Treatment seeking for fever: Uganda, Nigeria, Madagascar

Data sourced from:
**ACTwatch: the original countries**

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

**5 year, 7 country project**
*Funded by the BMGF*

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

**Partnership**
PSI, LSHTM and MoHs
1) **Screening module**: to identify households that were eligible for the survey;

2) **Household listing**: to list all the usual members in the selected households.

3) **Household questionnaire module**: modelled after the Demographic and Health Survey (DHS)

4) **Treatment seeking module**: which included questions documenting the type, timing, source and cost of treatments acquired for the child’s fever.

5) **[AT endline] AMFM awareness section**: which included questions on caregiver exposure and awareness of the AMFM interventions and activities.

* Full questionnaire available at: [http://www.actwatch.info/research/study_designs.php](http://www.actwatch.info/research/study_designs.php)
Data Collection
## Dates of Data Collection

<table>
<thead>
<tr>
<th>Country</th>
<th>Baseline</th>
<th>Endline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>Mar-Apr, 2009</td>
<td>Apr-May, 2012</td>
</tr>
<tr>
<td>Madagascar</td>
<td>Dec-Jan, 2009</td>
<td>Apr-Jun, 2012</td>
</tr>
</tbody>
</table>

## Sample

<table>
<thead>
<tr>
<th>Country</th>
<th>Baseline (n)</th>
<th>Endline (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eligible households</td>
<td>Number of children &lt;5</td>
</tr>
<tr>
<td>Uganda</td>
<td>1,528</td>
<td>1,752</td>
</tr>
<tr>
<td>Madagascar</td>
<td>1,961</td>
<td>2,120</td>
</tr>
<tr>
<td>Nigeria</td>
<td>2,860</td>
<td>3,273</td>
</tr>
</tbody>
</table>
RESULTS
## Success metrics: Summary

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Ghana</th>
<th>Kenya</th>
<th>Madagascar</th>
<th>Niger</th>
<th>Nigeria</th>
<th>Tanzania mainland</th>
<th>Uganda</th>
<th>Zanzibar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 20 percentage point increase in QAACT availability</td>
<td>52 (p&lt;0.01)</td>
<td>35 (p&lt;0.01)</td>
<td>4.6 (p=0.99)</td>
<td>10 (p=0.99)</td>
<td>26 (p=0.14)</td>
<td>44 (p&lt;0.01)</td>
<td>46 (p&lt;0.01)</td>
<td>39</td>
</tr>
<tr>
<td>2. Median price of QAACTs with AMFm logo is &lt; 3 times the median price of the most popular antimalarial in tablet form that is not a QAACT (ratio)</td>
<td>3.0 (p=0.81)</td>
<td>1.0 (p&lt;0.01)</td>
<td>1.6 (p&lt;0.01)</td>
<td>2.5 (p&lt;0.01)</td>
<td>3.1 (p=0.99)</td>
<td>1.0 (p&lt;0.01)</td>
<td>3.3 (p=0.99)</td>
<td>1.5</td>
</tr>
<tr>
<td>3. Median price of QAACTs with AMFm logo is less than the median price of AMT tablets (difference, QAACT – AMT)</td>
<td>-0.94 (p&lt;0.01)</td>
<td>1.0</td>
<td>0.94 (p&lt;0.01)</td>
<td>-1.17 (p&lt;0.01)</td>
<td>-0.94 (p&lt;0.01)</td>
<td>-6.3</td>
<td>-6.3</td>
<td>-6.3</td>
</tr>
<tr>
<td>5. 10 percentage point increase in market share of QAACTs</td>
<td>40 (p&lt;0.01)</td>
<td>31 (p=0.01)</td>
<td>8.6 (p=0.61)</td>
<td>-8.8 (p=0.99)</td>
<td>18 (p&lt;0.01)</td>
<td>16 (p=0.23)</td>
<td>17 (p=0.08)</td>
<td>48</td>
</tr>
<tr>
<td>6. Decrease in market share of oral AMTs (percentage point change)</td>
<td>-3.9 (p=0.03)</td>
<td>-3.9 (p=0.03)</td>
<td>-3.9 (p=0.03)</td>
<td>-3.9 (p=0.03)</td>
<td>-3.9 (p=0.03)</td>
<td>-3.9 (p=0.03)</td>
<td>-3.9 (p=0.03)</td>
<td>-12</td>
</tr>
</tbody>
</table>

Note that the outlet survey was not powered to detect a 10% change in market share in Madagascar, Tanzania mainland and Uganda.
Uganda - Context

- LLIN distribution - national (7.2 million, 2010/2011)
- Net use from 11% (MIS, 2009) to 43% (DHS, 2011)
- IRS continuous in four high-transmission districts
- ACTs - stocks from AMFm, PMI and DfID
  - AL subsidy to private sector in four districts (CAPSS, 2008-2010)
  - distribution through ICM by community medicine distributors in rural areas
- Signed AMFm grant in Feb 2011; first order delivered in April (FLB; private for-profit sector) and July (NMS; public sector) 2011
- SI for promotion of AMFm drugs not begun as of August 2012
Treatment of children with fever, Uganda

Treatment of children with fever: ACTwatch alongside DHS* and MIS* findings: Uganda

Of children with fever in the two weeks prior to the survey, the percentage that received: an antimalarial, an ACT, an ACT within <48 hours

*Source: www.measuredhs.com
ICF Macro (2012)
ICF Macro (2009)
Proportion of children that received an ACT, across household wealth quintiles, Uganda
Treatment of children with fever with an ACT, by strata and among the poorest, Uganda

**Uganda**

- At home
- Public/Not for Profit Sector
- Private Sector

**Source of antimalarials**

<table>
<thead>
<tr>
<th>Year</th>
<th>Public/Prof</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>25.8</td>
<td>50.6</td>
<td>76.4</td>
</tr>
<tr>
<td>2012</td>
<td>20.4</td>
<td>47.3</td>
<td>67.7</td>
</tr>
</tbody>
</table>

**Source of ACTs**

<table>
<thead>
<tr>
<th>Year</th>
<th>Public/Prof</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>44.4</td>
<td>38.6</td>
<td>83.0</td>
</tr>
<tr>
<td>2012</td>
<td>28.5</td>
<td>41.6</td>
<td>70.1</td>
</tr>
</tbody>
</table>

**Source**

Nigeria - Context

- LLIN distribution – mass campaign in 22 states (34million, 2011)
- Net use from 6% (DHS, 2008) to 29% (MIS, 2010)
- Targeted IRS in 7 states – 15% (250,000 HHs)
- ACTs - stocks from World Bank, PMI and Global Fund
  - abundant local pharmaceutical manufacturing – not eligible for the subsidy
- Signed AMFm grant in Sep 2010; first order delivered in Jan (private sector) and May (public sector) 2011
- Successful advocacy and promotion efforts in 2011
Treatment of children with fever, Nigeria

Treatment of children with fever: ACTwatch alongside DHS* and MIS* findings: Nigeria

Of children with fever in the two weeks prior to the survey, the percentage that received: an antimalarial, an ACT, an ACT within <48 hours

*DHS: June-Oct 2008, N=3968
*ACTwatch: Aug-Sept 2009, N=3274
*MIS: Oct-Dec 2010, N=1956
*ACTwatch: July-Aug 2012, N=1548

*Source: [www.measuredhs.com](http://www.measuredhs.com)
ICF Macro (2012)
ICF Macro (2009)
Proportion of children that received an ACT, across household wealth quintiles, Nigeria
Treatment of children with fever with an ACT, by urban and rural strata; poorest, Nigeria

Nigeria

Source of antimalarials

Source of ACTs

Madagascar - Context

- Prevention strategies - LLIN distribution & targeted IRS
- Net use from 58% (DHS, 2008/09) to 94% (MIS, 2011)
- ACTs - stocks from PMI
  - ASAQ (ACTipal) subsidy through CHWs, pharmacies & drug stores since 2008
  - distribution by CHWs since 2008; RDTs permitted at community level in 2010
- First order for copaid ACTs delivered in Oct 2010 (FLB, private sector) and Feb (public sector) 2011
- AMFm SI limited by enforcement of national regulations on drug advertising
- Political instability and economic challenges
Treatment of children with fever, Madagascar

ACT treatment among those who received an antimalarial

Proportion of children that received an ACT, across household wealth quintiles, Madagascar
Treatment of children with fever with an ACT, by urban and rural strata; poorest, Madagascar

### Source of antimalarials

**Madagascar**

- **At home:**
  - 2009: 26.8% (N=972)
  - 2012: 26.3% (N=427)
- **Public/Not for Profit Sector:**
  - 2009: 61.0% (N=972)
  - 2012: 38.7% (N=427)
- **Private Sector:**
  - 2009: 12.3% (N=972)
  - 2012: 17.7% (N=427)

### Source of ACTs

#### Initial source of advice/treatment

- **Madagascar**
  - 2009: 49.3% (N=80)
  - 2012: 29.2% (N=167)
  - Total: 58.5% (N=2215)

- **Public/Not for Profit Sector**
  - 2009: 47.8% (N=80)
  - 2012: 21.5% (N=167)
  - Total: 34.8% (N=2215)

### Source of ACTs

- **At home:**
  - 2009: 49.3% (N=80)
  - 2012: 29.2% (N=167)
  - Total: 62.4% (N=2215)

- **Public/Not for Profit Sector:**
  - 2009: 2.9% (N=80)
  - 2012: 10.0% (N=167)
  - Total: 10.0% (N=2215)

Summary – source of ACTs

Nigeria

- 2009: N=358
- 2012: N=948

Nigeria

- 2009: N=164
- 2012: N=157

Madagascar

- 2009: N=80
- 2012: N=167

Uganda

- 2009: N=358
- 2012: N=948
Summary - Treatment of children with fever

Awareness of the AMFm
Caregiver awareness and exposure to the AMFm

- **Uganda**: N=3,193
  - Seen or heard of the AMFm logo: 39.2%
  - Heard of initiative to reduce the price of ACTs: 18.3%
  - Either seen/heard of the AMFm logo or initiative: 48.0%

- **Nigeria**: N=3,681
  - Seen or heard of the AMFm logo: 20.1%
  - Heard of initiative to reduce the price of ACTs: 9.2%
  - Either seen/heard of the AMFm logo or initiative: 25.7%

- **Madagascar**: N=6,781
  - Seen or heard of the AMFm logo: 13.4%
  - Heard of initiative to reduce the price of ACTs: 15.7%
  - Either seen/heard of the AMFm logo or initiative: 25.9%

Common sources of exposure to the AMFm logo

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
<th>Madagascar (N=1,289)</th>
<th>Nigeria (N=728)</th>
<th>Uganda (N=1,281)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Facility</td>
<td>16.8%</td>
<td>2.7%</td>
<td>3.2%</td>
<td>27.4%</td>
</tr>
<tr>
<td>Public Health Facility</td>
<td>38.9%</td>
<td>23%</td>
<td>20.9%</td>
<td>36.8%</td>
</tr>
<tr>
<td>Radio</td>
<td>30.8%</td>
<td>3.9%</td>
<td>15.3%</td>
<td>13.2%</td>
</tr>
<tr>
<td>TV</td>
<td>27.7%</td>
<td>15.3%</td>
<td>3.2%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Medicine packaging</td>
<td>49.7%</td>
<td>27.4%</td>
<td>49.7%</td>
<td>49.7%</td>
</tr>
</tbody>
</table>

Common sources of exposure to the AMFm initiative

Meaning of the AMFm logo (n=1289)

- Don't know
- Health
- Cheap antimalarial
- Effective antimalarial
- Antimalarial
- Medicine

Knowledge of the Recommended Price*

*There was no recommended retail price for the AMFm medicine in Madagascar

Acknowledgements

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- Mr. Suprotik Basu
- Mr. Rik Bosman
- Ms Renia Coghlan
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- Mr. Louis Da Gama
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