

Improving Quality of Malaria Case Management Provided by Drug Shops in Uganda through Accreditation and Regulation

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Problem Statement: In Uganda, most people in rural areas buy medicines from drug shops, which are often the only nearby place. These shops may not be legally licensed and have staff that are largely untrained and hardly supervised. Drug shop customers typically do not receive instructions for medicine use, and often attendants sell the wrong medicines or the wrong dosages to treat common ailments, including malaria.

Objectives: To improve quality of uncomplicated malaria case management in the retail drug outlets through training, accreditation, and supportive supervision of drug sellers.

Design: A quantitative pre and post intervention design in two Ugandan districts: Kibaale as the intervention district and Mpigi as the control district. The baseline (2008) and endline (2010) study measured quality of uncomplicated malaria case management using a mystery shopper scenario (malaria in a 5-year-old child).

Setting and Study Population: 45 Class C Drug Shops in Kibaale district; 43 in Mpigi district.

Intervention: Attendants in existing Class C drug shops in Kibaale underwent training in good dispensing practices, uncomplicated malaria case management, record keeping and patient communication as part of the transformation of the drug shops into Accredited Drug Shops. Training was supplemented by regular supportive supervision.

Outcome measures: Quality of uncomplicated malaria case management in a five year aged child as measured by percentages of;

- malaria encounters with appropriate malaria treatment (correct choice of treatment, dose and treatment duration),
- drug sellers stocking the recommended first line antimalarials,
- drug sellers asking about symptoms,
- drug sellers asking about prior medication given to the child and instructions for taking medicines

Results: The percentage of malaria encounters with appropriate malaria treatment in Kibaale rose from 6% at baseline to 68% at endline. Mpigi drug shops also experienced increases from 5% to 47%. Availability of Artemether-Lumefantrine (AL), increased from 5-6% in both districts to over 85% ($p=0.291$). However, there was a dramatic fall in the availability of Chloroquine (from 80% to 2%) in Kibaale compared to a fall from 73% to 32% in Mpigi ($p<0.05$). SP availability decreased from 100% to 7% in Kibaale while in Mpigi, it reduced slightly from 100% to 85% ($p<0.05$). The percentage of mystery shopper encounters where the drug seller—

- Asked about symptoms—rose from 56% to 64% in Kibaale and declined from 75% to 43% in Mpigi ($p=0.136$)
- Asked about other medicines the child took—increased from 31% to 64% in Kibaale and remained unchanged in Mpigi; 40% at baseline and 43% at endline ($p=0.136$)
- Gave instructions for taking medicines—decreased slightly from 75% to 68% in Kibaale and also declined from 70% to 52% in Mpigi ($p=0.243$).

Conclusions: Drug sellers play a complimentary public health role. Equipping these drug sellers with the necessary knowledge and skills as part of a government accreditation program can improve malaria case management.

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Background (1)

- In Uganda, most people in rural areas buy medicines from drug shops
- In November 2010, there were 497 licensed pharmacies and 6363 licensed Class C drug shops in Uganda; 70% of the pharmacies were located in Kampala
- Drug shop workers are largely untrained and hardly supervised
- Drug shop customers typically do not receive instructions for medicine use
- Often, attendants sell the wrong medicines or the wrong dosages to treat common ailments, including malaria

Background (2)

- Uganda's Ministry of Health through the NDA and in collaboration with MSH launched the Accredited Drug Shops (ADS) initiative in November 2009 to improve access to affordable, quality medicines and pharmaceutical services in retail drug outlets
- The program transformed Class C drug shops into regulated, profitable ADS through training and accreditation of drug sellers, regular inspection, and supportive supervision



ADS as a Platform for Improving Uncomplicated Malaria Case Management

Goal

Improve quality of malaria case management in drug shops through training, accreditation, and supportive supervision to drug sellers

Objectives

- Improve management of uncomplicated malaria in drug shops
- Increase dispensing skills of drug sellers
- Improve record-keeping practices to track health conditions and medicines dispensed
- Strengthen regulatory oversight, inspections, and supportive supervision

Intervention Overview

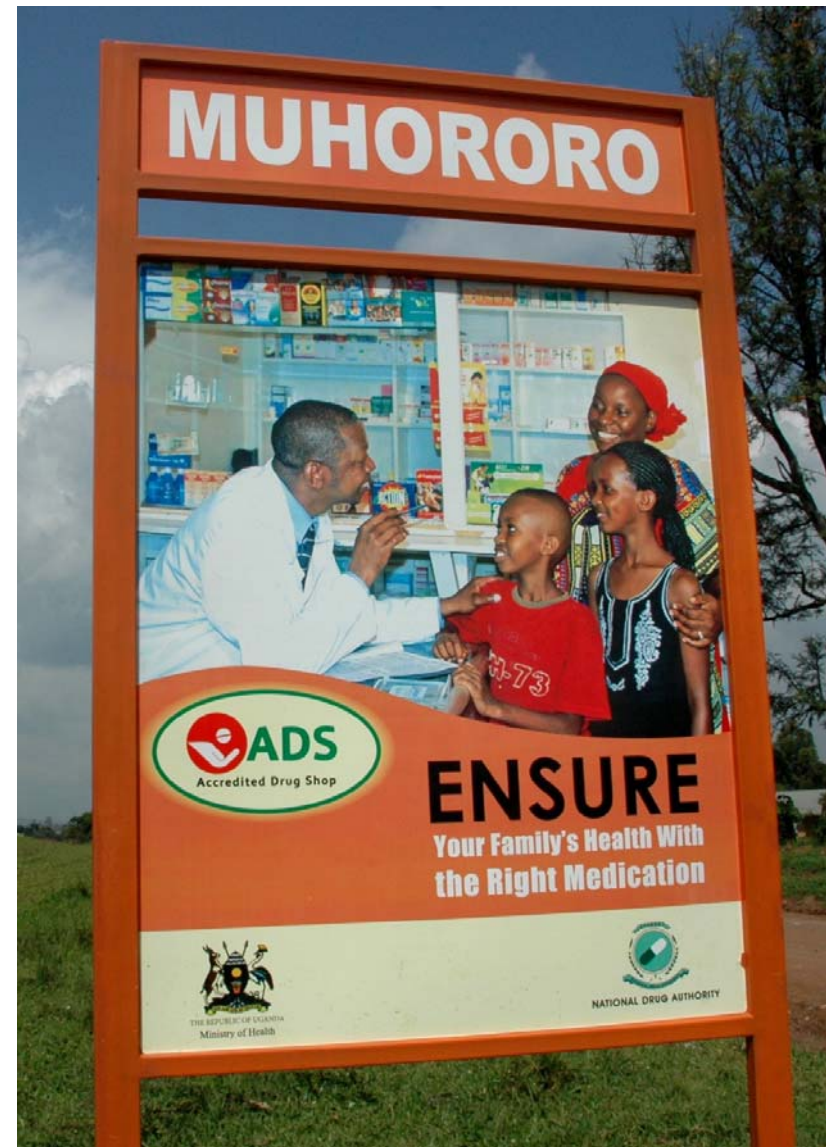
- Train drug sellers on dispensing and uncomplicated malaria case management
- Accredite ADS attendants and premises that meet ADS standards
- Conduct supportive supervision and provide on-site mentoring of ADS attendants
- Conduct continuous professional development courses to enrich ADS attendant knowledge on new malaria treatment policies



Methodology (1)

Study Design

- A quantitative pre and post intervention design.
- The baseline (2008) and endline (2010) study in the pilot (Kibaale) and control (Mpigi) measured quality of malaria case management using a mystery shopper scenario (uncomplicated malaria in a 5-year-old child)



Methodology (2)

Setting and Study Population

- 45 Class C drug shops in Kibaale and 43 in Mpigi district



Methodology (3)

Outcome Measures

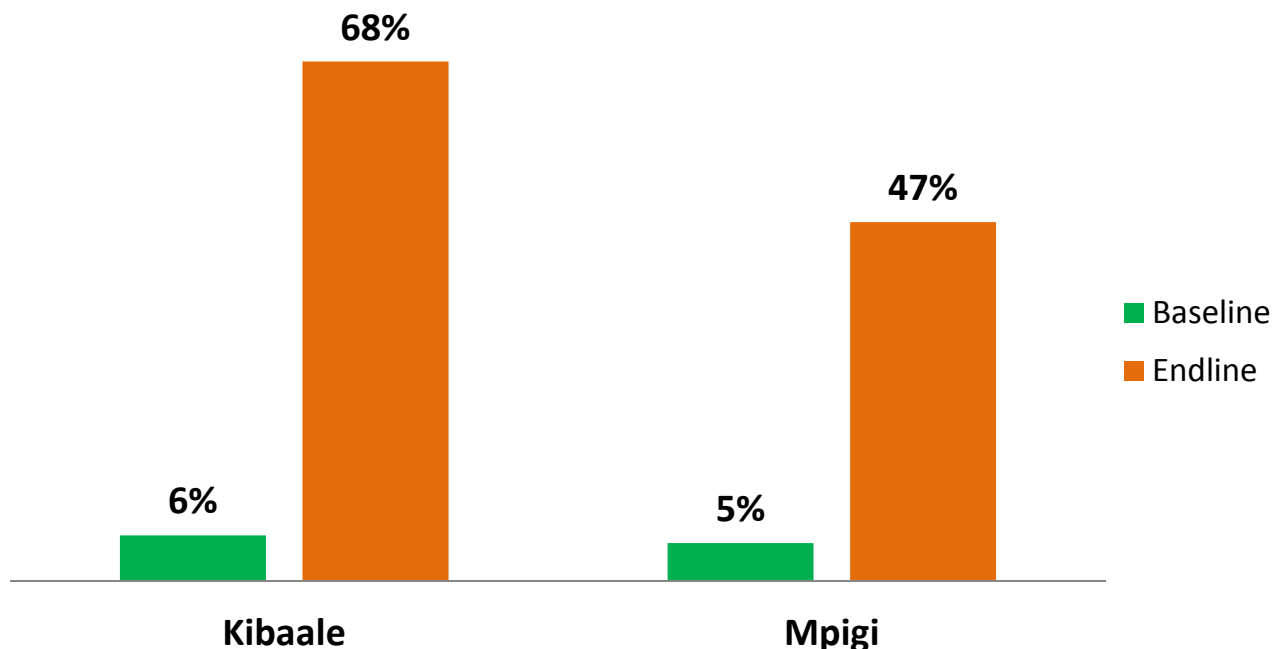
Quality of simple malaria case management as measured by—

- Percentage of malaria encounters with appropriate malaria treatment (correct choice of medicine, dosage, and duration)
- Percentage of drug sellers stocking the recommended first- line antimalarials
- Percentage of drug sellers asking about symptoms of the child
- Percentage of drug sellers asking about prior medication given to the child
- Percentage of drug sellers giving instructions for taking medicines

Results: Appropriateness of Malaria Treatment

- The percentage of encounters with appropriate dispensing in Kibaale rose following the intervention
- Malaria management also improved in Mpigi, the control district, although the margin was much smaller
- The increase in Mpigi could have been related to other concurrent interventions for the management of malaria

Percentage of encounters with appropriate malaria treatment



Results: Prices of Antimalarial Medicines

- The availability of the recommended first-line antimalarial medicine increased in both Kibaale and Mpigi.
- A dramatic fall in the availability of chloroquine and sulfadoxine-pyrimethamine ($p < 0.05$) in Kibaale and not in Mpigi, appears to be a result of the intervention

Variable	Kibaale difference in percentage points (before and after)	Mpigi difference in percentage points (before and after)	<i>P-Value</i>
Artemether-lumefantrine	+82	+84	$P=0.291$
Chloroquine	-78	-41	$P < 0.05$
Sulfadoxine-pyrimethamine	-93	-15	$P < 0.05$

Results: Quality of Dispensing Services

In general, dispensing practices improved in Kibaale after the advent of ADS, but none of the results were statistically significant.

Variable	Kibaale difference in percentage points (before and after)	Mpigi difference in percentage points (before and after)	Between group difference	<i>P-Value</i>
Provider asked about child symptoms	+8	-32	22%	<i>P=0.136</i>
Provider asked if the child was taking any other medicines	+33	+3	21%	<i>P=0.136</i>
The provide gave instructions on how to take the medications	-7	-18	16%	<i>P=0.271</i>

Policy Implications and Conclusions

- Given support, drug sellers can complement public sector efforts to improve access to medicines and pharmaceutical care
- A review of the existing regulations is needed to accommodate the accreditation and regulation model of drug sellers
- Additional efforts are still needed to improve drug sellers' skills; for example, research into the use of algorithms in malaria case management and ways to improve monitoring and supervision
- Further research is needed in drug sellers' use of rapid diagnostic tests for malaria

