Antimalarial Markets in 9 Malaria Endemic Countries

World Bank, 9th Dec 2011

Kate O’Connell
on behalf of the ACTwatch Group
What is ACTwatch?

Objective
Provide policy makers with evidence on trends in availability, price, and use of antimalarials

Partnership
PSI, LSHTM and MoHs

5 year, 7 country project
Funded by the BMGF

Benin
DRC
Zambia
Nigeria
Uganda
Madagascar
Cambodia
As part of Independent Evaluation of the AMFm

Some data presented may appear to differ from those in the Multi-country Baseline Report of the Independent Evaluation of the AMFm, Phase 1. However, the results are complementary as different indicators and denominators are sometimes used.

3 new studies, AMFm

Funded by the Global Fund
Research Studies - a complete picture of the market

**Outlet Survey (PSI):** What are the trends in the availability, volumes and price of antimalarials? - Three times over the life of project.

**Supply Chain Research (LSHTM):** What are the determinants of the price and availability at different levels of the supply chain? - Once over life of project

**Household Survey (PSI):** What are the trends in the levels of use of different antimalarials. What are the determinants of use? - Two times (baseline & endline)
Outlet Surveys 2009-2011
Methods and Results
Outlet Survey: Methods

- Clusters were randomly selected proportional to population size
- Over-sampling of public health facilities and pharmacies
- Data were weighted to provide nationally representative estimates
- Audit sheet recorded:
  - generic name - brand name – formulation – strength
  - quantity in stock - expiry date - price
  - volume (quantity) dispensed in the last 7 days
- Census conducted of all outlets with the potential to stock antimalarials
Diversity of outlet types sampled
55,811
Outlets with potential to stock antimalarials were screened

14,171
Eligible Outlets Interviewed

71,653
Antimalarials Audited
No two markets are the same: diversity of outlet types with antimalarials in stock

Relative distribution of outlets stocking antimalarials, by public/not for profit and private sector

- **Uganda**, N = 2,497
- **Cambodia**, N = 868
- **Madagascar**, N = 2,414
- **Zambia**, N = 435
- **Zanzibar**, N = 314

**Outlet Types**
- Public Health Facility
- Community Health Worker
- Private not-for-profit HF
- Pharmacy
- Private for-profit HF
- Drug Store
- General Retailer
- Kiosk/Stall/Informal seller
- Hawker/Mobile provider

www.ACTwatch.info
Availability of antimalarials among all public health facilities

In Cambodia, the category “quality assured ACT” also includes any ASMQ & DHA-PPQ.
Availability of antimalarials among all private sector outlets*

* Of those stocking at least one antimalarial drug
Relative volumes of antimalarials distributed, by sector
Relative volumes of antimalarials distributed, by sector

- Benin
- Cambodia
- DRC
- Kenya
- Madagascar
- Nigeria
- Uganda
- Zambia
- Zanzibar

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Public
Private
Relative volumes of antimalarials distributed, by sector
Relative volumes of antimalarials distributed, by sector and drug type

- Quality-assured ACT
- Non-Quality-assured ACT
- Non-artemisinin therapies
- Non-oral artemisinin monotherapy
- Oral artemisinin monotherapy

www.ACTwatch.info
Relative volumes of antimalarials distributed, by sector and drug type
# Price of Antimalarials in Public Sector

<table>
<thead>
<tr>
<th></th>
<th>Benin</th>
<th>Cambodia</th>
<th>DRC</th>
<th>Madagascar</th>
<th>Kenya</th>
<th>Tanzania</th>
<th>Nigeria</th>
<th>Uganda</th>
<th>Zambia</th>
<th>Zanzibar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median price of QAACTs in public health facilities</td>
<td>$1.17</td>
<td>0.00</td>
<td>$3.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

* Proportion for Nigeria based on volumes of child treatments, as insufficient data was available on the price of distributed adult treatments.
Median price (IQR) of full adult equivalent antimalarial treatments in the private sector

www.ACTwatch.info
2009-2011 Outlet Survey Results
Availability of diagnostic testing in the public/not for profit sector

- Benin
- Cambodia
- DRC
- Kenya
- Madagascar
- Nigeria
- Uganda
- Zambia
- Zanzibar

- Any diagnostic test
- RDT

www.ACTwatch.info
Availability of diagnostic testing in the private sector

The graph shows the availability of diagnostic testing in the private sector for various countries, including Benin, Cambodia, DRC, Kenya, Madagascar, Nigeria, Uganda, Zambia, and Zanzibar. The y-axis represents the percentage of availability, ranging from 0% to 100%. The x-axis lists the countries. The graph uses different colors to indicate the availability of any diagnostic test (green) and rapid diagnostic tests (RDT) (light green).
Caregivers awareness of most effective treatment for malaria is low

- Benin: n=885
- DRC: n=2331
- Madagascar: n=1970
- Nigeria: n=2833
- Uganda: n=1452
- Zambia: n=1727

Caregivers who are aware of the national first-line drug
ACT treatment across household wealth quintiles

Baseline Household Survey Results

www.ACTwatch.info 4/2/12
Conclusions of 2009/11 outlet surveys

• Diversity between countries of the outlet types that stock antimalarials

• Non-artemisinin therapy is widely available.

• ACTs are not found in the private sector, with some exceptions

• Private sector dominates the market (except Zambia & Uganda)

• ACTs are up to 25 times more expensive than non-artemisinin monotherapies (except where subsidy projects exist)

• Volumes of QA ACTs are low: from 5 – 40% and non-art monotherapy generally dominates the market
Acknowledgements

Bill & Melinda Gates Foundation

The Global Fund to Fight AIDS, Tuberculosis & Malaria

ACTwatch Advisory Committee

- Mr. Suprotik Basu
- Mr. Rik Bosman
- Ms Renia Coghlan
- Dr. Thom Eisele
- Mr. Louis Da Gama
- Dr. Paul Lalvani
- Dr. Ramanan Laxminaravan
- Dr. Matthew Lynch
- Dr. Bernard Nahlen
- Dr. Jayesh M. Pandit
- Dr. Melanie Renshaw
- Mr. Oliver Sabot
- Ms Rima Shretta
- Dr. Rick Steketee
- Dr. Warren Stevens
- Dr. Gladys Tetteh
- Dr. Nick White
- Dr. Prashant Yadav
- Dr. Shunmay Yeung
Note, data presented in this presentation may differ from the AMFm Independent Evaluation Report due to small differences in the categorisation of indicators or denominators.
Series Collection: ACTwatch

Methodology

Shewchuk, T; O'Connell, KA; Goodman, C; Hanson, K; Chapman, S; Chavasse, D The ACTwatch project: methods to describe anti-malarial markets in seven countries; Malaria Journal, 10:35

Research

O'Connell, KA; Gatakaa, H; Poyer, S; Njogu, J; Evance, I; Munroe, E; Solomon, T; Goodman, C; Hanson, K; Zinsou, C; Akulayi, L; Raharinjatovo, J; Arogundade, E; Buyungo, P; Mpasela, F; Adjibabi, CB; Agbango, JA; Ramarosandratana, BF; Coker, B; Rubahika, D; Hamainza, B; Chapman, S; Shewchuk, T; Chavasse, D Got ACTs? Availability, price, market share and provider knowledge of anti-malarial medicines in public and private sector outlets in six malaria-endemic countries. Malaria Journal, 2011, 10:36

Littrell, M; Gatakaa, H; Evance, I; Poyer, S; Njogu, J; Solomon, T; Munroe, E; Chapman, S; Goodman, C; Hanson, K; Zinsou, C; Akulayi, L; Raharinjatovo, J; Arogundade, E; Buyungo, P; Mpasela, F; Adjibabi, CB; Agbango, JA; Ramarosandratana, BF; Coker, B; Rubahika, D; Hamainza, B; Shewchuk, T; Chavasse, D O’Connell, KA Monitoring fever treatment behaviour and equitable access to effective medicines in the context of initiatives to improve ACT access: baseline results and implications for programming in six African countries, Malaria Journal, 10:327.

Littrell, M; Gatakaa, H; Sochea Phok, Henrietta Allen, Shunmay Yeung, Char Chuor, Lek Dysoley, Duong Socheat, Angus Spiers, Chris White, Shewchuk, T; Chavasse, D; O’Connell, KA Case management of malaria fever in Cambodia: results from national anti-malarial outlet and household surveys, Malaria Journal, 10:328.
No two markets are the same: Diversity of outlet types with antimalarials in stock

Nigeria
N = 2,113

Benin
N = 844

DRC
N = 1,375

Madagascar
N = 2,414

Kenya
N = 1,590

Uganda
N = 1,225

Cambodia
N = 868

Zambia
N = 4

Zanzibar
N = 314

Tanzania
N = 676
No two markets are the same:
Diversity of outlet types with antimalarials in stock

Nigeria
N = 2,113

Cambodia
N = 868

Madagascar
N = 2,414

<table>
<thead>
<tr>
<th>Outlet Type</th>
<th>Nigeria</th>
<th>Cambodia</th>
<th>Madagascar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health Facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Health Worker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private not-for-profit HF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private for-profit HF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug Store</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Retailer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiosk/Stall/Informal seller</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hawker/Mobile provider</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The first disbursement by the Global Fund was made in August 2010. First-line buyers commenced placing orders in July 2010 and some 655,000 treatment units...

Provider knowledge of first-line treatment, by sector

%
Provider knowledge of first-line treatment, by sector

The first disbursement by the Global Fund was made in August 2010. First-line buyers commenced placing orders in July 2010 and some 655,000 treatment units...