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# TECHNICAL HIGHLIGHT IMPROVING HEALTH CARE SERVICE DELIVERY AND DATA QUALITY THROUGH mHEALTH

## THE USAID MIKOLO PROJECT

Photo: MSH/Samy Rakotoniriana

### PROJECT OVERVIEW

The USAID Mikolo Project increased access to and availability of community-based primary health care services, especially for women of reproductive age, children under age five, and infants living in remote areas in Madagascar. Implemented by Management Sciences for Health (MSH), with partners *Action Socio-sanitaire Organisation Secours*, Catholic Relief Services, *Institut Technologique de l'Education et du Management*, Dimagi, and Overseas Strategic Consulting, Ltd., the project was aligned with Madagascar's national community health policy and specifically focused on reproductive health; family planning; maternal, newborn, and child health; and malaria prevention and care. The five-year project (2013-2018) served an estimated 4.6 million people living more than five kilometers from a health facility throughout 506 communes in 42 districts across 8 of Madagascar's 22 regions.

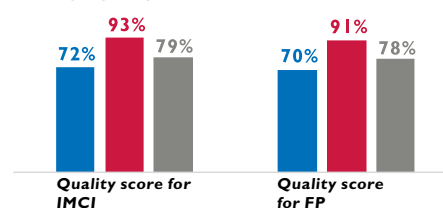
The USAID Mikolo Project supported the Ministry of Public Health by training and supporting 7,591 community health volunteers and mobilizing communities to strengthen the continuum of care. The community-based delivery of the service package the volunteers offer is endorsed by the World Health Organization and has been shown to be an effective way to address shortages of human resources without compromising the quality of care.

### STRATEGY

Each community health volunteer (CHV) in Madagascar provides routine family planning and newborn, maternal, and child health services to about 300 clients per year in villages located over five kilometers from a health center. However, the quality of service delivery and data are often poor. The USAID Mikolo Project, with the Ministry of Public Health (MOPH), developed a mobile health (mHealth) application to improve the quality of CHV services by standardizing care delivery and facilitating referrals, and to increase the quality and timeliness of reporting.

### RESULTS

Average quality score for CHVs



■ CHVs using paper version (Baseline: end of April 2017)  
■ Pilot users using CommCare (end of August 2017)  
■ CHVs using paper version (end of August 2017)

A pilot phase was implemented in five districts in the Analamanga and Atsinanana regions between April and August 2017. Fifty users were trained on the mHealth application: 35 CHVs, 8 heads of basic health centers (CSBs), and 7 support technicians. Among the achievements, timeliness of data reporting, service quality, and user satisfaction improved.

The average application satisfaction score among users was 3.88 out of 4. Users noted that the application was relevant and useful, decreased reporting time, and that the job aids helped improve the quality of service delivery.

On-time monthly reporting rates ranged between 88.5% and 94%, compared to rates between 46% and 75% among CHVs using the paper system. The average quality score for CHVs (measured against compliance with national standards) was over 90% for both integrated management of childhood illness (IMCI) and family planning (FP), compared to less than 80% among non-mHealth users.

All pilot CHVs and CSBs continued to use the app 12 months after introduction. Initial expansion in four regions of Madagascar (Analamanga, Atsinanana, Vatovavy Fitovinany, Atsimo Andrefana) showed promising early results. For example, 549 additional users were trained (462 CHVs and 87 CSBs), of which over 50% used the app two weeks after completing the training.

\*All data as of April 19, 2018

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*“I spent less time with the CHV, but I left feeling better served... I can see the treatment, advice, and follow-up steps on the phone screen.”*

- Jocelyne Hortense,  
family planning client

Photo: MSH/Rijia Rakotoniramanana



*“For baby weighing sessions, I used to take notes in a notebook so that the session was not too long, and then would have to transcribe all the information to the registers at the end of the day. Today, with the application, I’m faster and more efficient, and even have more time for personal activities.”*

- Louise,  
CHV from Anjeva Gara, Madagascar

## APPROACH

Photo: MSH/Samy Rakotoniriana



The mHealth application, which was developed using the open-source CommCare platform, integrated MOPH case management algorithms, validation checks, and job aids.

### Versatile application

The app includes two versions for specific user groups: CHVs and heads of health centers.

The CHV version has eight job aid modules, including: 1) family planning; 2) child health; 3) maternal health; 4) growth monitoring; 5) promotion of healthy behaviors; 6) stock information; 7) referrals to other levels of care; and 8) monthly activity reporting. The version for health centers focused on measuring CHV performance scores against compliance with national standards, referrals/counter-referrals, and reviewing CHV reports. The project conducted monitoring and evaluation of the application's use by applying the international mHealth Evidence Reporting and Assessment (mERA) standards.

The CHV application's diagnostic component lists a series of questions about health status and symptoms, before generating a diagnosis with recommendations for treatment and follow-up, helping CHVs to deliver standardized, evidence-based care. Since data quality and collection are critical for ensuring reliable and sustainable health care, the application's automatic data reporting and integrated validation checks help to improve the accuracy, quality, completeness, and timeliness of data, which contribute to better supply chain management and disease surveillance throughout the country.

### Public-private partnership

The mHealth initiative exemplified a successful public-private partnership between the MOPH and its partners in the field of digital health in Madagascar. Leadership by the MOPH is essential when introducing and piloting mHealth applications. The app is fully aligned with and supports the MOPH Health Management Information System, and the Ministry now has ownership over this application, which fosters the long-term sustainability of the initiative. Other partners in the initiative include the Telma Foundation, the Google NetHope Device Challenge, and international service provider, Dimagi. The USAID Mikolo Project oversaw the necessary training, supported all aspects of the pilot and initial scaling up, and collaborated with the MOPH to evaluate the preliminary results of the initiative.

### Additional information can be obtained from:

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