

# Community IMCI (cIMCI)

## Brief Overview

Malawi is home to 6.8 million children. Infant and child mortality rates are high due in part to widespread poverty, lack of access to sanitation, food insecurity, and preventable diseases. While the prospects for child survival have improved over the past few years, one in eight children are still dying, mostly of preventable causes such as neonatal conditions, pneumonia, diarrhoea, malaria, and HIV-related diseases. Malnutrition levels remain high and underly over half of all child deaths.



D-tree International is a technical assistance partner in the USAID-funded “Integrated (HIV Effect) Mitigation and Positive Action for Community Transformation” (IMPACT) project, which is designed to improve the quality of life of orphans and vulnerable children (OVC) in targeted districts of Malawi. D-tree designed a mobile phone-based application that is being used by 50 health surveillance assistants (HSAs) in three districts in Malawi. The application assists the HSAs in accurately treating children aged two to 59 months who are sick and supports them to follow the community integrated management of childhood illness (IMCI) protocol provided by the Ministry of Health’s IMCI unit. The tool was modeled on the government of Malawi’s community case management (CCM) protocol, which was developed to ensure that the front lines of the health system have the tools they need to reduce the common causes of childhood morbidity and mortality.

The IMPACT project is being implemented from June 2010 to June 2014, and the last cIMCI mobile application training was completed in August 2012. Over 4,000 children have been assisted with the use of the CCM mobile application through the IMPACT project.

### ■ Geographic Coverage:

Three districts in Malawi

### ■ Implementation Partners:

D-tree International | Malawi Ministry of Health, Integrated Management of Childhood Illness Unit

### ■ Funder:

USAID/Malawi

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## About Community IMCI (cIMCI)

The stand-alone application runs on a java-enabled phone that HSAs use offline. HSAs are guided step by step through the process of registering sick children, listening to their complaints, performing an examination, delivering diagnosis, and administering treatment. The tool follows the Ministry of Health (MoH) guidelines exactly and makes it difficult for HSAs to make mistakes such as missing danger signs or examination points, or prescribing the wrong or incorrect quantities of medicine. The application also supports HSAs to refer children who are in need of more advanced care to a health facility and allows the HSA to follow up with the child after referral. The current CCM protocol used by HSAs primarily focuses on four conditions: fever, cough, diarrhea, and acute malnutrition.

On a daily or weekly basis, HSAs send their completed data to a server using general packet radio service (GPRS), a packet oriented mobile data service which is many times less costly than SMS, for backup and reporting purposes. Data and reports are then available for supervisors from the website at any time, rather than having to wait for the paper forms to be submitted and tabulated.

## Evaluation and Results

To analyze the effect of the mobile application, D-tree compared data from a village clinic register for a five month period before the introduction of the mobile application with data the HSA sent through the mobile application for the same five month period a year later. The comparison revealed that the use of the mobile application increased the number of referrals from five percent to 11 percent. These findings affirm those of other studies which indicate that danger signs are often overlooked. This further suggests that the HSAs are now more fully examining the children and referring where necessary.

The findings also show that follow up has increased substantially since the introduction of the mobile application. No follow up information was entered in the paper register whereas 26 percent of visits were actively followed up, according to mobile data.

At the beginning of the project, some caregivers were skeptical about the use of the phone at the village clinic. However, anecdotal data suggest that they came to appreciate the tool once they experienced the improved thoroughness of examinations. One of the HSAs reports hearing one caregiver tell another, *“You were lucky, because your child was assessed with the phone today.”*

A planned evaluation in 2013 will compare performance on the following indicators by the mobile phone-based system vs. paper-based:

- Protocol adherence;
- Correct diagnosis and treatment;
- Appropriate referrals;
- Data quality; and
- Attitudes of HSAs and their patients (or caretakers of children) towards the use of phone-based protocols at the village clinic.

## Lessons Learned

- Input from MoH is important to ensure the application is compliant with government guidelines.
- Replacing a paper-based system with a mobile application influences the reporting and supervisory structures. This calls for careful consideration of appropriate alternatives.
- It is important to research phone suppliers, whether local or US-based, in order to avoid procuring non-genuine or defective phones.
- Establishing local champions or “super-users” in each area is critical so that they can provide basic troubleshooting support to other HSAs. This is especially important as the project scales up.
- The main reason users failed to submit data is due to either a lack of medicine at their village clinic or competing activities that prevented them from operating the clinic.

## Conclusion

cIMCI can be effectively programmed and deployed on an easy to use mobile device to support HSAs working in hard to reach areas. The HSAs using this application adhere more effectively to protocols, perform better at identifying very sick children and referring them to health facilities, and are more likely to follow-up with the sickest clients.