Piloting the Global Subsidy: The impact of subsidized distribution of ACT through private drug shops in rural Tanzania

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Clinton Foundation, Government of Tanzania, HLSP, LSHTM & KEMRI/Wellcome Trust
The Tanzania Pilot

• GoT & Clinton Foundation pilot in 2 rural districts, Oct 07-Nov 08
• Clinton Foundation procured ACT (artemether-lumefantrine), PSI placed in specially designed packs (4 age groups)
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- GoT & Clinton Foundation pilot in 2 rural districts, Oct 07-Nov 08
- Clinton Foundation procured ACT (artemether-lumefantrine), PSI placed in specially designed packs (4 age groups)
- Sold to national wholesaler at average $0.11 per dose
- Wholesaler delivered drugs through own distribution networks to private drug shops called duka la dawa baridi
Study Design

Maswa
Explores effects of a subsidy without SRP

Kongwa
Explores effects of a subsidy with SRP

Supporting interventions
- Social Marketing SRP
- Repackaging
- OTC Status
- Subsidy

SRP ranges from US$0.25 to $1.00 based on dose
Data collection methods

• Data collected Aug 07 (baseline), Nov 07, March, Aug & Nov 08 – Focus on Aug 07 & 08 today
• All drug stores and public/NGO facilities surveyed, including new entrants
• Retail audits – estimate AM sales volumes over one month by visiting shop at start and end of month and recording stock levels, wholesale deliveries, and drugs disposed of (n=210 in ‘07, 216 in ‘08)
• Exit interview – interview all AM or antipyretic drug store customers during one day (n=580 ’07; 573 in ‘08)
• Public/NGO facility audits – review records on ACT dispensed and stockouts (n=105 ’07; 107 in ‘08)
Measuring Competition

• Fixed radius approach for geographical market definition
• Based on GPS coordinates, each drug store assigned a category depending on the number of other drug stores within a 1 km radius
• Classified as:
  – none
  – one
  – two to three
  – four to five
  – more than five
Results
ACT stocking

• Pronounced increase in % drug stores stocking ACT in intervention districts, from 0 in Aug 07 to 72% in Aug 08 (No change in control district (1% - 0))

• Shops with two or more other shops in their competition radius were significantly more likely to stock ACTs (81.2%) than those with 0 or 1 competitor (54.0%) (Aug 08)
Price paid by exit interviewees (all intervention periods)

Legend
- outlier
- maximum price paid within 1.5x the interquartile range
- mean
- minimum price paid within 1.5x the interquartile range

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<tr>
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<th>ACT</th>
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<th>ACT</th>
<th>SP</th>
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<td>Kongwa</td>
<td>84</td>
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<td>78</td>
<td>123</td>
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<td>320</td>
<td>190</td>
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<td>Maswa</td>
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<td>&lt;5 year olds</td>
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<td>&gt;15 year olds</td>
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Anti-malarials purchased

% of all exit interviews

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<tr>
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<th>August '07 (baseline)</th>
<th>August '08 (n= 455)</th>
<th>Control district (Aug '08)</th>
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<tbody>
<tr>
<td>Amodiaquine</td>
<td>58%</td>
<td>36%</td>
<td>56%</td>
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<tr>
<td>Other</td>
<td>5%</td>
<td>4%</td>
<td>8%</td>
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<tr>
<td>Subsidized ACT</td>
<td>44%</td>
<td>16%</td>
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Intervention districts
Assessing Equity

• Collected information on household structure and assets from exit interviews using set of questions from nationwide HIV/AIDS Indicator Survey
• Asset data from AIDS Indicator Survey analysed using principal components analysis to generate weights for each asset, and divide population into 5 quintiles
• These weights applied to assets owned by exit interviewees, in order to classify them into nationwide quintiles
Socio-economic status of exit interviewees (Aug 08)

- Quintile 4: 38%
- Quintile 3: 16%
- Quintile 2: 6%
- Least poor: 36%
- Poorest: 4%
Implications for AMF-m - 1

• Subsidies can lead to rapid and dramatic increases in ACT use
• Subsidies were passed onto consumers, and prices were not significantly higher at more remote stores
• Results may differ at scale:
  – greater reliance on the private sector distribution chain
  – greater potential to use mass media
• Generalise with caution to other countries
  – In Cambodia, retail prices frequently exceeded recommended levels, and artemisinin monotherapy use remained high
Implications for AMF-m - 2

• SRP should be used with caution, to avoid artificial price inflation

• Additional interventions may be needed to increase ACT access among poorer individuals who are less likely to seek care from drug stores

• Additional incentives should be considered to encourage distribution to remote outlets
PARTNERSHIP TO BRING EFFECTIVE MALARIA DRUGS TO ALL WHO NEED THEM

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BLIND OPTIMISM