

Evaluating the cost and impact of technology and community supported supervision approaches on the coverage of appropriately treated children, CHW motivation and performance.

A research study from Uganda and Mozambique

1. What were the findings/results in 3-5 bullets

- Extensive formative research was done to develop two intervention packages that were evaluated through cluster randomised controlled trials. One intervention was a community engagement approach, and the other used an mHealth intervention: This approach used low-cost technology to promote learning and increase CHWs' confidence and connectedness to the wider health system through the development of tools and applications for mobile phones. The mobile phones used in the study were selected based on the county context, with smartphones used in Mozambique and feature phones in Uganda. The mobile phone software inSCALE developed is intended to enhance CHW motivation and performance through job aids that support decision-making (Mozambique only), data submission and performance-related feedback, as well as closed user groups to allow free calls amongst CHWs and their supervisors.
- Using a pooled analysis across countries, it was found that sick children in the mHealth arms were 10% more likely to receive appropriate treatment compared to those in the control arm. The largest effect on appropriate treatment was seen on diarrhoea (treatment with ORS) in both Uganda and Mozambique.
- Care seeking from CHWs did not change as a result of the interventions, but the likelihood of appropriate treatment for DPF was higher from CHWs in the intervention arm than from CHWs in the control arm in Mozambique. Furthermore, in Mozambique appropriate treatment for those first visiting a public health facility was also higher in the interventions arm. This may suggest that CHWs have become more skilled as a result of the enhanced technology intervention and may have been better at conducting referrals to health facilities or caregivers had greater disease awareness as a result of the intervention and changed their health seeking behaviour as a result.
- A small, but significant, reduction in the attrition rate was observed in intervention arms in Uganda but not in Mozambique.
- Preliminary cost-effectiveness results from Uganda show that the incremental cost per additional appropriately treated case is US\$28 for the technology intervention. Further analyses will explore scalability, and the feasibility of using the appropriately treated case measure as a proxy for lives saved in order to model and estimate the cost per DALY averted.

2. How the findings have influenced implementation in your country of study and nay lessons learned

- The MOH at both provincial and national levels are very supportive of the intervention, which is currently being scaled up by Malaria Consortium with the support of DFID funding through UNICEF. The full APE curriculum is being added to the electronic job aid, data will be automatically migrated to DHIS2 and a supervisor dashboard will be programmed to track APE performance.
3. How the findings can be applied to other countries/settings
- The CommCare tool is available for download and can be adapted to any country and context.
4. Is there additional evidence or implementation knowledge gaps that have become evident from this research
- Motivation and performance did not change appreciably in the intervention arms. CHW motivation was notably high across intervention arms and country settings.
 - The improvements observed in the intervention arms occurred despite problems with drug stocks and other contextual factors – suggesting that greater gains could be reached if these issues were also targeted.