USAID COMMUNITY CAPACITY FOR HEALTH PROGRAM

Leveraging the Community Health Platform for Epidemic Response: The National Measles Outbreak in Madagascar (2018–19)

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 between Madagascar's Ministry of Public Health (MOH), USAID, and JSI Research & Training Institute, Inc. (JSI). The program provides tools and capacity-building training to about 10,000 Community Health Volunteers (CHVs), who provide basic maternal health, child health, and family planning services to their local community. In addition, Mahefa Miaraka works with national and local government actors to strengthen the health sector and health policies. The Program 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

- 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

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OVERVIEW

Despite Madagascar's recent progress in reducing child mortality, ongoing challenges such as limited geographical access to healthcare services and facilities, inadequate or non-functioning cold chains, insufficient human resources, and poor quality of service contribute to low rates of child immunization in the country. Per the MOH's Expanded Programme on Immunization (EPI), children should be fully vaccinated against major diseases before their first birthday, with measles vaccination starting by nine months of age. However, nationwide, just 41 percent of children 12–23 months have received the complement of basic vaccinations, and only 17 percent before the goal age of 12 months with a booster dose at 15 months[1]. These shortfalls are in part due to the inability of basic health centers (Centre de santé de base or CSB) to systematically conduct routine vaccination services. A Service Availability and Readiness Assessment[2] undertaken by Mahefa Miaraka in June 2018 showed that only 19 percent of CSBs in the Program's seven regions had fully functioning cold chain equipment to properly store vaccines, with only one percent of CSBs having all necessary components to effectively conduct routine vaccinations.

MEASLES EPIDEMIC

SEPTEMBER 2018–JANUARY 2020

244,644 cases reported nationwide

31,556 complicated cases

1,080 reported deaths

Source: Situation épidémiologique de la rougeole à Madagascar Réunion du Quartier Général Opérationnel du 26 novembre 2019

Between September 2018 and January 2020, Madagascar experienced an unprecedented measles epidemic with 244,644 cases of measles registered nationwide, including approximately 31,556 complicated cases, and 1,080 reported deaths. In response, the MOH, along with development partners, led a coordinated response effort to bring the epidemic under control. This response included mobilizing resources to ensure a sufficient supply of vaccine and training community vaccinators and community mobilizers for a series of nationwide vaccination campaigns for children from six months to nine years of age. These efforts were supported by intensive community surveillance to identify and refer measles cases for treatment.

Mahefa Miaraka mounted a large-scale, emergency community mobilization response to the 2017 plague epidemic. That experience enabled the Program to once again marshal its network of nearly 10,000 CHVs and 4,708 village leaders to work in close collaboration with CSBs to mount a robust community response to the measles outbreak. This response included the following elements:

- health education on measles and the importance and safety of vaccinations
- identification and referral of measles cases for treatment
- identification of unvaccinated children
- mobilization of communities for attendance at vaccination sessions during the national measles campaigns.

Through these actions, as well as by re-activating its community surveillance and response committees established during the plague epidemic at the regional, district, and community levels, the Program effectively contributed to the national measles epidemic response.

1 Multiple-Indicator Cluster Survey 6 (MICS), 2018
2 Service Readiness and Availability Assessment (SARA) of basic health centers in seven regions of Madagascar, USAID Community Capacity for Health, 2018


Mahefa Miaraka

APPROACH

The 2018–2019 measles epidemic in Madagascar followed closely on the heels of the 2017–2018 plague epidemic during which the Program effectively mobilized a broad community emergency response to break the chain of plague transmission. When the measles epidemic started in late 2018, the Program was already engaged in a campaign mobilizing communities to prevent a recurrence of the plague epidemic. Building upon communities' experience of community case surveillance, reporting, and referral of cases for treatment, Mahefa Miaraka mounted a response to the measles epidemic by leveraging the established community health platform and its plague response experience, in coordination with the MOH and other financial and technical partners.

From late 2018 to mid-2019, the Program actively participated in weekly national surveillance reviews and response planning, and coordinated with partners on the epidemic response, including communication efforts for prevention. To effectively support regional measles campaigns, Mahefa Miaraka provided financial and logistical support for community case investigation and treatment, and supported the distribution of materials and vaccines throughout its 32 districts. In three districts, the Program undertook training of front-line vaccinators as a complement to government health staff. At the village level, the Program's nearly 10,000 trained and experienced CHVs provided health education on measles and the importance of vaccination, identified unvaccinated children and referred suspected measles cases to health centers, and mobilized families with children from six months to nine years of age for vaccination.

KEY ACTIVITIES

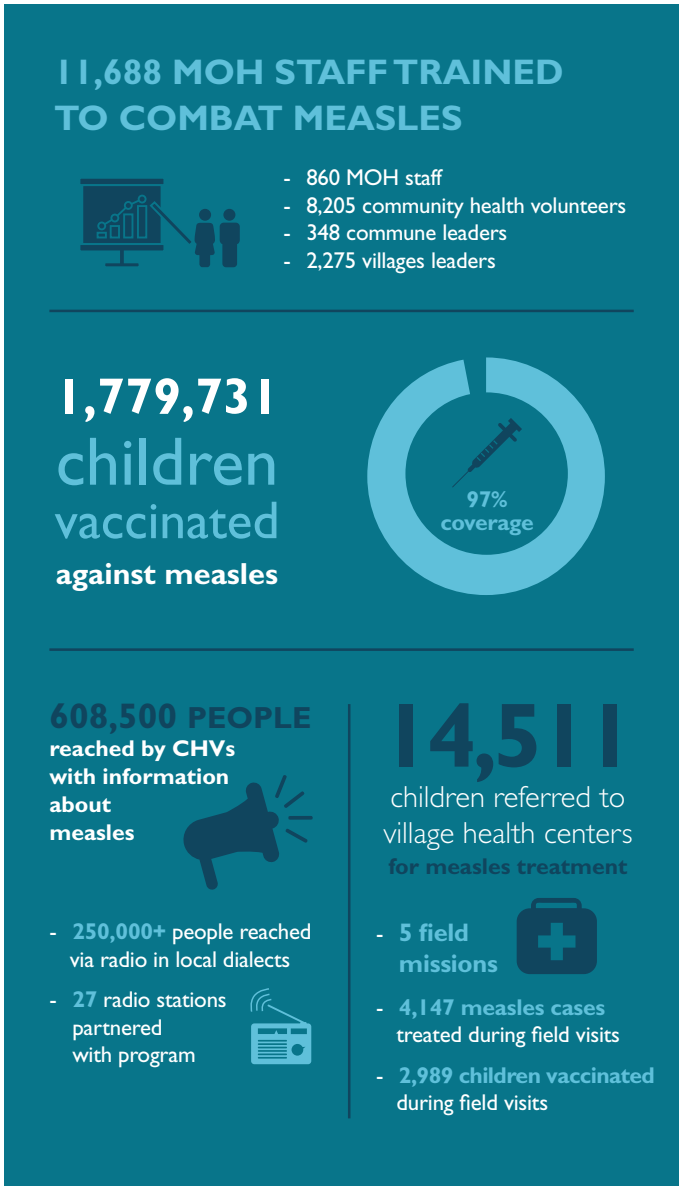
Strengthening Coordination and the National Level Response: Throughout the epidemic response, the Program participated in weekly planning and coordination meetings with the National Coordinating Committee (WHO, UNICEF, USAID and its implementing partners), under the leadership of the Secretary General of the MOH, the MOH Department of Health Monitoring, Disease Control and Response, and the MOH EPI Directorate. The National Coordinating Committee's mandate included surveillance, resource mobilization for the national measles campaigns, planning, technical oversight, partner coordination, and post-campaign evaluation and review.

Mobilizing an Effective Community Response: Building on the existing community health platform anchored by experienced CHVs, Mahefa Miaraka worked through the MOH to train and mobilize village leaders and CHVs. The village leaders and CHVs were then able to educate their communities about measles and its prevention, symptoms and care seeking in case of suspected measles, and the benefits and safety of vaccinations. They were also able to closely coordinate with local health centers to ensure high community turnout for measles vaccination during the national campaigns.

Protecting Vulnerable Children through Comprehensive Vaccination Campaigns: Mahefa Miaraka participated in three successive measles vaccination campaigns in its seven regions. These campaigns achieved 97% coverage of infants and children from six months to nine years of age. The Program participated in the micro-planning of the vaccination campaigns, and provided financial and technical support to regional and district supervisors, vaccination teams and community mobilizers. This support included training of three groups: vaccinators, community mobilizers, and district supervisors. Vaccinators were trained on the organization of vaccination sessions, the importance of maintaining the cold chain, and on the recording of any adverse events related to vaccination (e.g. reactions to the measles antigen). Community mobilizers were trained to raise awareness about measles and its effects, promote the importance of vaccination, and identify non-vaccinated children; while district supervisors were trained to effectively oversee local measles vaccination sessions, including daily activity debriefings, analyzing campaign results and identifying further pockets of unvaccinated children in communities. In addition, the Program provided logistical support for the distribution of vaccines and supplies, as well as the transport of vaccination teams.

Monitoring Measles Hot Spots and Response: Throughout the measles epidemic, the Program supported regional and district health teams on field missions to measles-affected districts, in order to provide emergency care to measles cases, carry out vaccination campaigns, and document measles-related deaths. At the national level, the Program also provided technical support for the publication of the weekly epidemiological bulletin, which provided timely and accurate data on the epidemic and the response for all actors involved.

MAHEFA MIARAKA RESPONDS TO THE MEASLES OUTBREAK, 2018–2019



RESULTS

- **A total of 11,688 MOH staff and CHVs trained on the measles response:** the Program trained 860 MOH staff on conducting measles epidemic surveillance in coordination with communities, the organization of vaccine sessions and outbreak investigations, and health education on measles and mobilizing communities for vaccination outreach and referral of suspected measles cases. MOH trainers in turn provided training to 8,205 community health volunteers, 348 commune leaders, and 2,275 village leaders.
- **A total of 1,779,731 children were vaccinated** through three successive measles vaccination campaigns – 97 percent of the 1,830,941 children targeted for measles vaccination. In districts where the campaign initially reached less than 95 percent coverage of targeted children, Mahefa Miaraka supported health centers and communities to organize further vaccine outreach, specifically targeting pockets of unvaccinated children that had not been reached through the mass campaign.
- **CHVs reached approximately 608,500 people with information on measles** through group education sessions and home visits aimed at educating community members on measles, the benefits of vaccinating their children, the safety of vaccines, and the importance of seeking immediate medical care for suspected measles cases. In addition, **radio messages on measles and campaign activities in local dialect reached more than 250,000 people** through the Program's collaboration with 27 regional and district radio stations.
- **CHVs identified and referred 14,511 children with suspected measles to the CSBs.** In addition, regional and district health teams supported by the Program carried out five field missions to measles-affected districts, **treating 4,147 measles cases, vaccinating 2,989 children and confirming 57 measles-related deaths**.

CHALLENGES

Low coverage for routine vaccine (MICS 2018) as a result of several factors: limited access to health services in hard-to-reach communities, non-functional and inadequate maintenance of existing cold chain for storage of vaccines, infrequent organization of vaccine outreach in communities, and incomplete information or misinformation on the importance of vaccination, vaccine safety, and where and when vaccination occurs.

Poor quality of immunization data resulting in overestimates of the percentage of children who are vaccinated. The 2018 MICS found that actual vaccination rates were significantly lower than the official MOH figures. The underutilization of available tools contributes to an inaccurate picture of vaccination coverage. The systematic use of the village child registry would improve the accuracy of this picture by providing a complete record of children in each village and their vaccination status.

Frequent interruptions in vaccine availability, as many CSBs lack a functioning cold chain or suffer breaks in the cold chain due to needed maintenance on older refrigerators and the lack of petrol or other supplies to run them, though some health centers have been upgraded to more reliable solar fridges.

Community misunderstanding about and resistance to vaccination leads some families to refuse vaccinations. Some

families mistakenly believe that their children will fall sick from vaccines, or that a single vaccination is sufficient against all illnesses. However, the efforts of community leaders, CHVs and mass media messaging, in addition to the high number of measles cases in communities, significantly lowered resistance during the measles epidemic response, when many families previously hesitant or unaware of the need to vaccinate made sure to vaccinate their children.

RECOMMENDATIONS

While the MOH mounted a successful response to the national measles epidemic, the epidemic also demonstrated the limitations of Madagascar's routine vaccination program, which leaves many children unvaccinated and at risk of contracting preventable diseases. The recommendations below can help strengthen national immunization efforts and prevent future outbreaks.

Strengthen execution and monitor progress on the *National Measles and Rubella Elimination Strategic Plan 2018-2022:*

Continued MOH leadership and strengthened coordination with development partners for the operationalization of the strategic plan and revitalization of routine EPI in Madagascar.

Emphasize effective outreach strategies as part of the program of routine immunization:

Mobilizing resources for effective outreach strategies through CSBs, coupled with the community response led by CHVs with the involvement of village leaders, can ensure high vaccination coverage of children prior to their first birthday, as demonstrated by the successful coordination during measles campaigns, as well as high coverage of the measles booster at 15 months of age.

Maintain and strengthen the existing community health platform for child immunization:

The Program reactivated its community epidemic surveillance and response activities, namely the mobilization of community health committees established with support of CSBs during the 2017 plague response. Further mobilizing and reorienting these community health structures for routine vaccination, combined with effective health center outreach, can contribute to increased child immunization rates and maintain capacity to address future epidemics.

Reinforce community perceptions on the importance of vaccination:

The often-frightening experiences many families and communities faced during the measles epidemic present a significant opportunity to alter community perception of the benefits of vaccination and to generate strong demand for childhood vaccination, as evidenced by the strong community response throughout the series of measles vaccination campaigns. The Program aims to leverage this greater awareness of the need to vaccinate children through its model families approach (*ménages modèles*), a Social Behavior Change (SBC) approach that recognizes families in the community for fully vaccinating their child before their first birthday. This practice is one of seven essential family health practices during the first year of the child's life.

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