ACTWATCH RESEARCH BRIEF

Contents

Background.............................................................................................................................................. 5

ACTwatch at a glance.................................................................................................................................. 7

Methods.................................................................................................................................................... 9

Sample ..................................................................................................................................................... 11

Market composition.................................................................................................................................. 13

Antimalarial availability.......................................................................................................................... 15

Antimalarial market share....................................................................................................................... 19

Private sector price.................................................................................................................................. 20

Malaria blood testing availability........................................................................................................... 22

Urban and rural comparisons.................................................................................................................. 23

Summary.................................................................................................................................................. 25
Background

The target for malaria case management in Tanzania is to ensure timely access to parasitological diagnosis, followed by prompt and appropriate treatment.

MALARIA SITUATION IN TANZANIA

The population of Tanzania in 2012 was 43.6 million people, with an estimated growth of 3.2 percent per year. More than 93 percent of mainland Tanzania’s population is at risk for malaria.

MALARIA PREVALENCE

Mainland Tanzania has three malaria transmission zones: a zone of unstable seasonal malaria where 20 percent of transmission occurs, a zone of stable malaria with another 20 percent of transmission, and a zone of stable perennial transmission with 60 percent of malaria transmission. Over 40 percent of all outpatient visits are due to malaria, with between 10 and 12 million clinical cases annually.

NATIONAL TREATMENT GUIDELINES

The 2014-2020 National Malaria Control Program (NMCP) strategic plan recommends treatment after testing as part of effective case management at all levels of care. Tanzania uses the Artemisinin-based Combination Therapy (ACT) Artemether Lumefantrine (AL) as the first-line treatment for uncomplicated malaria and Artesunate Amodiaquine (ASAQ) as an alternative, second line drug. In 2013, the NMCP revised these guidelines to add injectable artesunate as treatment for severe malaria. The NMCP also recommends Sulfadoxine Pyrimethamine (SP) for IPTp (intermittent preventive treatment in pregnancy) for malaria.

GOALS OF THE TANZANIA MALARIA CONTROL STRATEGY

The revised Tanzania NMCP Strategic Plan 2014-2020 primary targets are to reduce malaria morbidity and mortality by 80 percent of the 2012 levels, to reduce malaria prevalence from 10 percent in 2012 to 5 percent in 2016 and finally 1 percent in 2020, and to increase the proportion of pregnant women receiving two or more doses of SP from 32 percent in 2012 to 80 percent in 2016. Broad objectives of the malaria strategy related to appropriate case management include:

1. Ensure timely access to appropriate malaria diagnosis
2. Ensure access to prompt and effective malaria treatment

KEY INTERVENTIONS

The Affordable Medicines Facility-malaria pilot program, designed to provide subsidized ACT medicines to the public and private sectors, was rolled out in Tanzania in late 2010. In 2013, this program transitioned to the Global Fund co-payment mechanism subsidy program, which was available to the private sector only. The new program was implemented in 2014; the subsidy for first-line buyers reduced from 95 percent to 80 percent for adult courses, and 90 percent for child courses. In 2015, the subsidy was reduced by 5 percent in both antimalarial types.

Under the Global Fund New Funding Model, 185 million USD was allocated to malaria in Tanzania during the 2013-2016 allocation period. PMI and the Global Fund provide funding for ACTs and rapid diagnostic tests (RDTs), with coverage planned through 2017. The Clinton Foundation also provides technical assistance scaling up ACT and RDT introduction in the private sector, and PMI has provided funding to continue this effort into 2017.

The Malaria Safe project is another effort focused on the private sector, aimed at increasing participation in malaria education and prevention activities.

References on this page:
ACTwatch at a glance

**WHAT IS ACTWATCH?**
ACTwatch is a multi-country research project implemented by Population Services International (PSI). Standardized tools and approaches are employed to provide comparable data across countries and over time. ACTwatch is designed to provide timely, relevant, and high quality antimalarial market intelligence, including information on ACTs and RDTs. The project was launched in 2008 with funding from the Bill and Melinda Gates Foundation (BMGF), and is currently funded through 2016 by the BMGF, UNITAID, and the Department of International Development (DFID). Research methods implemented include outlet and household surveys, supply chain studies, and key informant interviews.

**GOAL**
The goal of the ACTwatch project is to provide policymakers with evidence to inform and monitor national and global policy, strategy, and funding decisions for improving malaria case management and elimination efforts.

**RELEVANCE**
ACTwatch market monitoring in Tanzania from 2010 to 2014 has been implemented in the context of national strategies designed to improve coverage of appropriate malaria case management. These efforts include:
- Scale up of quality-assured ACTs in the public and private sectors through mechanisms including the Global Fund co-payment mechanism piloted under the AMFm. The initial AMFm pilot period was 2010-2011 and co-paid ACTs were delivered to first-line buyers in Tanzania from 2010-2014.
- National efforts to improve availability of malaria blood testing and confirmatory testing prior to antimalarial treatment.
- Efforts to extend malaria blood testing and antimalarial treatment to community level through home-based management of malaria delivered through Accredited Dispensing Drug Outlets (ADDOs, also known as duka la dawa muhimu).

**OUTLET SURVEYS**
Outlet surveys are the core component of the ACTwatch project. The outlet surveys in Tanzania were designed to monitor key antimalarial market indicators at the national level and within urban/rural domains. This summary report presents trends from the three most recent outlet surveys conducted in 2010, 2011 and 2014.
What questions are answered by the outlet survey?

What types of outlets in the public and private sectors are distributing antimalarials and providing malaria blood testing?

What types of antimalarials and RDTs are available and distributed by public and private sector?

What proportion of public and private sector antimalarial medicine outlets are stocking: 1) quality-assured ACT; 2) non quality-assured ACT; and 3) malaria blood testing?

What is the antimalarial market share of quality-assured ACT relative to the market share for other types of antimalarials?

What is the consumer price for antimalarial medicines and malaria blood testing among private sector outlets?
Methods

*ACTwatch implements standardized methods and questionnaires that allow for comparisons between countries and survey rounds. A full census of all outlets providing malaria care and a full audit of all available antimalarials provides a complete picture of the antimalarial market.*

**HOW IS THE SAMPLING CONDUCTED?**
A nationally representative sample of outlets providing antimalarials to consumers was selected. In Tanzania, a two-stage cluster sampling approach was used to select clusters within each stratum, with cluster population serving as the measure of size. Districts were the cluster used at the first stage of sampling, and wards were the cluster used at the second stage. The primary sampling unit, or cluster, is usually an administrative unit with 10,000 to 15,000 inhabitants.

**WHAT TYPES OF OUTLETS ARE SAMPLED?**
The main types of outlets sampled include public and private not-for-profit facilities, private for-profit facilities, pharmacies, accredited drug dispensing outlets (ADDOs), duka la dawa baridis (DLDBs), and general retailers.

**HOW ARE THE OUTLETS IDENTIFIED?**
The ACTwatch outlet survey includes all outlets with the potential to sell antimalarial medicines. As many of these outlets may be unregistered, mobile or recently opened, official listings of these shops and their locations are not typically available. A census approach was therefore implemented, supported by the use of key informant interviews with local officials, local maps, and lists of registered outlets where available.

**WHAT IS AN OUTLET CENSUS?**
This involves a team of data collectors moving systematically through a defined area in order to identify all outlets that have the potential to sell or distribute antimalarials.

**WHAT HAPPENS AFTER AN OUTLET IS IDENTIFIED?**
The outlet is screened for availability of malaria medicines or diagnostic testing. Outlets are included in the survey if they have antimalarials or malaria diagnostic tests in stock at the time of survey or in the previous 3 months. Permission to conduct the interview is obtained from the main provider.

**HOW IS INFORMATION ON ANTIMALARIALS AND RDTs CAPTURED?**
Among outlets with antimalarials or malaria tests in stock, a full audit of the antimalarials and diagnostic tests is conducted. Information is recorded for each unique antimalarial and RDTs identified in the outlet.

**WHAT INFORMATION IS RECORDED ON THE AUDITS?**
An audit sheet is completed for each unique antimalarial and RDT in stock. The audit sheet captures product information from the product package including the brand name, the manufacturer, country of manufacturer, formulation and strength. The audit sheet also captures information from the provider including the amount sold in the last seven days and the retail price. If a particular product is available in multiple package sizes, strengths, or formulations, an audit sheet is completed for each unique product.

Comprehensive product information and provider reports on amount distributed and retail price allow for calculating estimates of antimalarial availability, price, and relative market share.
Sample

Antimalarial outlet types

HOW MANY OUTLETS WERE INCLUDED IN THE SAMPLE AND SCREENED?
In 2014, nearly 5,000 outlets were enumerated (i.e. identified as outlets with potential to sell or distribute antimalarials). Of these, 96 percent were screened for antimalarial availability. Among those that were eligible, all but four were interviewed.

Notes:
1: Antimalarials in stock on day of visit
2: Antimalarials reportedly in stock during the previous 3 months but not on the day of the visit
3: Malaria blood testing available but no antimalarials in stock
* Outlets enumerated: Identified as outlets with potential to sell or distribute antimalarials and/or provide malaria blood testing during the census or booster sampling.
** Outlets screened: Administered questions to assess current or recent (previous 3 months) availability of antimalarials and malaria blood testing (microscopy or RDT)
~ Outlets interviewed: A partial or complete interview was conducted with an outlet representative.

1 in 2
Number of outlets that met the screening criteria

<table>
<thead>
<tr>
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<th>2014</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>Outlets enumerated*</td>
</tr>
<tr>
<td></td>
<td>4,925</td>
</tr>
<tr>
<td>B</td>
<td>Outlets screened**</td>
</tr>
<tr>
<td></td>
<td>4,724</td>
</tr>
<tr>
<td>C</td>
<td>Outlets that met screening criteria</td>
</tr>
<tr>
<td></td>
<td>2,160</td>
</tr>
<tr>
<td></td>
<td>1 = 2,136</td>
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<td></td>
<td>2 = 6</td>
</tr>
<tr>
<td></td>
<td>3 = 18</td>
</tr>
<tr>
<td>D</td>
<td>Outlets interviewed~</td>
</tr>
<tr>
<td></td>
<td>2,156</td>
</tr>
<tr>
<td></td>
<td>1 = 2,132</td>
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<td>3 = 18</td>
</tr>
</tbody>
</table>
Market composition

WHAT IS ANTIMALARIAL MARKET COMPOSITION?
Antimalarial market composition illustrates the distribution of all outlets that were found to have at least one antimalarial in stock on the day of survey. The pie charts illustrate the distribution of these antimalarial-stocking outlet types according to the public and private sector, by each outlet category.

TRENDS IN ANTIMALARIAL MARKET COMPOSITION
Drug stores accounted for about 70 percent of all antimalarial-stocking outlets at each survey round. However, the proportion of these drug stores that were accredited, or ADDOs, increased over time from 7 percent of all antimalarial-stocking outlets in 2010 to 41 percent in 2014.

During the same time period, the market composition of private facilities, whether for-profit or not for-profit, changed little. The public sector market composition saw slight variation, from 16 percent in 2010 to 18 percent in 2011, and 15 percent in 2014.

The market composition across urban and rural areas also had slight variation. ADDOs had a larger portion of the market composition in urban areas at 49 percent than rural areas at 30 percent. Inversely, the portion of market composition held by public health facilities was larger in rural areas at 25 percent than urban areas at 8 percent.

Accredited drug dispensing outlets, or ADDOs, are an innovative national strategy to train and license small retail medicine outlets to sell affordable, quality medicines. Drug stores that are not accredited are known as duka la dawa baridi (DLDB).
Antimalarial availability

Availability of antimalarials by outlet type

**ANTIMALARIAL AVAILABILITY AMONG SCREENED OUTLETS**

The census approach involved a search for all outlets that had the potential to sell antimalarial medicines in each selected area. This graph shows the percentage of outlets that were found to have at least one antimalarial in stock on the day of the survey, among all outlets that were screened across the three survey rounds.

In the public sector, availability of antimalarials on the day of the survey in public health facilities remained high over time (greater than 80 percent) achieving nearly 100 percent availability in 2014.

In the private sector, antimalarial availability among pharmacies, ADDOs, and DLDBs remained high and relatively stable over time (>88 percent). Antimalarial availability in private for-profit facilities increased from 85 percent in 2010 to 88 percent in 2014. Across each survey round, the general retailers surveyed did not stock antimalarials. Less than 5 percent of these outlet types had any antimalarial in stock during any survey round.

Average availability of antimalarials in public health facilities, pharmacies, ADDOs, and DLDBs in 2014 was approximately 100%. Availability among general retailers over time was less than 5%. The percentage point increase in antimalarial availability among private for-profit facilities, 2010 to 2014 was 23%.
Types of antimalarials available

**WHAT TYPES OF ANTIMALARIALS ARE STOCKED?**

There are a number of key categories of antimalarials dispensed by outlets in Tanzania. These include quality-assured ACTs (QA ACT), QA ACT with a ‘green leaf’ logo, non-quality-assured ACTs (non-QA ACT), and other non-artemisinin therapies including Sulfadoxine-Pyrimethamine (SP).

**QUALITY-ASSURED VERSUS NON-QUALITY-ASSURED ACT**

Quality-assured ACT are ACT that comply with the Global Fund to Fight AIDS, Tuberculosis, and Malaria’s Quality Assurance Policy. A quality-assured ACT is any ACT that appeared in the Global Fund’s indicative list of antimalarials meeting the Global Fund’s quality assurance policy prior to data collection, or that previously had C-status in an earlier Global Fund quality assurance policy. Quality-assured ACT also include those ACT that had been granted regulatory approval by the European Medicines Agency — specifically Eurartesim® and Pyramax®.

Non-quality-assured ACT are all ACT that do not have approval from a stringent regulatory authority, and do not have WHO Good Manufacturing Practices (GMP).

ACTs with the ‘green leaf’ logo are those that are distributed as a part of the Global Fund co-payment funding mechanism, a continuation of the Affordable Medicines Facility-malaria (AMFm) pilot. These ACTs are co-paid and available to first-line buyers at a subsidized cost. They are distinguishable from other ACTs by a specified logo on the packaging. Tanzania was a participant country in the AMFm pilot program beginning in late 2010, and continues with support from the Global Fund through 2016.

**NON-ARTEMISININ THERAPIES**

Several types of non-artemisinin therapies were audited in Tanzania, including injectable quinine and oral quinine tablets. Sulfadoxine-pyrimethamine was the most commonly found non-artemisinin therapy. SP was found in both the public sector, for use in IPTp, as well as the private sector, where the manufacturer packaging marketed SP for the treatment of malaria in people of all ages. About half of the SP types audited in the private sector in Tanzania were manufactured locally, while the other half were manufactured in Kenya. Nearly 90 percent of the SP found in the private sector were tablet formulations. The most common types of SP found in the private sector are depicted in the chart below.

**TYPES OF SULFADOXINE-PYRIMETHAMINE FOUND IN THE PRIVATE SECTOR IN 2014**

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malafin</td>
<td>31%</td>
</tr>
<tr>
<td>Orodar</td>
<td>21%</td>
</tr>
<tr>
<td>Sulphadar</td>
<td>17%</td>
</tr>
<tr>
<td>Ekelfin</td>
<td>14%</td>
</tr>
<tr>
<td>Laefin</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
</tr>
</tbody>
</table>

Common manufacturers of SP therapies include Shelys Pharmaceuticals and Elys Chemical Industries.
Availability of quality-assured ACTs

QUALITY-ASSURED ACT
Availability of quality-assured ACTs has increased in each outlet type across each survey round. In the public sector, availability in 2014 was nearly 100 percent, up from 72 percent in 2010. In the private sector, availability among private for-profit facilities increased from 27 percent in 2010 to 89 percent in 2014. ADDOs and DLDBs saw the largest gains in QA ACT availability, both increasing from 10 percent in 2010 to over 80 percent in 2014.

ACT WITH THE ‘GREEN LEAF’ LOGO
The AMFm pilot distribution of QA ACTs with the ‘green leaf’ logo began in Tanzania in late 2010, after the first outlet survey round had completed data collection. Availability of these subsidized antimalarials is seen in the 2011 results, with most outlet types having at least 50 percent availability.

The transition from the AMFm pilot to the copayment mechanism has coincided with a decrease in the availability of ‘green leaf’ logo QA ACTs in public health facilities from their highest point at 55 percent availability in 2011 to 8 percent in 2014. Most outlet types in the private sector saw slight increases in ‘green leaf’ logo QA ACT availability over the same period, including private for-profit facilities (55 percent in 2011 to 61 percent in 2014), ADDOs (64 percent in 2011 to 72 percent in 2014), and general retailers (6 percent in 2011 to 47 percent in 2014). Only pharmacies saw their availability decline slightly, from 91 percent availability in 2011 to 82 percent in 2014.
Availability of non-quality-assured ACTs and SP

**Availability of Non-quality-assured ACT**
Pharmacies have seen the highest levels of non-quality-assured ACT availability, with 91 percent of these outlets carrying non-QA ACT in 2014. Availability among private for-profit facilities remained relatively stable at around 40 percent across survey round, while availability among ADDOs dropped slightly from 33 percent in 2010 to 17 percent in 2014. Non-QA ACT availability among general retailers has increased from 3 percent in 2011 to 11 percent in 2014, though these gains are slight.

Most of the non-quality-assured ACT found in the private sector were tablet formulations. The most common types found in Tanzania include Artefan 80/480 and Duo Cotecxin, which are manufactured in China, and Artequick from India.

**Availability of SP**
SP is used for the intermittent preventive treatment of malaria in pregnant women, and is dispensed during antenatal clinic visits. Availability of SP in public health facilities declined from 2010, at 64 percent, to 2011, at 29 percent. Less than one-third of all antimalarial-stocking public health facilities had SP available in 2014 (29 percent).

In the private sector, SP availability was considerably higher among pharmacies, ADDOs, and DLDBs, where more than 90 percent of locations carried SP in each survey year. Over half of general retailers had SP in 2014 (69 percent).

It is worth noting that most types of SP found in the private sector were marketed according to product packaging for treatment of malaria in people of all ages.
Antimalarial market share

Role of the public and private sector

WHAT IS ANTIMALARIAL MARKET SHARE?
Market share of antimalarials, or the relative public and private sector distribution for all antimalarials, is estimated using the reported distribution of each antimalarial dispensed to individual customers during the week preceding the survey.

WHAT WAS THE MARKET SHARE IN 2014?
The private sector held the larger portion of antimalarial market share at 71 percent of antimalarials sold or distributed in 2014. The largest contributor came from ADDOs, with 41 percent of the market share. Together, ADDOs and DLDBs accounted for 60 percent of all antimalarial distribution in 2014.

Combining public and private distribution, QA ACTs made up 44 percent of the market share in 2014. In 2010, before the AMFm program, QA ACT had almost no market share in the private sector. After AMFm, QA ACT market share grew to 17 percent of antimalarials distributed in the private sector. Most of these were QA ACT with the 'green leaf' logo, which accounted for 25 percent of all antimalarials distributed in 2011, and these gains held at 21 percent of all antimalarials distributed in 2014.

SP made up the second largest portion of antimalarial market share with 42 percent of the share in 2014, the majority of these coming through the private sector.

1 in 2
Antimalarials distributed in 2014 were QA ACT

1 in 5
Antimalarials distributed in 2014 were QA ACT with the 'green leaf' logo

3 in 4
Antimalarials were distributed by the private sector

2 in 3
Antimalarials were distributed through ADDOs or DLDBs in 2014
Private sector price

Price of antimalarials by AETD

HOW IS PRICE CALCULATED?
Antimalarial price is calculated using the median price of an adult equivalent treatment dose for tablet formulations of each antimalarial type. An adult equivalent treatment dose (AETD) is the number of milligrams of an antimalarial drug required to treat an adult weighing 60 kilograms. However, it should be noted that the price for one AETD is not necessarily the price that consumers commonly pay for a given antimalarial, particularly when less than a full adult course is purchased.

HOW DID ANTIMALARIAL PRICE VARY OVER TIME?
Following the implementation of the AMFm program, the price of QA ACTs dropped considerably from 2010, when it was 3.5 times more expensive than SP, to 2011 when it was the same cost as SP.

After the transition to the co-payment subsidy mechanism, the price of QA ACTs increased slightly from 2011 to 2014, ending at 1.3 times more expensive than SP.

HOW DID ANTIMALARIAL PRICE VARY BY DRUG TYPE?
Quality-assured ACTs tend to be more expensive than the non-artemisinin therapy, SP, with costs exceeding the price of SP in 2010 and 2014.

### PRIVATE SECTOR MEDIAN PRICE OF ANTIMALARIAL AETD, 2010-2014, IN 2010 USD

<table>
<thead>
<tr>
<th>Year</th>
<th>Quality-Assured ACTs</th>
<th>SP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$2.46</td>
<td>$0.70</td>
</tr>
<tr>
<td>2011</td>
<td>$0.70</td>
<td>$0.62</td>
</tr>
<tr>
<td>2014</td>
<td>$0.94</td>
<td>$0.70</td>
</tr>
</tbody>
</table>

The number of SP doses that could be bought for the same price as 1 dose of QA ACT in 2010

3.5

The number of SP doses that could be bought for the same price as 1 dose of QA ACT in 2014

1.3
Malaria blood testing availability

Outlet types that offer malaria blood testing

WHEN PEOPLE SEEK TREATMENT FOR FEVER, WHERE WILL THERE BE AN OPPORTUNITY TO CONFIRM THEIR DIAGNOSIS?

This graph shows the percentage of outlets that had a diagnostic test available, either microscopy or an RDT, among all antimalarial-stocking outlets.

In the public sector, availability of any malaria diagnosis on the day of survey among antimalarial-stocking public health facilities increased from 38 percent in 2010 to 89 percent in 2014. In the private sector, availability of malaria diagnostics among private for-profit facilities increased from 67 percent in 2010 to 93 percent in 2014. Availability of malaria diagnostic testing remained low in all other outlet types, at 10 percent or less across each survey round.

>90%
Availability of diagnostic testing in public and private for-profit health facilities in 2014

↑50
Percentage point increase in malaria testing availability in the public sector between 2010 and 2014

<10%
Average availability of diagnostic services among ADDOs, DLDBs, retailers, and pharmacies
Urban and rural comparisons

Differences in availability and market share

**ARE THERE DIFFERENCES IN OUTLET TYPES ACROSS URBAN AND RURAL AREAS?**
The 2014 survey found several distinctions of outlet types by urban or rural domain. A larger proportion of antimalarial-stocking private for-profit facilities, pharmacies, and ADDOs were found in urban areas, while a larger proportion of public health facilities and general retailers were found in rural areas (see page 13).

**ARE THERE DIFFERENCES IN MARKET SHARE ACROSS URBAN AND RURAL AREAS?**
Considerable differences were noted during the 2014 outlet survey in antimalarial market share across urban and rural domains. In urban areas, the private sector had 84 percent of the market share, compared with 50 percent in rural areas. While over half of the antimalarials distributed in rural areas were QA ACT (55 percent), the QA ACT market share in urban areas was only 36 percent. SP had a greater portion of the antimalarial market share in urban areas, at 52 percent, than rural areas, at 29 percent. Non-quality-assured ACTs were distributed almost exclusively in urban private sector outlets.

**ARE THERE DIFFERENCES IN ANTIMALARIAL AVAILABILITY ACROSS URBAN AND RURAL AREAS?**
Little variation was observed in QA ACT availability across urban and rural areas, although data trends suggest slightly higher availability among urban general retailers (92 percent) over rural locations (50 percent) (See Figure 1, facing page). Non-QA ACTs were generally found in urban areas, with higher availability among urban ADDOs (23 percent compared to 9 percent in rural areas) and urban DLDBs (at 34 percent compared to no rural outlets found). General retailers also had higher non-QA ACT availability in urban areas at 45 percent, compared to none identified in rural areas (see Figure 2). Data trends also suggested slightly higher availability of SP in urban areas over rural areas across all outlet types (Figure 3).

**ARE THERE DIFFERENCES IN DIAGNOSTIC AVAILABILITY ACROSS URBAN AND RURAL AREAS?**
In 2014, blood testing by microscopy was more commonly found in urban public health facilities (56 percent) compared to rural locations (13 percent). Data trends suggest an inverse relationship with RDTs, with higher availability in rural public health facilities (82 percent) compared to rural locations (65 percent).
Equal
QA ACT availability was similar in urban and rural public health facilities, ADDOs, and DLDBs.

Urban
Non-QA ACTs were found in urban areas, but were generally not available in rural areas.

Urban
SP was more commonly found in urban private sector outlets than in rural locations.

39% vs. 24%
Percentage of urban public health facilities that had SP available compared to rural locations.
Summary

Recent public and private sector strategies to improve malaria case management in Tanzania have largely been successful, particularly in the private sector through the Accredited Drug Dispensing Outlet (ADDO) program. However, barriers towards adherence to national treatment guidelines exist, specifically low availability of malaria diagnostic services, the relatively high cost of quality-assured ACTs in the private sector, and limited availability of SP for purposes of IPTp in the public sector.

There is high readiness among public health facilities to provide appropriate malaria case management for febrile patients in Tanzania. At the time of the 2014 national outlet survey, 98 percent of public health facilities had quality-assured ACT in stock and 89 percent had malaria diagnostics. Progress has been made in both of these indicators since the last outlet survey in 2011, when 81 percent of public facilities had QA ACT in stock, and only 49 percent offered malaria blood testing.

Although ‘green leaf’ logo ACTs were phased out of public health facilities with the end of the AMFm pilot, and availability of these medicines did see declines from 2011 to 2014, availability of QA ACT remained at 98 percent.

Readiness for IPTp in the public sector has also seen declines: in 2010, 64 percent of public health facilities were stocking SP, while in both 2011 and 2014, only 29 percent of public health facilities had SP available.

Although the public sector is well prepared to manage febrile patients, offering high availability of malaria blood testing and treatment, the private sector had over 70 percent of the antimalarial market share in 2014. ADDOs distributed 41 percent of all antimalarials in Tanzania in 2014. DLDBs accounted for about 20 percent of all antimalarial distribution. In urban areas, the market share held by the private sector is even greater, at 84 percent. In rural areas, the distribution of antimalarials is split evenly between the public and private sector. The role of the private sector in antimalarial distribution, particularly in urban areas, demonstrates the success of the ADDO program in increasing availability of QA ACTs, and suggests an ongoing need to engage with DLDBs and other private sector outlets.

However, these outlet types rarely stock malaria blood tests and this presents a challenge to appropriate malaria case management and to adherence to the national guidelines regarding treating after testing. This presents a challenge to appropriate malaria case management in the private sector as the majority of antimalarials distributed by these outlets are SP courses, particularly in urban areas although this is an issue in rural areas as well. Patients seeking treatment in these locations are less likely to reach an outlet that will be able to confirm their diagnosis with a blood test, and receive appropriate treatment.

Additionally, while the availability of QA ACT among antimalarial-stocking retailers has increased to above 80 percent availability in almost all outlet types in 2014, and half of all private sector outlets stocked QA ACT with the ‘green leaf’ logo in 2014, these retailers more often distribute cheaper alternatives including non-quality-assured ACT and SP. This draws attention to the importance of examining the market share in the private sector by antimalarial type over what is on the shelves, as availability in these cases may not equal distribution.

Further, the price of antimalarials in the private sector may also drive access to affordable high-quality malaria medicines. The co-payment subsidy mechanism has lowered the cost of QA ACT in ADDOs from $2.46 in 2010 to $0.62 in 2011. In 2014, quality-assured ACT cost an average of 1.5 times more than SP at $0.94. This, in addition to SP availability and the fact that the SP found in the private sector is marketed for malaria treatment for people of all ages according to product packaging, makes it less likely that patients seeking treatment in the private sector will receive appropriate case
management. This will be an important area to examine and address to continue progress toward ensuring that all malaria cases are detected and treated according to national policy.

Considerable progress has been made against the malaria case management objectives of the 2014-2020 National Malaria Control Program Strategic Plan. Increasing availability of first-line treatment of malaria has reached nearly universal access in the public sector. Targets to increase access to malaria diagnostics have also been achieved in the public sector, reaching 90 percent availability among public health facilities in 2014.

Opportunities exist to address the low availability of confirmatory testing in the private sector, and remove non-QA ACTs and non-artemisinin therapies from the market. Sub-optimal availability of SP for IPTp in the public sector should be addressed, along with the proportion of dispensed quality-assured antimalarials to other therapies.

The most recent strategic plan includes a target to provide equitable access through a community case management system, leveraging at-home management of malaria through the use of Community Health Workers (CHWs). According to the census data collected from the outlet surveys, only 5 CHWs were identified in 2010, 1 in 2011, and none in 2014. This could be an opportunity for increased access to malaria treatment and diagnostic services, especially in rural areas.

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ACTwatch is a multi-country research project designed to provide timely, relevant, and high quality antimalarial market evidence. Launched in 2008 with funding from the Bill and Melinda Gates Foundation, it is currently implemented in 13 countries with additional funding from UNITAID and the DFID. Standardized tools and approaches are employed to provide comparable data across countries and over time.

Project achievements include the implementation of over 40 outlet surveys, most of them nationally representative of the public and private sector, a number of peer reviewed publications, and a repository of antimalarial medicines and rapid diagnostic tests on the website (www.actwatch.info). The project has informed malaria control and elimination strategies and priorities for national control programs and their partners.

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