Balancing Health Benefits and Risks of ACT Subsidies for Africa

Researchers:

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Sector(s): Santé

Fieldwork: Innovations for Poverty Action (IPA)

Location: Western Province, Kenya

Sample: 2,789 households in rural Kenya

Target group: Rural population

Outcome of interest: Malaria

Intervention type: Subsidies

AEA RCT registration number: AEARCTR-0001161

Données: Download from Dataverse

Partner organization(s): Clinton Health Access Initiative (CHAI), Novartis Pharmaceuticals

Policy issue

Malaria is one of the world's foremost public health concerns, killing close to 1 million people every year. In many malaria-endemic regions, resistance has developed to all but one class of antimalarial drugs, called artemisinin combination therapies (ACTs). ACTs sold in the retail sector are unaffordable for the poor, and although heavy subsidies can make them accessible, the benefits of treating more people and lowering transmission rates must be balanced against the risk of overtreatment, which can hasten the development of drug resistance. A new malaria testing technology, the rapid diagnostic test (RDT), has made it possible to perform malaria testing in the retail sector, but these tests are not demanded at prevailing prices. How can policymakers tailor the prices of subsidized drugs and diagnostic tests to target those truly sick with malaria and prevent those who do not need ACTs from taking them?

Context of the evaluation

In Kenya, ACTs are now the only effective class of antimalarial drugs. The incidence of malaria in Western Kenya is very high, with nearly 70 percent of households self-reporting an episode of malaria in the month before baseline. ACTs at government health centers in Kenya are nominally free, but health centers feature long waits and limited hours, are often stocked out of medication, and the remotely-located poor often cannot afford to travel the distance to get there. Consequently, many people opt to purchase cheaper, less effective anti-malarials over-the-counter at drug shops located closer to home.

The Affordable Medicines Facility for malaria (AMFm) is an initiative currently being considered by major international aid agencies in which ACTs would be heavily subsidized to first line buyers throughout Africa (the subsidy policy is currently being

piloted in 8 countries). But such a high subsidy could lead to overtreatment. If people who do not have malaria presumptively buy ACTs without a diagnosis, this can contribute to drug-resistance, waste subsidy money and delay appropriate treatment for the true cause of illness. Improving diagnostic access could considerably reduce overtreatment, but there has been little research so far in this area.



Health worker performs finger prick blood test for malaria.

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Details of the intervention

The intervention took place in the districts of Busia, Mumias, and Samia in Western Kenya. Researchers distributed vouchers redeemable at four local drug shops to all households within four kilometers of four rural market centers. The households were randomly assigned to one of three groups:

Group	Intervention description
Comparison: no subsidy	Households received a voucher to buy ACTs at the market price of KES 500 (about US$6.25)

Group	Intervention description
ACT subsidy only	Households received a voucher for ACTs giving them either an 80 percent, 88 percent, or 92 percent subsidy.
ACT and RDT subsidy	Households received an ACT voucher as in group 2, as well as a voucher for either a free RDT, an RDT for US$0.19 (corresponding to an 85 percent subsidy), or an RDT for US$0.19 that was refundable if the test was positive and an ACT was purchased.

In order to find out what fraction of people buying ACTs were truly malaria positive—a proxy for how well the ACT subsidy under the AMFm would be targeted—the researchers also selected a random subset of the households in all treatment groups to receive the offer of a "surprise" free RDT after they completed their transaction at the drug shop.

Trained study officers were posted at each of the four participating drug shops during opening hours every day throughout the study period. When a household member came into a drug shop to redeem his or her voucher, study officers recorded details such as medicines bought, symptoms, patient characteristics, and true malaria status in case an RDT was administered.

Results and policy lessons

An ACT subsidy increases access, especially for the poorest households (measured by the literacy status of the household head). Without subsidies, literate-headed households take ACTs for 37 percent of illness episodes as compared to 11 percent of episodes in illiterate-headed households. With subsidies, the coverage rates become 45 percent and 38 percent, respectively.

A lower subsidy level improved targeting to malaria-positive individuals without compromising access to ACTs among those who need them. At the two lower subsidy levels (80 and 88 percent), households were less likely to use an ACT voucher for adults, but no less likely to use a voucher for young children, who are much more likely to actually have malaria and for whom malaria is most dangerous. As a result, targeting improved.

At the two lower subsidy levels, about 75 percent of patients for whom care was sought at the drug shop tested positive for malaria, while at the 92 percent subsidy level only 56 percent tested positive . Households were very willing to take RDTs, even when asked to share some of the cost: when the test was available, over 80 percent of the households who sought treatment at the drug shop chose to take an RDT before deciding what medication to purchase. However, many chose to buy an ACT even if they tested negative .

This evaluation suggests that an information or marketing campaign about the reliability of rapid diagnostic tests might help convince people to use and comply with them – but even without such a campaign, moving from the target AMFm subsidized price (92 percent of the retail cost) to an 80 percent ACT subsidy with RDTs could increase the share of ACT takers who are malaria positive at the drug shop by 24 percentage points.

While these results suggest that a slightly lower ACT subsidy than the one proposed by the AMFm would improve targeting without compromising access, the results also make it clear that a large ACT subsidy is needed in order to increase access among the neediest. Taking some of the planned ACT subsidy money away from ACTs and putting it towards subsidizing and promoting RDTs could improve targeting and be particularly effective among adults, especially if adherence to test results can be improved.

Cohen, Jessica, Pascaline Dupas, and Simone Schaner. 2015. "Price Subsidies, Diagnostic Tests, and Targeting of Malaria Treatment: Evidence from a Randomized Controlled Trial." American Economic Review 105(2): 609-645.