Tracking changes in Myanmar’s antimalarial market in the context of drug resistance containment

Chris White, Population Services International (Myanmar)
Multilateral Initiative on Malaria meeting, Durban, South Africa. October 2013
Background

- Myanmar represents one of the most complex operational environments in the world for malaria control & elimination
  - A data black hole!
  - Politically sensitive and malaria transmission risk areas overlap
  - Peak transmission occurs at the end of the monsoon
  - Infrastructure poor, particularly in rural areas
  - Public sector services rarely reach forest fringe communities
  - Epidemiology changing rapidly
Artemisinin resistance now indicated in Myanmar

Widespread use of partial courses of oral artemisinin monotherapy (OAMT) is a recipe for disaster

Rapid replacement of OAMT with quality assured artemisinin-based combination therapy (QA ACT) is essential
PSI were able to demonstrate that the private sector:
  o was importing approx. 1.2 million AETD of OAMT a year
  o has a highly centralized supply chain
  o might be willing to collaborate with the MOH and PSI

Donors provided a subsidy to reduce the price of QA ACT

PSI implemented intensive behavior change campaigns

FDA banned the import of OAMT
Modeling a time limited intervention
Methods for assessing changes in the market

- PSI is using **ACTwatch** methods, designed to assess change over time in the antimalarial market (annual Outlet & Household Surveys)
  
  [http://www.malariajournal.com/series/actwatch](http://www.malariajournal.com/series/actwatch)

- Used to independently evaluate the AMFm
  
  [http://dx.doi.org/10.1016/S0140-6736(12)61732-2](http://dx.doi.org/10.1016/S0140-6736(12)61732-2)
ACTwatch methods now recognized as the ‘Gold Standard’ and utilized across 10 countries.

ACTwatch conducts surveys in 10 malaria-endemic countries:
- Benin
- Cambodia
- Democratic Republic of Congo
- Kenya
- Madagascar
- Myanmar
- Nigeria
- Tanzania
- Uganda
- Zambia

Latest publications
17 September 2013
Monitoring the supply and demand for antimalarials and RDTs: an update on ACTwatch

Our work
ACTwatch is a multi-country research project designed to fill evidence gaps on malaria diagnostics, antimalarial medicines and fever case management in the private and public sectors.

http://www.actwatch.info/
Study & survey timing 2011-2015

External Evaluation Project - Montrose

AMTR Project - PSI
Approval MOU
Supply chain
Outlet survey
Household survey
RDT pilot
Mystery client survey

Baseline Survey
Sentinel surveillance
Ban Artesunate
Ban Artemether

Inception Support & studies Evaluation Report
Implementation & routine data
Pilot evaluation survey
RDT implementation
Midterm Survey

MARC

Baseline Survey
Sentinel surveillance
Midterm Survey
Private sector outlet survey methods

- Nationally representative sample
- Census approach with rural and urban domains
- Sampling conducted using a two-stage PPS cluster design
- Measure of size was the relative cluster population
- Annual surveys 2012-2014 (>3,500 outlets each time)
Results
Availability of ACT 2012-2013

<table>
<thead>
<tr>
<th>Outlet Category</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>VHV</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Private GPs</td>
<td>60</td>
<td>70</td>
</tr>
<tr>
<td>Pharmacies</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>Retail stores</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>Drug vendors</td>
<td>1</td>
<td>30</td>
</tr>
</tbody>
</table>
Availability of oral artemisinin monotherapy 2012-2013

Outlets with OAM (%)

- VHV
- Private GPs
- Pharmacies
- Retail stores
- Drug vendors

Outlet Category
Market share by antimalarial category 2012-2013

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-oral AMT</td>
<td>6.20</td>
<td>0.70</td>
</tr>
<tr>
<td>Oral AMT</td>
<td>32.90</td>
<td>12.10</td>
</tr>
<tr>
<td>Any nonArt</td>
<td>38.10</td>
<td>42.10</td>
</tr>
<tr>
<td>nonQA ACT</td>
<td>2.60</td>
<td>0.40</td>
</tr>
<tr>
<td>QAACT</td>
<td>20.20</td>
<td>44.50</td>
</tr>
</tbody>
</table>

Market share by antimalarial category 2012-2013 for Myanmar.
Market share of antimalarials by outlet type
2012-2013

- Private Health Facility
- Pharmacy
- Itinerant drug vendor
- General retailer
- Community Health Worker

- non-oral AMT
- Oral AMT
- Any nonART
- nonQaact
- QA Qaact
Relative ratio of QA ACT to oral artemisinin monotherapy sold in the ‘pure’ private sector priority outlets 2012 - 2013

- Relative market share (excluding other antimalarials)
- Quality assured artemisinin combination therapy
- Oral artemisinin monotherapy
Summary

• Significant changes in the antimalarial market have occurred across Myanmar in just 9 months

• Drivers of change:
  o an effective and sustained donor subsidy
  o a robust and centralized supply chain
  o an enforced FDA ban on OAMT importation
  o intensive provider and consumer behavior change communications and promotional activity
  o effective and transparent communication between all partners