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Timeline

2012-2014

Using Mobile Technology to Fight Malaria

Abstract

TextDirect is scaling-up the use of text message reminders to increase adherence to malaria medication.

An IPA study found that sending text message reminders to malaria patients reminding them to complete their full course of medication increased adherence in Northern Ghana. In response to these findings, an organization called TextDirect formed to scale-up the approach in Sierra Leone. TextDirect completed a pilot and planned to scale the program nationwide by the end of 2017.

The Challenge

Only one drug—artemisinin—is fully effective in treating malaria in Sub-Saharan Africa, and is therefore central to the global fight against malaria. However, many patients do not complete the full course of malaria treatment and non-adherence may increase the risk of drug resistance, undermining efforts to combat the disease. There is already evidence that *P. falciparum*, the strain responsible for the majority of deaths in Sub-Saharan Africa, has developed resistance to artemisinin-based therapies (ACTs) in Southeast Asia. Public health experts are deeply concerned resistance will also develop and spread in Africa, where the

parasite is already resistant to several classes of antimalarial drugs, leaving ACTs as the only fully effective treatment. While not over-prescribing the drugs is one challenge, another challenge is convincing people who need them to complete the full course, even after they start feeling better.

The Evidence

A [study](#) found that that simple text message reminders increased the number of malaria patients who completed the full course of ACT treatment by 5 percentage points: 66.4% completed treatment, relative to 61.5% of those who didn't receive any reminder messages. Although the impact was modest, the reminders are so inexpensive to administer (less than \$0.01 per message) that the approach is thought to be well worth the cost.

Malaria patients were recruited from public and private hospitals, clinics, pharmacies, and other vendors of ACTs and given instructions to enroll in a mobile malaria information system. The patients who enrolled received a text message every 12 hours, approximately at breakfast and dinner time, over the course of two and a half days for each of the six doses of ACT. The messages reminded them to take their malaria drugs; they either read "Please take your MALARIA drugs!" or "Please take your MALARIA drugs! Even if you feel better, you must take all the tablets to kill all the malaria." Receiving a longer message did not significantly increase adherence. Adherence was assessed by examining packages of ACTs at the patient's home.

The Impact

In response to the evidence, an organization called [TextDirect](#) formed to scale-up the approach in Sierra Leone. They started with \$20,000 in seed funding from D-Prize, awarded in May 2016, and they have since attracted other funders and piloted the program in hospitals across Freetown. To optimize take-up, they are tinkering with the model, for instance by offering patients a small amount of phone credit, since cost appeared to be a barrier to enrollment in Ghana. TextDirect is now working with a larger international NGO to create a plan to scale the program nationwide in by the end of 2017.

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Sources

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