uncomplicated and severe malaria.

MCSP supported the MOPH in strengthening the capacity of providers for the provision of the aforementioned interventions. This included the development of training materials (curricula, job aids, and algorithms) and supporting an integrated, skills-based training using a cascade approach for health providers. To enable providers to deliver IPTp-SP as early as possible in the second trimester of pregnancy, MCSP introduced an innovative toolkit to improve health care worker assessment of gestational age in early pregnancy by uterine fundus palpation and an algorithm for early provision of IPTp-SP.

**Figure 1. Algorithm and Job Aid for the Administration of IPTp-SP**



Source: Tools of MCSP

### Studies and Research

In collaboration with the MOPH, MCSP carried out two studies—the first to understand determinants in care seeking among caregivers of children and pregnant women with febrile illness and provider adherence to national malaria prevention and treatment guidelines, and the second to assess health facilities' operational readiness and capacity for malaria elimination in 11 regions.

### Monitoring Inputs and Malaria Indicators by SMS

To overcome chronic disruption of antimalarial products (SP, artesunate, malaria rapid diagnostic tests [RDTs], etc.) that affected quality of malaria care, MCSP introduced an innovative monitoring tool using mobile phone SMS that tracks stock status at the health facility level. MCSP applied this intervention at 170 health facilities across the project zone.

## Results

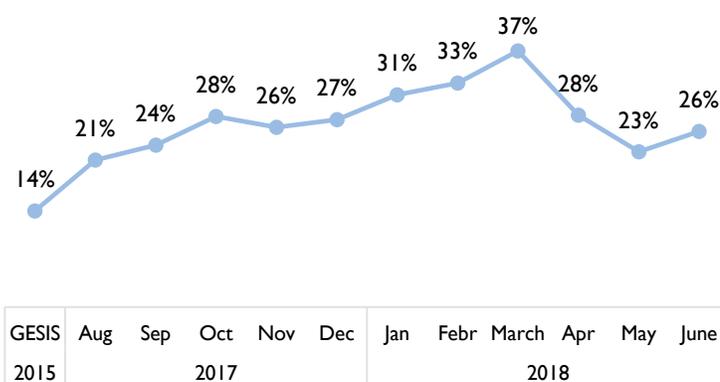
Key results of MCSP's efforts include the dissemination of MOPH guidelines promoting WHO's 2012 IPTp recommendations and 2016 ANC recommendations, an updated National Malaria Strategic Plan, the Reproductive Health Norms and Procedures, and the pre-service midwifery training curricula. Through MCSP, a pool of 265 trainers and supervisors, 1,733 heads of *centre de santé de base* (CSBs, the lowest-level health facilities in Madagascar), and 1,321 health providers were trained in prevention and case management of MiP in 15 regions.

### Improvement in Quality of Care

Over the life of project, 93,422 pregnant women received at least three doses of IPTp (IPTp3) during ANC visits. Based on CSB dashboard data, the use of IPTp-SP increased to an average 28% by June 2018 from a baseline of 14% (HMIS 2015). This rate reached a peak of 37% in March 2018 and decreased thereafter, due mainly to stock-outs of SP in many CSBs; USAID's Global Health Supply Chain Program replenished drugs in February 2018 at the district level, but there were delays in distributing them to CSBs.

Based on data collected by SMS in the facilities supported by MCSP, an average of 99% of malaria RDT-positive cases were treated according to guidelines. Trained providers were able to treat 99,694 children under 5 with fever due to malaria confirmed by positive RDTs. Health facility records also show that 30% of severe malaria cases were referred, showing an improvement from a baseline of 7% (HMIS 2016).

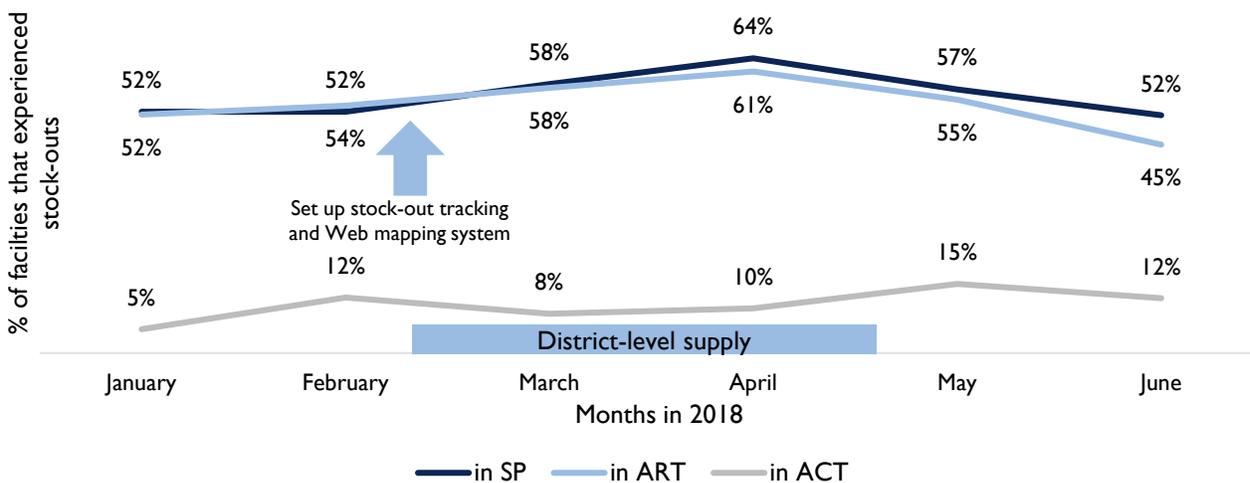
**Figure 2. Percentage of Women who Received at least Three Doses of Intermittent Preventive Treatment of Malaria in Pregnancy at 160 Facilities in 14 Regions**



### Reduced Stock-Outs

The availability of a data monitoring tool improved the effectiveness of the surveillance and warning system put in place to track malaria commodities. Facilities saw fewer stock-outs less than 2 months after the tool's implementation because information made it possible to supply health facilities on an ad hoc basis (Figure 2).

**Figure 3. Malaria Commodity Stock-Outs in 172 Health Centers that Sent Data by SMS (2018)**



SP = sulfadoxine-pyrimethamine ART = injectable artesunate ACT = artemisinin-based combination therapy

## Lessons Learned

- Dissemination of the MOPH's guidelines to health care providers and their integration into training curricula and normative documents were integral steps in ensuring the implementation of WHO's 2012 MiP recommendations.
- Through the integrated cascade training approach, MCSP supported the availability of a pool of 250 trainers at national, regional, and districts levels to conduct the trainings of health care providers at scale. This will contribute to sustaining training and supervision activities beyond the project, especially given the high staff rotation observed at facilities, thereby strengthening the health system.
- Despite their trainings, providers' performance and ability to provide high-quality care is often hampered by lack of malaria commodities in their health facilities, highlighting the importance of an improved commodity management system at all levels of the health system.
- Supportive supervision also remains a major challenge due to insufficient funding and lack of coordination among facilitators and supervisors at the regional and district levels of the MOPH.
- The low-cost early warning system tracking malaria commodities using SMS shows that mobile technologies can be explored further to improve early response and overall malaria program management.

Esther Bienvenue, who is 19 and is 5 months pregnant with her first child, was reluctant to go to the health center for ANC. Her mother, Catherine, 50, who had received information on consequences of malaria during her own pregnancies and knew the benefits of ANC, accompanied her daughter to the CSB2 in Ambohibary (in Moramanga), an MCSP-supported facility, for her first prenatal visit. Esther received her first dose of SP, a drug to prevent MiP, in addition to an insecticide-treated bed net and mother's health card. Esther, happy to have benefited from safe care for her and her baby, felt confident to continue prenatal care visits in this CSB.



Esther and Catherine after an ANC visit at CSB2 Ambohibary, Photo by Ravony Harintsoa, MCSP

*“Even if my mother is not available to accompany me, I will come back to the facility to monitor my health and also to take malaria drugs because malaria is very bad for myself and my baby.” - Esther Bienvenue*

This brief is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of the Maternal and Child Survival Program and do not necessarily reflect the views of USAID or the United States Government.