



Malaria Consortium upSCALE

iCCM for Improving Child Health



OVERVIEW

upSCALE supports community health workers (CHWs) in Mozambique to deliver integrated community case management (iCCM) in the remote communities that they serve. The CHWs use a smartphone-based application built using CommCare to guide them through the patient consultation. The program adopted CommCare to strengthen communication between CHWs and health facility supervisors. With the Ministry of Health staff now taking on responsibility for content design, training, rollout, and platform hosting, upSCALE has the potential to expand into other areas of the health system, with the goal of improved diagnosis, treatment, and monitoring of disease throughout Mozambique. The program is currently in the process of expanding nationally to 8,000 CHWs.

SUMMARY



LOCATION

Mozambique



SECTOR

Maternal & Child Health,
Disease Treatment



PARTNERS

Mozambique Ministry of Health, Malaria Consortium, UNICEF



FEATURES

Case Management, Decision & Diagnostic Support, Respiratory Rate Counter, SMS Notifications, Multimedia, Custom Reporting, DHIS2 Integration, Stock Management



TYPE OF USERS

Community Health Workers (CHWs) and CHW Supervisors

NUMBER OF USERS

Current Scale

1500+ users across
Inhambane, Cabo Delgado
& Zambezia Provinces

1200 CHWs

300 Supervisors

Upcoming Scale

An additional **~1800** users
coming online in Nampula
Province in 2020

1350 CHWs

400 Supervisors

Coverage

Current: 13% of CHWs, serving
32% of Mozambique's population

2020 anticipated: 30% of CHWs,
serving 53% of Mozambique's
population



PROBLEM

Around the world, an estimated 5.4 million children under the age of five lose their lives each year to diseases that are preventable and treatable, such as malaria, pneumonia, and diarrhea. These deaths occur primarily in poor rural settings, particularly in sub-Saharan Africa, often as a result of strained health systems and limited access to simple, affordable interventions.

In Mozambique, nearly half the country – 48% – has no access to healthcare. A national network of 5,370 community health workers (CHWs), locally referred to as Agentes Polivalentes Elementares, or APEs, work to expand health coverage across the country. By 2022, the number of CHWs is expected to grow to 8,800. However, the program's effectiveness has been negatively impacted by the limited availability and usage of health information, as well as limited support and supervision of CHWs.

SOLUTION

One approach to improving the healthcare situation in Mozambique is integrated Community Case Management (iCCM), which has demonstrated the potential to reduce **childhood mortality by 60%**. Building on World Health Organization (WHO) protocols, Malaria Consortium, in partnership with the Ministry of Health and UNICEF, developed upSCALE to strengthen the case management of childhood illness within communities, by diagnosing, treating, and referring children with key childhood illnesses. The mobile-based job aide for CHWs also incorporates the whole community health program's package of services – including family planning, antenatal, and postnatal health services for its communities.



SYSTEM OVERVIEW

To address these challenges and enact their solution, Malaria Consortium developed a mobile health system with the Mozambique Ministry of Health, UNICEF, and Dimagi – Mozambique’s largest Android deployment to date: The upSCALE platform has been developed to improve the quality and coverage of health services at community level by addressing three key community health worker (CHW) program challenges: poor adherence to clinical guidelines; lack of access to community health information; and insufficient supply of commodities.

The upSCALE system, built on the CommCare platform is comprised of two case management applications, custom indicator dashboards, SMS notifications and data integration with a DHIS2 instance.

CHW Application

The CHW application is based on iCCM standard protocols published by the World Health Organization and diagnostic and treatment protocols from the Ministry of Health in Mozambique for diarrhea, pneumonia, malaria, and malnutrition, including an immunization plan for children under five. The app is designed to better support more than 1,200 community health workers during household visits based on pre-existing paper-based job aids. The application guides CHWs through the diagnostic process, provides treatment recommendations, issues targeted behavior change messages for patients, and collates inputted data. It is patient-focused, rather than disease-focused, enabling effective case management that promotes continuous care and follow-up on any danger signs, risks, and referrals generated by going through the proper protocols. Dedicated modules within the application also better assist stock management needs and reporting of community health talks.

The application prompts CHWs with a checklist of danger signs exhibited by pregnant women, newborns, and children for appropriate referral and follow-up, while also providing family planning education and services, including condoms, pills, and injections.

Supervisory Application

The secondary supervisory application is used by more than 300 health facility-level supervisors, providing them with automatically-generated data on the performance of CHWs in their catchment areas and supportive supervisory guides. The application enables supervisors to score CHWs’ performance during their monthly supervision visits and track CHWs’ progress. It was designed with reporting indicators from existing monthly reports at the Ministry of Health and utilizes the national rubric for comprehensive case management.

Both applications:

- ✓ Were co-designed with input and feedback from the Ministry of Health officials and CHWs to ensure they adhered to existing national iCCM protocols and were user-friendly for CHWs
- ✓ Work offline and automatically synchronize the data to servers once a network connection is established
- ✓ Incorporate SMS notifications to better support both CHWs and health facility-level supervisors

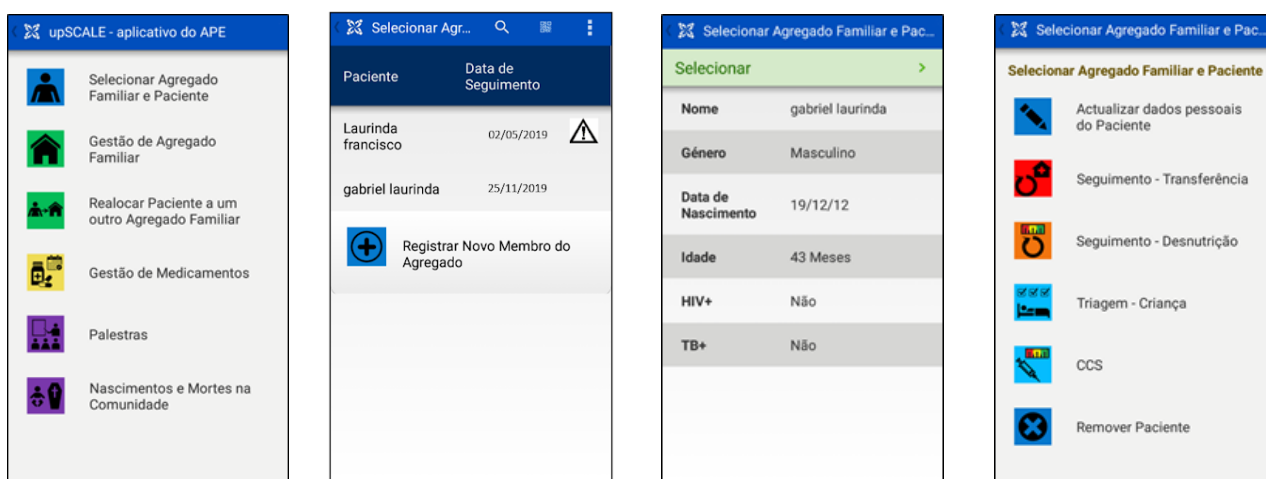
Reporting

The Ministry of Health and Provincial Health Departments where upSCALE is implemented can now access a custom, web-based dashboard with monthly aggregated indicator and CHW performance reports. These reports can be filtered by geography, user type, and time-period. A select list of more than 100 CHW program indicators is configured to be sent to a local Ministry of Health instance of DHIS2 for further analysis.

FEATURE HIGHLIGHT

Case Management

A CHW can select the patient case from a list of existing cases registered in the application. These patient cases are sorted by the next visit date, with overdue and upcoming visits appearing at the top of the list. Overdue visits are accompanied by an exclamation mark symbol. Once the patient case has been selected from the list, the CHW can confirm the patient information previously registered and then gain access to forms to deliver health services that the patient is eligible for based on their gender, age and varying health statuses.



Respiratory Rate Counter

In order to diagnose symptoms of pneumonia, CHWs are trained to determine a patient's respiratory rate during patient visits. This is often one of the most challenging tasks for CHWs and can result in improper diagnoses.

To address this challenge, a respiratory timer called Breath Counter has been integrated into upSCALE's CommCare application. The timer enables CHWs to tap the phone screen each time a patient breathes and automatically produces a respiratory rate for the patient at the end of the minute, supporting CHWs' ability to diagnose symptoms of pneumonia.

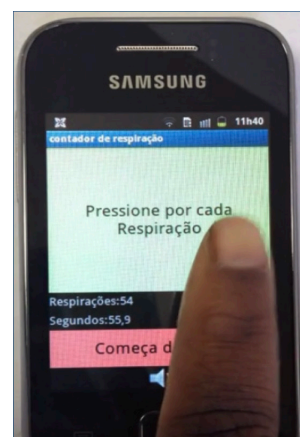


Image: Malaria Consortium

Stock Management Report

A Stock Management report on the Supervisor Application displays supply status for each medical supply provided to the CHW they oversee. This helps the supervisor to monitor when a CHW's stock of medicine is running low or has run out in order to help facilitate a rapid replenishment.

Item	Número	Status
Paracetamol, 250mg	25	Red
Zinco, 20mg	100	Yellow
Preservativos Masculinos	144	Green
Sal Ferroso (90 mg + Ácido Fólico 1 mg)	500	Green
Paracetamol, 500mg	1000	Green
Mebendazol, 500mg	100	Green
Teste Rápido		Light Green

IMPLEMENTATION

Initially launched as a program in 2009 called “inSCALE,” the program began growing to its current scale under the “upSCALE” initiative in 2016. Like its successor, inSCALE used a “Training of Trainer” approach to prepare staff for the training of provincial health workers at different levels in the province, increasing program ownership and sustainability. These trainers trained a total of 132 CHWs and 47 supervisors in the first implementation phase, and the upSCALE program has expanded to more than 1,200 CHWs and 300 supervisors since. The program is now in the process of expanding nationally to 8,000 CHWs.

In addition to training CHWs and supervisors on how to use the upSCALE applications, program staff was aware that most CHWs were unaccustomed to using Android phones. Dimagi and Malaria Consortium held extra training and introductory sessions on Android phones and used an AppBlocker to lock down unnecessary features of the phone. As a result of these training sessions, CHWs demonstrated the necessary technical literacy levels needed to use the applications.



IMPACT

The team at Malaria Consortium is working in partnership with the University of Eduardo Mondlane in Maputo to conduct a full impact evaluation of the upSCALE program. This document will be updated with those results once the evaluation is finalized.

WHAT THEY HAVE TO SAY

"I remember one time there was a pregnant woman in my community who was in pain for two days. I used my phone to communicate with my supervisor because she could not walk and the supervisor sent an ambulance for her. This happened twice."

CHW (APE), INHASSORO DISTRICT, INHAMBANE

"Because everything is happening on this phone, this has been helping me prescribe the correct medicine and correct dosage and even to appropriately explain how the mother has to give each dosage to her baby. These recommendations have been easy to deliver, as everything is shown on the phone."

CHW (APE), MORRUMBENE DISTRICT, INHAMBANE

"The phones help the CHWs (APEs) conduct a correct consultation and, at the same time, deliver necessary and correct health education. Previously, it was normal for the CHW (APE) to wrongly diagnose a disease, provide an incorrect treatment or make an unnecessary referral, but now by using the phones this is solved. this is solved."

CHW (APE) SUPERVISOR, INHARRIME DISTRICT, INHAMBANE

WITH THANKS TO

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