Tanzania Outlet Survey Results

2016
Presentation outline

Background
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Outlet survey methods
How were outlets selected?
Results
  What is the availability of antimalarials among outlets?
  What is ACT availability among outlets?
  What is the availability of non-QA ACT among outlets?
  What types of ACT are outlets stocking?
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Malaria blood testing availability and market share
Private-sector price of testing and treatment
Provider knowledge
Discussion points
Background
Tanzania’s Malaria Case Management Approach

ACTwatch antimalarial market monitoring in Tanzania from 2010 to present has been implemented in the context of several strategies designed to improve coverage of appropriate case management:

• End of the Affordable Medicines Facility, malaria (AMFm) ACT subsidy mechanism implemented from 2011-2014

• Continuation of a similar Global Fund co-payment subsidy mechanism with a lower co-payment/subsidy available to first-line buyers from 2014.

• Increased availability of confirmatory testing prior to antimalarial treatment within the public sector and among private for-profit health facilities.

• Extension of malaria blood testing and antimalarial treatment to the community level through home-based management of malaria delivered through Accredited Dispensing Drug Outlets (ADDOs, also known as duka la dawa muhimu).

• Emphasis on improving coverage of SP delivered during pregnancy for intermittent preventive therapy during pregnancy (IPTp).
ACTwatch Project
Evidence for Malaria Medicines Policy
ACTwatch provides standardized data on the availability of antimalarial treatments and diagnostic tools in 12 countries

- ~50 malaria outlet surveys conducted between 2008-2016
- Most studies conducted at the national level
- Outlet surveys measure availability, price, and market share in the public and private sectors for malaria medicines and diagnostics
ACTwatch in Tanzania

- National Outlet Surveys
  - 2010
  - 2011
  - 2014
  - 2016
Outlet Survey
Methods
Study population

Outlets with antimalarials in stock on the day of the survey

or

Outlets with malaria blood testing (microscopy or RDT) available

or

Outlets that stocked an antimalarial in the past three months
What is an outlet?

Public Health Facility

Private, Not-for-profit Health Facility

Private, For-profit Health Facility

Pharmacy

Accredited Drug Dispensing Outlet (ADDO)

Duka La Dawa Baridi (*Drug shops that primarily sell medicines*)

General Retailer
What areas were selected?

- Nationally representative sample
  - 32 districts
  - 230 wards
    (58 main and 172 booster wards)
How were outlets selected?
1) Complete census of all potentially eligible outlets

2) Screen for antimalarials in stock or malaria blood testing availability

3) When products are in stock: product audit

4) Product audit
## Antimalarial product in stock

<table>
<thead>
<tr>
<th>Formulation (tablet, syrup, injection, etc.)</th>
<th>Brand/generic names</th>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>Country of manufacture</td>
<td>Amount distributed in the past week</td>
</tr>
<tr>
<td>Retail &amp; wholesale price</td>
<td>mRDT product in stock</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE: TABLET, SUPPOSITORY & GRANULE DATA AUDIT SHEET

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Tablet</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 = Suppository</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 = Granule</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Is this base strength?</th>
<th>6. Is product a fixed-dose combination (FDC)</th>
<th>7. Does product have the Green leaf logo?</th>
<th>8. Amount sold by outlet and in the last 7 days to individual consumers (Record # of packages/tins described in Q7 OR record the total # of tablets/suppositories/granule packs sold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Yes</td>
<td>2 = No</td>
<td>3 = Don't know</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Retail &amp; wholesale price</th>
<th>10. Total selling price</th>
<th>11. Why do you stock this medicine (MRRW PRODUCT)?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Free = 0.00000</td>
<td>Free supply A</td>
</tr>
<tr>
<td></td>
<td>Priced = 0.0007</td>
<td>Profitable B</td>
</tr>
<tr>
<td></td>
<td>Don't know = 0.0098</td>
<td>Recommended by the government C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low price D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customer demand or preference E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positive brand reputation F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Often prescribed by doctors G</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Most effective for treating malaria H</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Don't know X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other Z</td>
</tr>
</tbody>
</table>

## mRDT product in stock

- Retail & wholesale price
- Total selling price
- Why do you stock this medicine (MRRW PRODUCT)?
- Amount sold by outlet and in the last 7 days to individual consumers
- Does product have the Green leaf logo?
- Is product a fixed-dose combination (FDC)?
- Is this base strength?
Outlet Survey Results
Outlet survey sample in 2016

6,119 outlets enumerated

5,868 outlets screened

2,318 outlets met screening criteria

3,550 outlets did not meet screening criteria

251 outlets not screened

1 outlet not interviewed

2,317 outlets interviewed
What is the availability of antimalarials among all screened outlets?
Are antimalarials available in the public sector?
Percentage of outlets with at least one antimalarial in stock on the day of the survey, public sector

Among all screened outlets, across survey rounds.
Percentage of outlets with at least one antimalarial in stock on the day of the survey, public sector

Among all screened outlets, across survey rounds.
Percentage of outlets with at least one antimalarial in stock on the day of the survey, public sector

Among all screened outlets, across survey rounds.
Among all screened outlets, across survey rounds, the percentage of outlets with at least one antimalarial in stock on the day of the survey, public sector:

- Public Health Facility
- All Public

Yearly data across years:
- 2010
- 2011
- 2014
- 2016
Percentage of outlets with at least one antimalarial in stock on the day of the survey, public sector

95% availability in 2016
How does the availability of antimalarials in the private sector compare with the public sector?
Percentage of outlets with at least one antimalarial in stock on the day of the survey, private sector

Among all screened outlets, across survey rounds
Percentage of outlets with at least one antimalarial in stock on the day of the survey, private sector
Among all screened outlets, across survey round

Percentage of outlets with at least one antimalarial in stock on the day of the survey, private sector

- Private For-Profit Health Facility
- Pharmacy
- ADDO
- DLDB
- General Retailer
- All Private

<table>
<thead>
<tr>
<th>Year</th>
<th>Private For-Profit Health Facility</th>
<th>Pharmacy</th>
<th>ADDO</th>
<th>DLDB</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>2011</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>2014</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
</tr>
</tbody>
</table>
Percentage of outlets with at least one antimalarial in stock on the day of the survey, private sector
How does availability compare across urban and rural areas?
Percentage of outlets with at least one antimalarial in stock on the day of the survey, 2016, urban/rural

Among all screened outlets
Percentage of outlets with at least one antimalarial in stock on the day of the survey, 2016, urban/rural

Among all screened outlets

Few differences

Public Health Facility  All Public  ADDO  DLDB  All Private

Urban  Rural
What is the market composition?
Among all outlets with at least one antimalarial in stock

**Market Composition: Outlet Type Distribution, 2010-2016**

- **Public Health Facility**
- **Private Not For-Profit Facility**
- **Private For-Profit Facility**
- **Pharmacy**
- **ADDO**
- **DLDB**
- **General Retailer**

<table>
<thead>
<tr>
<th>Year</th>
<th>Outlet Type</th>
<th>2010 N=415</th>
<th>2011 N=917</th>
<th>2014 N=535</th>
<th>2016 N=766</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health Facility</td>
<td>16%</td>
<td>5%</td>
<td>5%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Private Not For-Profit Facility</td>
<td>21%</td>
<td>18%</td>
<td>16%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Private For-Profit Facility</td>
<td>6%</td>
<td>1%</td>
<td>6%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Pharmacy</td>
<td>48%</td>
<td>53%</td>
<td>41%</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>ADDO</td>
<td>7%</td>
<td>13%</td>
<td>2%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>DLDB</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>General Retailer</td>
<td>4%</td>
<td>4%</td>
<td>2%</td>
<td>2%</td>
<td></td>
</tr>
</tbody>
</table>
Market Composition: Outlet Type Distribution, 2016

Among all outlets with at least one antimalarial in stock, across urban/rural location

62% of antimalarial stocking outlets were ADDO in rural areas, compared to 39% in rural areas.
3 insights
availability of antimalarials and market composition
Public-sector availability of antimalarials was 96% in 2016, reflecting an increase from 2010.

Private-sector availability of antimalarials in 2016 was >95% in pharmacies, DLDB, ADDOs, reflecting an increase from 2010. Declines among private for-profit facilities between 2014 and 2016 were notable (63% availability in 2016). General retailers do not typically stock antimalarials (N=10).

ADDOs comprised most of the antimalarial service delivery points in 2014 and 2016, replacing DLDBs, which comprised more of the market composition in 2010 and 2011. ADDOs were more common in rural areas compared to urban areas.
What is ACT availability among outlets stocking antimalarials?
Percentage of antimalarial-stockling outlets with ACT in stock on the day of the survey, 2010-2016

Among all outlets with at least one antimalarial in stock, across survey round.

[Graph showing percentage of outlets with ACT in stock for different categories and years (2010 and 2016).]
### Percentage of antimalarial-stocking outlets with ACT in stock on the day of the survey, 2010-2016

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Public</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private For-Profit Health Facility</td>
<td>75</td>
<td>78</td>
<td>76</td>
<td>80</td>
</tr>
<tr>
<td>Pharmacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADDO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLDB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Private</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Among all outlets with at least one antimalarial in stock, across survey round.
Among all outlets with at least one antimalarial in stock

Percentage of antimalarial-stocking outlets with ACT in stock on the day of the survey, 2016, urban/rural

- Public Health Facility
- All Public
- ADDO
- DLDB
- General Retailer
- All Private

Percentage of outlets

Urban  Rural
Which outlets have quality-assured ACT in stock?
What is quality-assured ACT (QA ACT)?

- WHO pre-qualified
- In compliance with Global Fund QA Policy and on the list of approved antimalarials for procurement
- Granted regulatory approval by the EMA

How are ACTs classified?

- Using information from product packaging to match lists of approved medicines
- No drug testing component
Among all outlets with at least one antimalarial in stock, across survey round

Percentage of antimalarial-stockling outlets with quality-assured ACT in stock on the day of the survey, 2010-2016

[Bar chart showing the percentage of outlets with quality-assured ACT in stock by facility type and year.]
Among all outlets with at least one antimalarial in stock, across survey round.

Percentage of antimalarial-stockling outlets with quality-assured ACT marked with the ‘green leaf’ logo in stock on the day of the survey, 2010-2016.
Percentage of antimalarialstocking outlets with quality-assured ACT in stock on the day of the survey, 2016, urban/rural
Percentage of antimalarial-stockling outlets with quality-assured ACT marked with the ‘green leaf’ logo in stock on the day of the survey, 2016, urban/rural.
3 insights

ACT availability among outlets
Availability of ACT was 95% in the public sector and 80% in the private sector in 2016, reflecting an increase since 2010.

Most of the ACT were quality assured in the public sector (93%), compared to the private sector (65.1%). Declines in quality assured ACT were observed in ADDOs and DLDB between 2014 and 2016.

Availability of QA ACTs with the green leaf logo was lower than the overall availability of QA ACTs, and rarely available in the public sector in 2016.
What is the availability of non-QA ACT among outlets?
What is non-quality-assured ACT (non-QA ACT)?

- Non on the WHO pre-qualified, Global Fund or EMA lists
- 10 brands of non-QA ACT were identified during the 2016 survey.
Percentage of antimalarial-stockling outlets with non-quality assured ACT in stock on the day of the survey, 2010-2016
Among all outlets with at least one antimalarial in stock on the day of the survey, 2016, urban/rural

Percentage of antimalarial-stocking outlets with non-quality assured ACT in stock

- Public Health Facility
- All Public
- ADDO
- DLDB
- All Private

Percentage of outlets

Urban | Rural
What types of QA and non-QA ACT are available in the public and private sectors?
QA ACT in private and public sector

Among all audited ACT medicines

99.6%

0.4%

Quality-assured Private Sector
N=2,265

Quality-assured Public Sector
N=983
Non-QA ACT in private and public sector

Among all audited ACT medicines

Non-quality assured Private Sector
N=1,726

Non-quality assured Public Sector
N=80
3 insights
availability of any non-QA ACT
1 Availability of non-QA ACT has increased over time between 2011 and 2016. Non-QA ACT availability was 15% in the public sector and 43% in the private sector.

2 The availability of non-QA ACTs was higher in urban areas in the private sector.

3 Tablet Artemether Lumefantrine, Tanzania’s first-line treatment for uncomplicated malaria, made up the largest proportion of audited ACTs across the public and private sectors for both QA and non-QA ACTs. There was diversity in the types of non-QA ACT audited.
What other types of treatment are outlets stocking?
What is the availability of non-artemisinin monotherapy?
Among all outlets with at least one antimalarial in stock, across survey round

Percentage of antimalarial-stocking outlets with non-artemisinin therapy in stock on the day of the survey, 2010-2016
Percentage of antimalarial-stocking outlets with non-artemisinin therapy in stock on the day of the survey, 2016, urban/rural
What is the availability of sulfadoxine-pyrimethamine?
Percentage of antimalarial-stocking outlets with SP in stock on the day of the survey, 2010-2016
Percentage of antimalarial-stock ing outlets with SP in stock on the day of the survey, 2016, urban/rural

Among all outlets with at least one antimalarial in stock

<table>
<thead>
<tr>
<th>Public Health Facility</th>
<th>All Public</th>
<th>ADDO</th>
<th>DLDB</th>
<th>General Retailer</th>
<th>All Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>50</td>
<td>60</td>
<td>90</td>
<td>80</td>
<td>100</td>
<td>80</td>
</tr>
</tbody>
</table>

- Public Health Facility
- All Public
- ADDO
- DLDB
- General Retailer
- All Private

Legend: Urban, Rural
What is the availability of oral quinine?
Among all outlets with at least one antimalarial in stock, across survey rounds

Percentage of antimalarial-stockling outlets with oral quinine in stock on the day of the survey, 2010-2016

Bar chart showing the percentage of outlets with oral quinine in stock across different facility types and years.
Among all outlets with at least one antimalarial in stock

Percentage of antimalarial-stocking outlets with oral quinine in stock on the day of the survey, 2016, urban/rural
What is the availability of injectable artesunate?
Among all outlets with at least one antimalarial in stock, across survey rounds.

Percentage of antimalarial-stocking outlets with injectable artesunate in stock on the day of the survey, 2010-2016.

[Bar chart showing the percentage of outlets with injectable artesunate in stock, differentiated by type of facility and year from 2010 to 2016.]
Percentage of antimalarial-stockling outlets with injectable artesunate in stock on the day of the survey, 2016, urban/rural
3 insights
Other types of treatment stocked
Availability of non-artemisinin therapy was common in private-sector outlets throughout all four years (~95%), and lower in the public sector (54%).

SP, recommended for IPTp was available in only 53% of public health facilities in 2016. High availability of SP in the private sector in 2016 was observed, particularly at pharmacies, ADDOs, and DLDBs, though stock at DLDBs declined in 2016.

Stock of injectable artesunate, recommended for severe malaria, was stocked by 70% of the public sector and negligible in the private sector.
Antimalarial market share
Relative market volume of antimalarial AETDs, by sector and antimalarial class, across survey round.

Antimalarial market share, 2010-2016

- Public
- Private

2010

Percentage of total market volume
Antimalarial market share, 2010-2016

Relative market volume of antimalarial AETDs, by sector and antimalarial class, across survey round.
Antimalarial market share, 2010-2016

Relative market volume of antimalarial AETDs, by sector and antimalarial class, across survey round.

- Non-oral artemisinin monotherapy
- Other non-artemisinin therapy
- SP
- Non QA ACT
- QA ACT without green leaf
- QA ACT green leaf
Antimalarial market share, 2010-2016

Relative market volume of antimalarial AETDs, by sector and antimalarial class, across survey round.
Antimalarial market share within sector, 2010-2016

By antimalarial class, across survey round

<table>
<thead>
<tr>
<th>Year</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Non-oral artemisinin monotherapy
- Other non-artemisinin therapy
- SP
- Non QA ACT
- QA ACT without green leaf
- QA ACT green leaf
Antimalarial market share, 2016

By outlet type and antimalarial class

[Graph showing percentage of total market volume by outlet type and antimalarial class]

- Non-oral artemisinin monotherapy
- Other non-artemisinin therapy
- SP
- Non QA ACT
- QA ACT without green leaf
- QA ACT green leaf
Antimalarial market share, 2016, urban/rural

Relative market volume (sale/distribution) of antimalarial AETDs, by sector and antimalarial class
3 insights
Antimalarial market share
The private sector distributed the majority of antimalarials in 2016 (62% of the total market), and most commonly through ADDOs followed by DLDB.

SP generally had the highest distribution throughout all four years across both public and private sectors and accounted for 53% of the total market share in 2016.

There is an increase in the private sector market share of non-quality assured ACT between 2014 and 2016.
Malaria blood testing availability and market share
Where antimalarials are distributed, is malaria blood testing available?
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past 3 months, across survey rounds.

Percentage of antimalarial-stocking outlets with malaria blood testing available, 2010-2016

[Bar chart showing the percentage of outlets with malaria blood testing available from 2010 to 2016 for different types of facilities: Public Health Facility, All Public, Private For-Profit Health Facility, Pharmacy, ADDO, DLDB, and All Private.]
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past three months

Percentage of antimalarial-stocking outlets with malaria blood testing available, 2016, urban/rural
Which outlets had malaria microscopy available?
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past 3 months, across survey round

Percentage of antimalarial-stocking outlets with malaria microscopy available, 2010-2016
Percentage of antimalarial-stockling outlets with malaria microscopy available, 2016, urban/rural
Which outlets had malaria RDTs available?
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past 3 months, across survey round

**Percentage of antimalarial-stockling outlets with malaria RDTs, 2010-2016**

![Percentage of antimalarial-stockling outlets with malaria RDTs, 2010-2016](image-url)
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past 3 months, across urban and rural zones.

**Percentage of antimalarial-stocking outlets with malaria RDTs, 2016, urban/rural**

![Percentage of outlets with malaria RDTs](chart.png)
Which outlets provide most of the malaria testing?
Malaria diagnostic market share in 2016

Relative market volume (sale/distribution) of malaria blood testing using RDTs and microscopy, by outlet type and type of test.
Malaria RDT market share by manufacturer, across sector, 2016
Malaria blood testing availability and market share
Increases in malaria testing were observed over time in the public sector and among private for profit facilities, such that availability was ~95% in 2016. Availability of testing was low in other private sector outlets (<20%) in 2016.

Increased availability of diagnostic testing was attributed to mRDT. There was a greater availability of RDTs versus microscopy, and RDT stock was at 78% in the overall public sector.

Most of the diagnostic market share was through the public sector (~80%), primarily mRDT were administered.
Private-sector price of testing and treatment
Among all SP and quality-assured ACT available in the private sector

Private sector median price of antimalarial AETD, 2010-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-quality-assured ACT</th>
<th>Quality-assured ACT</th>
<th>SP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$5.99</td>
<td>$6.25</td>
<td>$5.16</td>
</tr>
<tr>
<td>2011</td>
<td>$2.46</td>
<td>$0.62</td>
<td>$0.94</td>
</tr>
<tr>
<td>2014</td>
<td>$0.70</td>
<td>$0.70</td>
<td>$0.70</td>
</tr>
<tr>
<td>2016</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>
Private sector median price of QA ACT AETD with and without the ‘green leaf’ logo, 2010-2016

Among all quality-assured ACT available in the private sector, across survey rounds.
Private sector median price of SP and quality-assured ACT AETD and pre-packaged pediatric quality-assured AL, 2016

Among all SP, QA ACT, and pre-packaged pediatric (treatment for a 2-year-old child) QA AL (tablet formulation only) available in the private sector
Median private sector prices for malaria RDT testing and QA AL for adults and children 2016

Among antimalarial-stocking outlets

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Price 2016 USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-packaged pediatric QA AL</td>
<td>$0.70</td>
</tr>
<tr>
<td>RDT - Child</td>
<td>$0.93</td>
</tr>
<tr>
<td>Pre-packaged adult QA AL</td>
<td>$1.40</td>
</tr>
<tr>
<td>RDT - Adult</td>
<td>$0.93</td>
</tr>
</tbody>
</table>
3 insights
Private-sector price of testing and treatment
1. In the private sector in 2016, the price of QA ACT in remained above that of SP (one third more expensive per AETD)

2. The price of QA ACT has doubled since 2011 ($0.62; 2011 to $1.26, 2016), and there were few differences in price between QA ACT with and without the green leaf logo.

3. The median price of all malaria diagnostics was lower than one AETD of SP and QA ACT, which is encouraging as it suggests that there is a cost incentive to test before treatment.
Provider knowledge
Among providers in outlets with at least one antimalarial in stock on the day of the survey or within the past 3 months, across survey round

Percentage of providers who correctly state the first-line treatment for uncomplicated malaria, 2010-2016

[Graph showing percentage of outlets for different categories and years]
Percentage of providers who correctly state the first-line dosing regimen for uncomplicated malaria for a two-year old child, 2010-2016
Provider knowledge insights
The percentage of providers who correctly stated the first-line treatment for uncomplicated malaria remained high across survey rounds.

The percentage of providers who correctly stated the first-line dosing regimen for uncomplicated malaria for a two-year-old child greatly increased at both ADDOs (7% to 85%) and DLDBs (3% to 85%) from 2010 to 2016.
Summary of National Trends: 2010-2016
1. Public-sector readiness and performance for malaria case management

Almost every screened outlet in the sector had anti-malarial drugs available. 9 in 10 had QAACT and diagnostic testing in stock on the day of the survey, reflecting increases over time.

Only 5.6% of outlets had QAACT available without testing, and this signifies an improvement since 2014 (where 9.5% of public sector outlets had QAACT but no testing).

ACT and diagnostic testing was provided free of charge.

Most malaria testing was provided through the public sector, primarily by RDT.

Provider knowledge of the first-line treatment for uncomplicated malaria was at nearly 100% in 2016, which was a slight increase from 95% in 2010.
2. Public-sector readiness and performance for malaria case management

- **Areas for consideration:**
  
  - QA ACTs made up around the same market share (ranging from 45-55%) between 2010, 2011, and 2014. However, in 2016, the **market share of QA ACTs in the public sector dropped** to 33.9%, meaning that only 1 in 3 antimalarials distributed by the public sector were QA ACTs.

  - There is **sub-optimal availability of SP** for treatment on IPTp which was only stocked by 53% of public health facilities.

  - While availability of injectable artesunate has increased substantially since the previous survey round, from 21.3% in 2014 to 66.3% in 2016, there is still **not universal access for treatment of severe cases.**
3. Private-sector readiness and performance for malaria case management

✓ Most of the antimalarials are sold/distributed through the private sector in 2016 (over 60%), primarily through ADDOs (~40% of the market share), but DLDB also contributed over 10% of the market share.

✓ Market composition also shows that over time there have been an increasing number of ADDO service delivery points relative to other antimalarial stocking outlets – and most common in urban areas.

✓ Availability of ACT increased over time, from 20% in 2010 to 80% in 2016, as well as quality assured ACT (10% in 2010 to 65.1% in 2016) – though a some declines were noted between 2014 and 2016.

✓ Most providers have knowledge of the first line treatment for malaria and there have been substantial improvements over time in the percent of providers that could correctly state the first-line dosing regimen for malaria.
4. Private-sector readiness and performance for malaria case management

Areas for consideration

✓ SP was widely available and the most commonly distributed antimalarial in the private sector, and less expensive than QAACT across all survey rounds.

✓ Increases in ACT market share have been observed since 2010, but remained stable between 2014 and 2016.

✓ Between 2014 and 2016 there was an increase in non-QAACT availability and market share. Most of these non-QAACT are AL tablets or non-tablet formulations.

✓ There has been a threefold rise in the price of QAACT since 2011, and SP remains less expensive than QAACT.

✓ Despite slight increases over time, malaria testing remains low (~10%) in the private sector suggesting that presumptive treatment is widespread.
Thank you
The following organizations assisted in completing the survey:

PSI/Tanzania

Ministry of Health

National Malaria Control Programme

Tanzania National Bureau of Statistics

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