Kenya research team and site

Bungoma District
– Sammy Makama
– Terry Wefwafwa
– Joachim Mwanza
– Richard Wanyonyi
– Tom Kangere

QAP
– Paula Tavrow
– Jennifer Shabahang
Why are we concerned about the private sector?

• Private sector is main source of drugs and treatment information for about 2/3 of malaria clients.

• But lack of knowledge and profit motive among private outlets can cause malaria clients to receive:
  – inefficacious or unapproved drugs
  – expired drugs
  – incorrect doses of drugs
  – incorrect or no information
How the private sector performed in Bungoma district

• More than 70 different anti-malarial brands being sold in the district

• Wide range in cost for a child’s malaria treatment: $.03 to $2.25

• Less than one-third of customers at private outlets receive correct information on drug dosages

• About 1 in 12 customers purchase drugs with no active anti-malarial ingredients (e.g., anti-biotics)
Vendor-to-vendor intervention introduced in the district

Objective: To improve anti-malaria dispensing practices of private drug outlets through job aids disseminated by wholesale vendors in the district

DHMT: develop job aids and conduct training

Mobile vendors & wholesale attendants: communicate guidelines

Retail shops, pharmacies, private clinics: sell drugs and give information

Malaria clients: comply with treatment
Vendor-to-vendor intervention: main components

- 3-hour orientation for wholesale owners
- 1-day training for 40 mobile vendors and 33 attendants who work in wholesale pharmacies and shops
- Custom-designed job aids (posters) for wholesale vendors to distribute to retail private outlets and clinics
- Collection of receipts from outlets
- Evaluation using mystery shoppers six months after wholesale vendor training
Contents:

• Signs of malaria

• Dosage chart of approved drugs

• Treatment advice

• Common situations faced by shopkeepers and advice on them

(in Kiswahili)
Client job aid

Contents:

• Reminds people to treat malaria properly

• Depicts the five approved drugs

• Advises people that these drugs can be obtained from shops

(in Kiswahili)
Evaluation using mystery shoppers

• In Oct. 2000, four teams (each consisting of 2 mystery shoppers and 1 supervisor) visited 251 private drug outlets

  – Mystery shoppers first sought to purchase drugs for their “child”

    • Scenario 1: mother of 9-month-old child, suspects malaria, asks for recommendation
    • Scenario 2: father of 2-year-old child, asks for malaroquin (an ineffective drug)

  – Supervisors then inquired about stocks and prices, looked for job aids, and assessed knowledge
A mystery shopper getting around Bungoma town
# Profile of drug outlets visited

<table>
<thead>
<tr>
<th></th>
<th>Intervention outlets (n=101)</th>
<th>Control outlets (n=151)</th>
<th>TOTAL outlets (n=252)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>% Rural</strong></td>
<td>58.4</td>
<td>57.6</td>
<td>57.9</td>
</tr>
<tr>
<td><strong>% Shops</strong></td>
<td>67.3</td>
<td>78.8</td>
<td>74.2</td>
</tr>
<tr>
<td><strong>% Pharmacies</strong></td>
<td>26.7</td>
<td>12.6</td>
<td>18.3</td>
</tr>
<tr>
<td><strong>% Clinics</strong></td>
<td>5.9</td>
<td>8.6</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Average # of malaria clients per day</strong></td>
<td>10</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

NB: Outlets were defined as “intervention” if they reported having received the job aids. *Significant difference at p < .016.
Visibility of job aids, among outlets that received them

<table>
<thead>
<tr>
<th></th>
<th>Displayed/visible</th>
<th>Displayed/not very visible</th>
<th>Not displayed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopkeeper Job Aid</td>
<td>44.2</td>
<td>18.7</td>
<td>37.1</td>
</tr>
<tr>
<td>Client Job Aid</td>
<td>49.3</td>
<td>15.6</td>
<td>35.1</td>
</tr>
</tbody>
</table>
Reported usefulness of the job aids, among outlets that received them

Note: Of respondents who had received a shopkeeper job aid, 31% spontaneously used it when asked about drug dosages.
Effect of job aids on overall malaria knowledge, by education of outlet

Exam score

<table>
<thead>
<tr>
<th>Education Levels of Outlet Respondents</th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std 1-8 (n=60)</td>
<td>8.1</td>
<td>6.2</td>
</tr>
<tr>
<td>Form 1-4 (n=158)</td>
<td>8.8</td>
<td>7.2</td>
</tr>
<tr>
<td>&gt;Form 4 (n=28)</td>
<td>9.2</td>
<td>8.6</td>
</tr>
</tbody>
</table>

P < .001, P < .000

Education Levels of Outlet Respondents
Effect of job aids on whether outlets asked about child’s condition

*All are significant at p<.01.
Effect of job aids on whether shoppers were sold correct drugs

Correct type* | Incorrect type | Nothing sold
---|---|---
Intervention: 18.3 | 59.4 | 22.3
   (Shoppers=202)  
Control: 2 | 64.9 | 33.1
   (Shoppers=302)

*Correct type was defined as an effective sulphadoxine-pyrimethamine (SP) plus an antipyretic. Significant difference at p<.000.
Effect of job aids on whether shoppers* were told correct dose

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Told correct</td>
<td>37.6%</td>
</tr>
<tr>
<td>Told incorrect</td>
<td>42.5%</td>
</tr>
<tr>
<td>Not told</td>
<td>19.9%</td>
</tr>
<tr>
<td></td>
<td>51.4%</td>
</tr>
<tr>
<td></td>
<td>33.3%</td>
</tr>
</tbody>
</table>

(Shoppers=157) (Shoppers=202)

* Among shoppers who purchased a drug. Significant difference at p<.000.
<table>
<thead>
<tr>
<th>Cost-effectiveness of this intervention for the first 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated number of drug outlets reached in first 6 months</td>
</tr>
<tr>
<td>Estimated number of malaria cases treated by these outlets</td>
</tr>
<tr>
<td>Estimated number of cases treated properly due to this intervention</td>
</tr>
<tr>
<td>Local cost of the activity (not including shopper evaluation)</td>
</tr>
<tr>
<td>Estimated cost per malaria case treated properly in first 6 months</td>
</tr>
</tbody>
</table>
Conclusions

• 4 in 5 outlets that received the shopkeeper job aids reported that it was useful to them, and one-third used it spontaneously

• Nearly half of outlets that received job aids displayed them prominently

• Outlets receiving job aids were significantly more likely to provide correct anti-malarial treatment and information

• Job aids had the most impact on malaria knowledge of outlets with less education
Impact of Improved Job Aids on Malaria Diagnosis in Malawi
Malawi research team and site

Malawi
- Doreen Ali

QAP
- Lynne Cogswell (consultant)
- Paula Tavrow

Machinga District
The problem

• Malaria rapid diagnostic tests (MRDTs) could improve diagnosis of malaria because:
  – Do not require specialized training
  – Have high sensitivity and specificity
  – Give results in 10 minutes

• But, to be cost-effective, all who use MRDTs must follow steps and interpret results correctly, with little or no previous training
To investigate whether improvements made to job aids (instructional inserts) accompanying the MRDTs would significantly improve performance.
Methodology

• Structured observation of providers using MRDTs with original job aids, followed by interviews with providers

• First revision of job aids

• Structured observation of providers using MRDTs with revised job aids, followed by interviews

• Second revision of job aids

• Structured observ’n of new providers with second revised job aids
How to start using the kit
(original vs revised job aid)

ORIGINAL

1. Remove the falciparum malaria IC strip test from the airtight package.
2. Label the test strip with patient identification number.
3. Place the reaction tube in the reaction stand and add four drops of sample buffer.

REVISED

1. Wear gloves to perform this test.
2. Open the foil pouch and take out the necessary number of falciparum malaria TEST STRIPS from the foil pouch. Use only one test strip per patient.
3. Close the pouch of remaining test strips. Moisture will destroy the test strips. Close the pouch tightly with the provided clip.
4. Write, in pen, the patient name or identification number on each test strip.
How to interpret results
(original vs. revised job aid)

**ORIGINAL**

**ORIGINAL**

**REVISED**

**REVISED**
Effect of revised job aid on providers’ use of MRDTs
Conclusions

• Improved job aids (instructional inserts) that accompany new medical products can **dramatically increase** the likelihood that the products will be used properly without training.

• Several **iterations** of revisions are necessary to achieve the optimum job aid.

• Inserting **well-marked pictures** at key steps of the process reduces errors.