

# DIME BRIEF

## Zambia – Can the private sector play a stronger role in malaria diagnosis and treatment?

The Development Impact Evaluation Initiative at the World Bank supports government agencies to adopt a culture of real time, evidence-based policy-making. The objective of the initiative is to help programs learn how to improve their performance over time by both measuring results, and comparing policy alternatives side by side to determine which alternatives are more effective on the basis of rigorous impact evaluation. DIME works with 300 agencies in 72 countries to improve knowledge, quality of operations and country capacity for evidence-based policy-making.

The poor in many countries lack access to essential malaria diagnosis and treatment methods. One of the reasons is that many patients access malaria treatment through the private and informal sectors, where the availability of diagnostic tests and drugs can be limited and where prices for the recognized front line drugs (Artemisinin-based Combination Therapies or ACTs), are generally high. Strengthening the private sector role offers great potential in the fight against malaria.

A number of countries including Tanzania, Kenya and Cambodia are piloting the provision of subsidized ACTs through the private sector<sup>1</sup>. Early findings indicate that subsidies can improve uptake, but the pilots are not conclusive and more analysis is needed to understand how to maximize uptake. In parallel there is research into strengthening the provision by private drug stores of rapid diagnostic tests (RDTs).

This policy brief summarizes the evaluation findings of a program in Zambia which sought to enable the private sector to play a stronger role in malaria diagnosis and treatment. The main conclusion of the evaluation was that a well managed intervention can strengthen access to ACTs through the private sector whilst also reducing the use of ineffective antimalarials.

### Case Study Background

The Zambia Access to ACT Initiative (ZAAI) was launched in 2009 and included parallel public sector and private sector components. The public sector component focused on strengthening the availability of essential drugs in public clinics, often in remote areas. The private sector component was concerned with assessing the effectiveness of a combined ACT and RDT subsidy. The evaluation of this component gauged whether the program increased the affordability and access to ACTs; decreased the use of ineffective anti-malarials, and increased diagnostic capacity of the private sector.

In 2008 only 29 percent of Zambian children under the age of five took an anti-malarial within 24 hours of onset of symptom. And only 11 percent of children under-five living in urban areas and 5 percent of those in rural areas took

ACT, the adopted first line treatment for malaria, within the same/next day of onset of fever.

In Zambia it can be common to seek care through the private sector. A 2004 study in Zambia found that roughly 42 percent of the population seeks treatment for fever through non public sector sources (treatment at home, private sector clinics, drug stores, pharmacies, etc). But ACTs and RDTs are not readily available through private sector drug stores. In part this is because of constraining legislation in Zambia. ACTs are classified as a prescription only medication and so are only legally available in registered pharmacies. Added to this, the Zambian Pharmaceutical Act does not allow for local (second tier) pharmacies. In rural areas there are virtually no registered pharmacies, therefore availability of ACTs/RDTs is more limited.

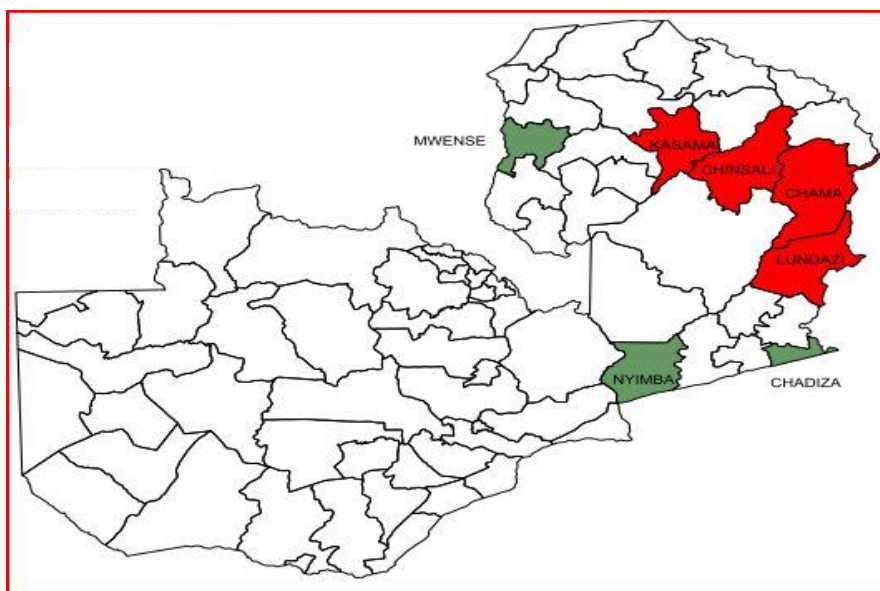
The ZAAI *private sector* program was the government's first proactive attempt to regulate private sector sellers in more remote areas through accreditation. The program had three main components:

**(1) A subsidy for ACTs and RDTs**

ACTs and RDTs were procured from the manufacturers at the public sector price, and then sold at a subsidized price to existing pharmaceutical wholesalers. The products were delivered through normal distribution channels to accredited drug outlets in the pilot districts.

**(2) Accreditation program based on Tanzania's ADDO model**

This included a training curriculum which covered dispensing practices, ethical issues, inventory control, supply chain management and an entrepreneurship module. There was a basic set of enforceable infrastructure, covering personnel, records, and product standard. Finally there was increased oversight from the Pharmaceutical Regulatory Authority (PRA), although this was relatively light touch. For example, no outlet was visited more than twice.



**DID YOU KNOW?**

A THIRD OF THE WORLD'S POPULATION, INCLUDING ALMOST HALF OF THE POPULATION OF AFRICA LACK REGULAR ACCESS TO ESSENTIAL DRUGS. (WHO 2004)

**a. Community Sensitization and Training**

There were a series of measures to increase community awareness, including: public awareness campaigns (radio), drama shows, signs on the shops, such as the health shop logo shown in the photo, health messages on packages of ACTs, banners, posters, etc.

The program covered up to 63 accredited stores. 28,170 ACT courses and 41,900 RDTs were shipped during the program, and store levels suggest more than 20,000 people underwent diagnosis. The evaluation used a quasi experimental design and was rolled out in four rural/peri-urban districts with 3 control districts. Data collection methods for the evaluation

included; a dedicated private shop and wholesaler survey at baselines; audits, including the use of ACT tracer packages; exit interviews with customers; mystery shopping; and population-representative household surveys.

# Overall Findings

## **(1) The program showed clear improvements in access to malaria diagnosis and treatment.**

Looking at the impact on the overall population, the evaluation showed a high level of awareness of the program in the treated areas, and people's behavior significantly shifted towards diagnosis and treatment in formal outlets and away from self-treatment.

## **(2) Fewer people were treating themselves (especially for under fives).**

The overall numbers not seeking any formal care reduced by 15 percent, which is statistically significant. The reductions were particularly apparent for under fives with a 17 percent reduction.

## **(3) Those seeking formal care have accessed both the public and private sector facilities.**



Access is often blocked by poor roads and inadequate means of

For the under fives, this occurs mainly in public sector facilities. For the over five population, the increase is divided between the public and private sector and the rise in private sector care is substantial given the very low baseline. Overall

there was a 15 percent increase in the population seeking care in the public sector and a 26 percent increase for the under five population. For over fives, there is a more even spread between public and private facilities. The rate at which over fives sought care at private facilities increased by 6 percent. This represents a substantial change from the baseline level of 1-2 percent.

## **(4) Levels of diagnosis have increased. More people over five are using the private sector for diagnostic tests, while under fives had more diagnostic tests in the public sector.**

There is a 20 percent increase in the level of diagnosis, and for under fives the increase is 30 percent.



For the latter this increase is almost entirely through public sector facilities. For over fives there is a 6 percent increase in the use of the private sector for diagnosis (which is statistically significant). A similar pattern with regard to the age groups is seen looking at diagnosis received through RDTs. The rise in private sector diagnosis by RDT is of lower magnitude than the rate of any private sector diagnosis (1.8 percentage point versus 5.5 percentage point) which indicates that implementing effective RDT diagnosis in the private sector is challenging.

## **(5) The program has shown a 14 percent rise in the number of people receiving malaria medication and a decrease in the use of other drugs.**

There was a 28 percent increase in the proportion of fever cases who were receiving ACTs. These ACTs were being supplied by both the public and private sectors with a 20 percent and a 5 percent increase respectively. Overall there was a significant (5 percent) decrease in patients receiving other malaria drugs in the treatment areas.

## **(6) The substantial increase in use of public sector facilities for under fives is surprising and requires further analysis.**

Part of program activities involved encouragement to formal care seeking and ACT usage through direct communication and media such as street plays. It is possible that parents were influenced by this and feel

comfortable visiting the private sector for their own fever care but prefer to take their young children to formal health clinics. Added to this the evaluation found anecdotal evidence of a high degree of cooperation between health clinics and nearby health shops, with the latter often serving as stock back-ups if the public clinics were out of RDTs or ACTs. As such it is also possible that increased drug availability in the overall system induces more parents to present sick children to clinic.

**(7) Knowledge of the Health Shops increased substantially in treatment areas close to shop clusters.**

This is expected given that accessibility is strongly related to distance. Apparently the most effective means of raising awareness of the health shop program comes from street plays and other media. This is important to note since, while the street plays and other program media introduced the health shop program, they also conveyed broader messages on the importance of prompt diagnosis for fever and the curative properties of ACTs.

Overall the extent of improvement might be characterized as moderate. For example there is only a 6 percent increase in over fives care seeking in private sector shops. But if the subsidy program had been operational

for more than 10 months it is likely that greater increases would have resulted.

## Broad Conclusions

- (1) This evaluation demonstrated that a well managed intervention can strengthen access to ACTs through the private sector whilst also reducing the use of ineffective antimalarials.
- (2) The findings interestingly show significant increases in the use of both private and public sector facilities. This may be because the program helped to raise awareness of the general need for diagnosis and treatment and it may also be due to co-operation between the public and private sectors. Further analysis is required to explore this.
- (3) The program demonstrates that it is also possible to increase the diagnostic capacity in the private sector, although ensuring full adherence to diagnostic and dispensing protocols is challenging. The improvements seen in this case are also notable given that the pilot was only operational for 10 months before the evaluation.
- (4) As a further direct result of the program, the Pharmaceutical Regulatory Authority (PRA) has recognized the limitations of the current regulatory framework, and will introduce an amendment to the Pharmaceutical Act to register and accredit local drug stores.

Source: Friedman, J., et al (unpublished) "Zambia Improving Access to ACTs"

This document was prepared by Sonal Bhatt and is based on the results of the World Bank-supported Essential Drug Public Pilot Program in Zambia, which was funded by the World Bank, U.S. Government and DFID.



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