

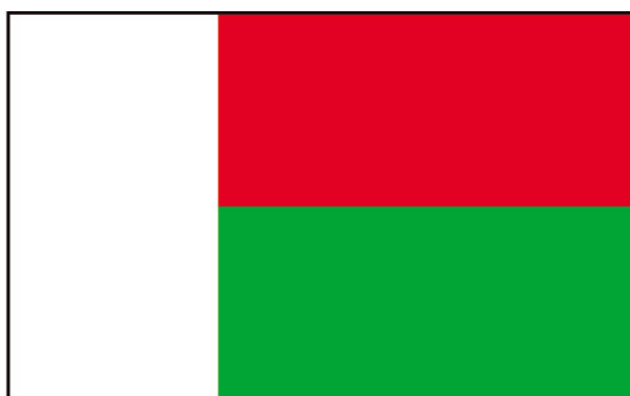


Evidence for Malaria Medicines Policy

ACTwatch Study Reference Document

Madagascar Outlet Survey

2015



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Acronyms

ACT	Artemisinin combination therapy
AETD	Adult equivalent treatment dose
AL	Artemether lumefantrine
AMFm	Affordable Medicines Facility – malaria
ASAQ	Artesunate amodiaquine
BMGF	The Bill and Melinda Gates Foundation
CHW	Community Health Worker
DHA PPQ	Dihydroartemisinin piperazine
EMA	European Medicines Agency
GFATM	Global Fund to Fight AIDS, TB, and Malaria
IM	Intramuscular injection
ICCM	Integrated community case management
IV	Intravenous injection
MOH	Ministry of Health
NGO	Non-governmental Organization
NMCP	National Malaria Control Program
Oral AMT	Oral artemisinin monotherapy
PMI	President's Malaria Initiative
Pf	<i>Plasmodium falciparum</i>
QA ACT	Quality-assured artemisinin combination therapy
QA RDT	Quality-assured rapid diagnostic test
RDT	Rapid diagnostic test
SP	Sulfadoxine Pyrimethamine
WHO	World Health Organization

Definitions

Survey Methods Definitions

Outlet	Any service delivery point or point of sale for commodities. Outlets are not restricted to stationary points of sale and may include mobile units or individuals.
Outlets eligible for inclusion in the study	Outlets were administered a full questionnaire if they met at least one of three inclusion criteria: (1) had one or more antimalarials in stock at the time of the survey visit, (2) reportedly had one or more antimalarials in stock in the previous three months, or (3) provide malaria blood testing (microscopy or rapid diagnostic tests) but do not provide antimalarial treatment. Outlets not providing services to the general public (e.g. army and military clinics) were excluded from the study.
Cluster	The primary sampling unit, or cluster, for the outlet survey. It is an administrative unit that hosts a population size of approximately 10,000 to 15,000 inhabitants. These units are defined by political boundaries. In Madagascar, they were defined as communes.
Censused Cluster	A commune where field teams conducted a full census of all outlets with the potential to sell antimalarials.
Booster Sample	A booster sample was collected by sampling additional communes for certain outlet types. This booster sampling approach achieves a larger sample size for specific outlets, allowing for estimates among key outlet types. In this survey, a booster sample was collected for public health facilities, pharmacies, and drug stores. Within districts that contained a sampled commune for the main census, additional communes were selected for the booster sample. See Annex 9 for a detailed description of the booster sampling methods.

Malaria Product Indicator Definitions

Antimalarial	Any medicine recognized by the World Health Organization (WHO) for the treatment of malaria. Medicines used solely for the prevention of malaria were excluded from analysis of key indicators in this report.
Dosing/treatment regimen	The posology or timing and number of doses of an antimalarial used to treat malaria. This schedule often varies by patient weight.
Adult Equivalent Treatment Dose (AETD)	An AETD is the number of milligrams (mg) of an antimalarial drug required to treat a 60 kg adult (see Annex 11).
Monotherapy	An antimalarial medicine that has a single mode of action. This may be a medicine with a single active compound or a synergistic combination of two compounds with related mechanisms of action.
Artemisinin and its derivatives	Artemisinin is a plant extract or synthetic plant extract used in the treatment of malaria. The most common derivatives of artemisinin used to treat malaria are artemether, artesunate, and dihydroartemisinin.
Artemisinin-based Combination Therapy (ACT)	An antimalarial that combines artemisinin or one of its derivatives with an antimalarial or antimalarials of a different class.

Artemisinin monotherapy	An antimalarial medicine that has a single active compound, where this active compound is artemisinin or one of its derivatives.
Oral artemisinin monotherapy	Artemisinin or one of its derivatives in a dosage form with an oral route of administration. These include tablets, suspensions, and syrups and exclude suppositories and injections.
Non-artemisinin therapy	An antimalarial medicine that does not contain artemisinin or any of its derivatives.
First-line treatment	The government-recommended treatment for uncomplicated malaria. Madagascar's first-line treatment for uncomplicated malaria is artesunate amodiaquine.
Second-line treatment	The government-recommended, second-line treatment for uncomplicated malaria. Madagascar's second-line treatment for uncomplicated malaria is artemether lumefantrine.
Nationally registered ACTs	ACTs registered with Madagascar's national drug authority and permitted for sale or distribution in Madagascar. Each country determines its own criteria for placing a drug on its nationally registered listing.
Severe malaria treatment	WHO recommends intravenous or intramuscular artesunate as first-line treatment in the management of severe <i>falciparum</i> malaria. If artesunate is not available, artemether in preference to quinine should be used for treating severe malaria cases. Rectal artesunate is suitable for pre-referral treatment in children under six years of age. ¹
Quality-assured Artemisinin-Based Combination Therapies (QA ACTs)	QA ACTs are ACTs that comply with the Global Fund to Fight AIDS, Tuberculosis and Malaria's (GFATM) Quality Assurance Policy. A QA ACT is any ACT that appeared on the GFATM's indicative list of antimalarials meeting the GFATM's quality assurance policy prior to data collection (see http://www.theglobalfund.org/en/healthproducts/qualityassurance/) or that previously had C-status in an earlier GFATM quality assurance policy. QA ACTs also include ACTs that have been granted regulatory approval by the European Medicines Agency (EMA) – specifically Eurartesim® and Pyramax®.
Quality-assured ACT with the “green leaf” logo, or “co-paid ACTs”	The “green leaf” logo indicates that a quality-assured ACT was acquired through a co-payment mechanism administered by the Global Fund (Affordable Medicines Facility, malaria – or AMFm). These subsidized (co-paid) quality-assured ACTs were available to first-line buyers in Madagascar in the public sector between 2010-2011 and private sector from 2010-2015.
Quality-assured RDT	QA RDTs are RDTs that comply with the Global Fund to Fight AIDS, Tuberculosis and Malaria's Quality Assurance Policy. A QA RDT is any RDT that appeared on the Global Fund's indicative list of RDTs meeting the Global Fund's quality assurance policy prior to data collection (see http://www.theglobalfund.org/en/healthproducts/qualityassurance/).



¹ World Health Organization. (2015). *Guidelines for the treatment of malaria, 3rd edition*. Geneva: WHO.

Introduction

This country reference document is a detailed presentation of the 2015 national ACTwatch outlet survey (OS) conducted in Madagascar. The 2015 OS follows previous survey rounds conducted by ACTwatch in Madagascar in 2008, 2010, 2011, and 2013.

ACTwatch is a multi-country research project implemented by PSI (www.psi.org). 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 evidence. The goal of providing this market evidence is to inform and monitor national and global policy, strategy, and funding decisions for improving malaria case management. The project was launched in 2008 with funding from the Bill and Melinda Gates Foundation (BMGF), and is currently funded through mid-2016 by the BMGF, UNITAID, and DFID. See Annex 1 for more information about the ACTwatch project.

ACTwatch antimalarial market monitoring in Madagascar from 2008 to present has been implemented in the context of strategies designed and implemented to improve coverage of appropriate case management. This antimalarial market evidence monitored the health system readiness and performance for malaria case management in the context of recent strategies and investments to improve case management, including:

- End of the AMFm ACT subsidy mechanism implemented from 2011-2013 and continuation of a similar GFATM co-payment subsidy mechanism with the same co-payment/subsidy available to first-line buyers.
- Scale up of malaria rapid diagnostic tests and malaria case management training in the public and private sectors to facilitate confirmatory testing prior to appropriate malaria treatment. Under a pilot project supported by UNITAID, private-sector outlets, including pharmacies and drug shops, are allowed to administer malaria RDTs.

The 2015 OS was the fifth round of ACTwatch outlet surveys conducted in Madagascar. This report presents trend lines with four data points: 1) the 2010 AMFm baseline survey, 2) the 2011 AMFm pilot endline survey, 3) the 2013 outlet survey, and 4) the most recent 2015 survey. These surveys are designed to monitor key antimalarial market indicators at national level and within urban and rural research domains. ACTwatch outlet survey findings can inform ongoing monitoring, evaluation, and adjustment to policy, strategy, and funding decisions to strengthen malaria case management.

Report notes

- This document is a complete reference for the 2015 outlet survey. Please see annexes for information about the study context, design, implementation, and data analysis.
- Grey text for data appearing in report tables indicates that the estimate provided was derived from a small sample size. Specifically, grey text is used to indicate point estimates derived from an n of less than 50 and median prices derived from an n of less than 5.
- Malaria testing and treatment prices are reported in US dollars. Price information is captured in local currency and converted to US dollars based on exchange rates available from www.oanda.com using the historical exchange rates tool. The average exchange rate over the entire data collection period is used for converting local currency captured during data collection to US dollars.

Summary of Methods and Data Collection

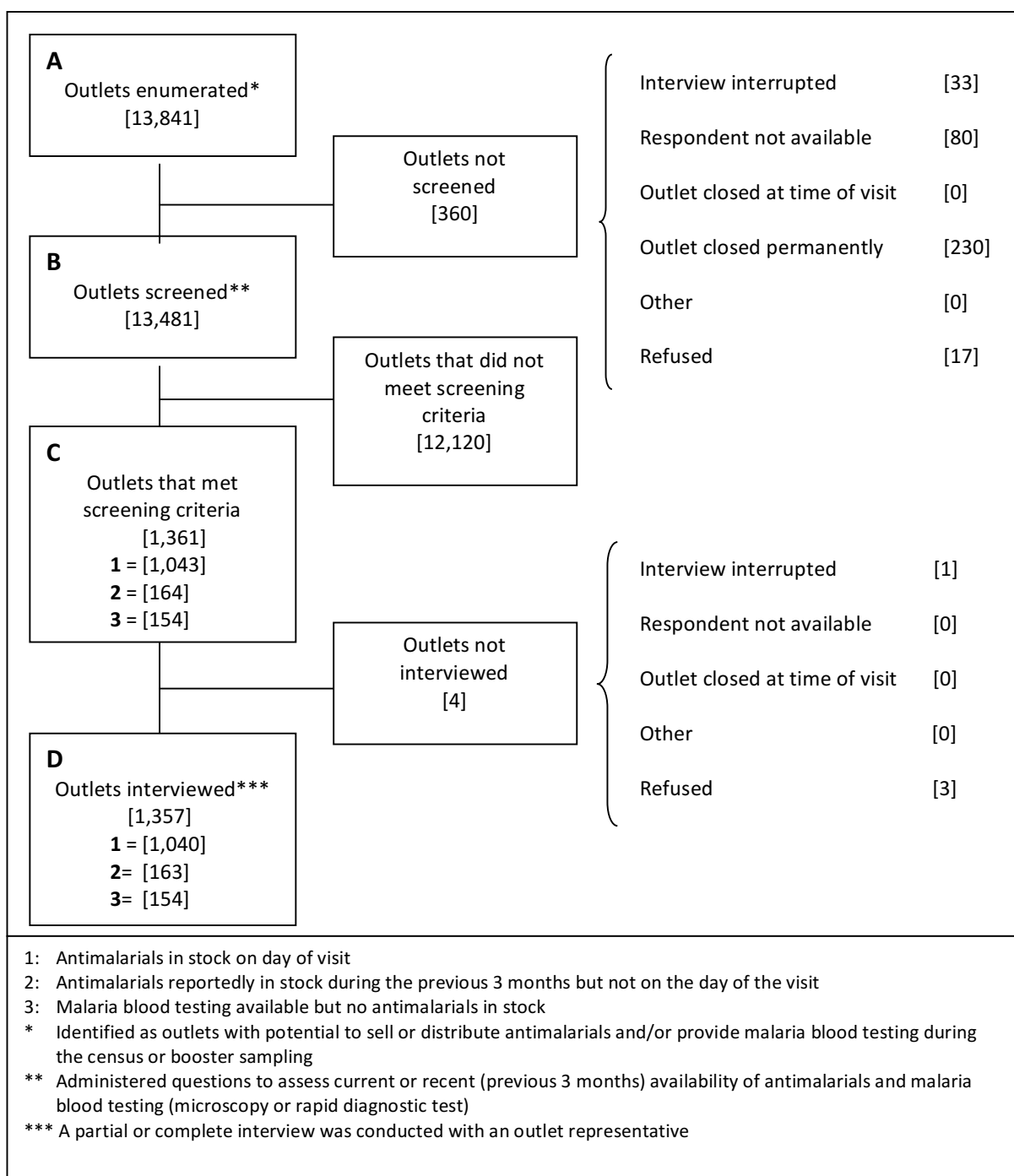
A nationally representative antimalarial outlet survey was conducted in Madagascar from October 9-December 5, 2015. A full description of research design and methods is provided in Annex 3. Briefly, a representative sample of communes was selected from urban and rural domains (see sampled sub-counties in Annex 4). Within selected clusters, a census of all outlets with the potential to sell or distribute antimalarials and/or provide malaria blood testing was completed. Additional communes were selected for oversampling of public health facilities, pharmacies, and drug stores. This booster sampling strategy was used to obtain a sufficient sample size for indicator estimates within these outlet types.

Outlets were screened to determine eligibility. Outlets eligible for the survey met at least one of three criteria: 1) one or more antimalarials were in stock on the day of the survey, 2) one or more antimalarials were in stock in the three months preceding the survey, and/or 3) malaria blood testing (microscopy or RDT) was available. Outlets that do not serve the general public (e.g. military facilities) were excluded from the study. The results of the census are summarized in Figure 1. A detailed sample summary is provided in Annex 5.

A structured questionnaire programmed into mobile phones using DroidDB software was used to complete an audit of all antimalarials and malaria rapid diagnostic tests (RDTs), as well as a provider interview (see Annex 6). See Annexes 7 and 8 for detailed summaries of antimalarials and RDTs audited. Key informant interviews were conducted with specific stakeholders to supplement information for the Madagascar background.

All data cleaning and analysis was performed using Stata 13.1 (©StataCorp, College Station, TX). Data were weighted to account for variation in probability of outlet selection (see Annex 9), and standard error calculation reflected clustering of outlets at commune and district levels. Standard indicators were constructed according to definitions applied across ACTwatch project countries (see Annex 10).

Figure 1. Survey flow diagram, Madagascar, 2015



Summary of Key Findings

Table S1: Key results, by outlet type - 2015

	Public Health Facility	Community Health Worker	ALL Public / Not-For-Profit ¹	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets ²
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Readiness for malaria case management <i>Proportion of all screened outlets outlets* with:</i>	N=260	N=1,378	N=1,658	N=330	N=73	N=224	N=11,196	N=11,823	N=13,481
Availability of malaria blood testing	73.6 (63.0, 82.0)	21.8 (15.0, 30.6)	28.1 (20.9, 36.6)	33.6 (24.2, 44.6)	24.0 (12.4, 41.3)	10.0 (4.7, 20.3)	0.0 -	1.0 (0.7, 1.4)	7.3 (5.6, 9.4)
Availability of QA ACT	78.4 (68.6, 85.8)	7.4 (3.9, 13.8)	16.2 (11.6, 22.1)	15.4 (8.9, 25.4)	96.2 (89.9, 98.6)	13.1 (8.4, 19.9)	0.1 (0.0, 0.4)	1.0 (0.7, 1.3)	4.5 (3.4, 5.9)
Availability of QA ACT and malaria blood testing	65.5 (54.3, 75.3)	6.0 (3.1, 11.4)	13.3 (9.5, 18.4)	12.3 (6.6, 21.8)	24.0 (12.4, 41.3)	3.2 (1.2, 7.9)	0.0 -	0.4 (0.2, 0.6)	3.4 (2.5, 4.6)
Availability of QA ACT, blood testing not available	12.9 (7.6, 21.0)	1.4 (0.4, 5.0)	2.8 (1.5, 5.3)	3.1 (1.1, 8.3)	72.1 (55.4, 84.4)	9.9 (6.3, 15.3)	0.1 (0.0, 0.4)	0.6 (0.4, 0.9)	1.1 (0.8, 1.7)
Availability of national first-line severe malaria treatment (artesunate IV/IM)	12.7 (7.4, 20.8)	0.0 -	1.6 (0.9, 2.7)	0.1 (0.0, 0.4)	0.0 -	0.0 -	0.0 -	0.0 -	0.4 (0.2, 0.6)
Readiness for malaria case management <i>Proportion of antimalarial-stocking outlets Ψ with:</i>	N=244	N=92	N=352	N=167	N=72	N=189	N=260	N=688	N=1,040
Availability of malaria blood testing	75.1 (64.6, 83.3)	77.8 (58.7, 89.6)	74.9 (65.9, 82.1)	45.9 (31.2, 61.4)	24.2 (12.5, 41.5)	12.8 (6.6, 23.3)	0.0 -	10.4 (7.5, 14.3)	36.7 (28.8, 45.3)
Availability of QA ACT	83.6 (73.4, 90.4)	88.6 (75.2, 95.2)	84.1 (76.9, 89.3)	24.5 (13.5, 40.3)	96.7 (90.0, 99.0)	16.9 (11.6, 23.8)	2.7 (1.0, 7.0)	11.2 (8.0, 15.4)	40.9 (32.1, 50.3)
Availability of QA ACT and malaria blood testing	69.8 (58.7, 79.0)	71.6 (53.3, 84.8)	69.3 (60.9, 76.6)	19.6 (10.2, 34.5)	24.2 (12.5, 41.5)	4.1 (1.7, 9.6)	0.0 -	4.2 (2.3, 7.5)	30.7 (23.1, 39.6)
Availability of QA ACT, blood testing not available	13.7 (8.0, 22.6)	17.0 (5.3, 42.9)	14.8 (8.3, 24.9)	4.9 (1.7, 13.4)	72.6 (55.5, 84.9)	12.8 (8.5, 18.7)	2.7 (1.0, 7.0)	7.0 (4.8, 10.1)	10.2 (6.9, 14.6)
Availability of national first-line severe malaria treatment (artesunate IV/IM)	13.5 (7.9, 22.0)	0.0 -	8.1 (4.5, 14.2)	0.2 (0.1, 0.7)	0.0 -	0.0 -	0.0 -	0.0 (0.0, 0.1)	3.3 (1.8, 6.0)

Table S1: Key results, by outlet type - 2015

	Public Health Facility	Community Health Worker	ALL Public / Not-For-Profit ¹	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets ²
Readiness for IPTp <i>Proportion of outlets with:</i>									
Availability of SP, among all screened outlets*	43.4 (32.9, 54.5)	0.2 (0.0, 1.4)	5.6 (3.9, 7.9)	35.9 (26.1, 46.9)	95.6 (90.5, 98.0)	55.6 (38.8, 71.2)	0.5 (0.3, 1.0)	3.1 (2.4, 4.0)	3.7 (2.9, 4.6)
Availability of SP, among antimalarial-stocking outlets ^Ψ	46.2 (35.0, 57.7)	2.5 (0.3, 16.8)	28.9 (19.5, 40.5)	57.1 (40.0, 72.6)	96.2 (90.8, 98.5)	71.5 (60.1, 80.7)	10.8 (6.2, 18.0)	36.3 (28.2, 45.3)	33.3 (26.2, 41.3)
Antimalarial market share within outlet/sector type	%	%	%	%	%	%	%	%	%
% QA ACT [^]	33.7	57.0	19.4	35.0	4.7	17.2	4.9	0.7	5.3
Private-sector price	Median [IQR] ^(N)	Median [IQR] ^(N)	Median [IQR] ^(N)	Median [IQR] ^(N)	Median [IQR] ^(N)	Median [IQR] ^(N)	Median [IQR] ^(N)	Median [IQR] ^(N)	Median [IQR] ^(N)
Median price for one QA ACT AETD (tablets)	n/a	n/a	n/a	\$0.18 [0.00-1.26] ⁽¹⁷⁸⁾	\$4.92 [0.76-8.71] ⁽²⁶⁶⁾	\$0.76 [0.50-1.77] ⁽⁹⁴⁾	\$0.76 [0.76-0.88] ⁽⁴⁾	\$0.88 [0.38-2.02] ⁽⁵⁴²⁾	n/a
Median price for one SP AETD (tablets)	n/a	n/a	n/a	\$0.32 [0.32-0.38] ⁽⁸⁵⁾	\$0.57 [0.32-0.66] ⁽¹⁴⁸⁾	\$0.32 [0.32-0.38] ⁽¹⁹⁹⁾	\$0.47 [0.38-0.47] ⁽³²⁾	\$0.32 [0.32-0.47] ⁽⁴⁶⁴⁾	n/a
Median price for pre-packaged pediatric QA ASAQ #	n/a	n/a	n/a	\$0.32 [0.00-0.32] ⁽⁴⁹⁾	\$0.21 [0.16-0.22] ⁽³⁵⁾	\$0.19 [0.16-0.32] ⁽²⁰⁾	\$0.19 [0.19-0.22] ⁽³⁾	\$0.19 [0.16-0.32] ⁽¹⁰⁷⁾	n/a
Median price for an RDT ##	n/a	n/a	n/a	\$0.00 [0.00-0.32] ⁽¹¹²⁾	\$0.32 [0.32-0.32] ⁽¹¹⁾	\$0.32 [0.32-0.32] ⁽²⁰⁾	\$0.00 [n/a] ⁽¹⁾	\$0.16 [0.00-0.32] ⁽¹⁴⁴⁾	n/a

1 Inclusive of N=20 screened/16 antimalarial-stocking private not-for-profit health facilities

2 Inclusive of community health workers and private not-for-profit health facilities

* The denominator includes 6 outlets that met screening criteria for a full interview but did not complete the interview (were not interviewed or completed a partial interview).

^Ψ Outlets with at least one antimalarial in stock on the day of the survey or reportedly in stock within the past 3 months.

[^] Percent market volume (adult equivalent treatment dosages sold/distributed in the previous week) accounted for by QA ACT sale/distribution within distribution within each outlet type/sector.

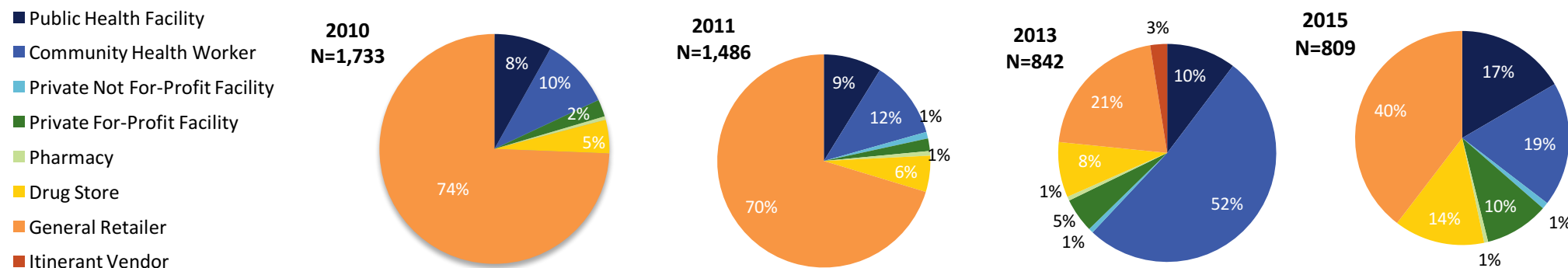
Pre-packaged QA artesunate-amodiaquine for a 10kg child

Price inclusive of consultation / service fees for a child under age 5.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Figure 2. Market composition: outlet type distribution, 2010-2015

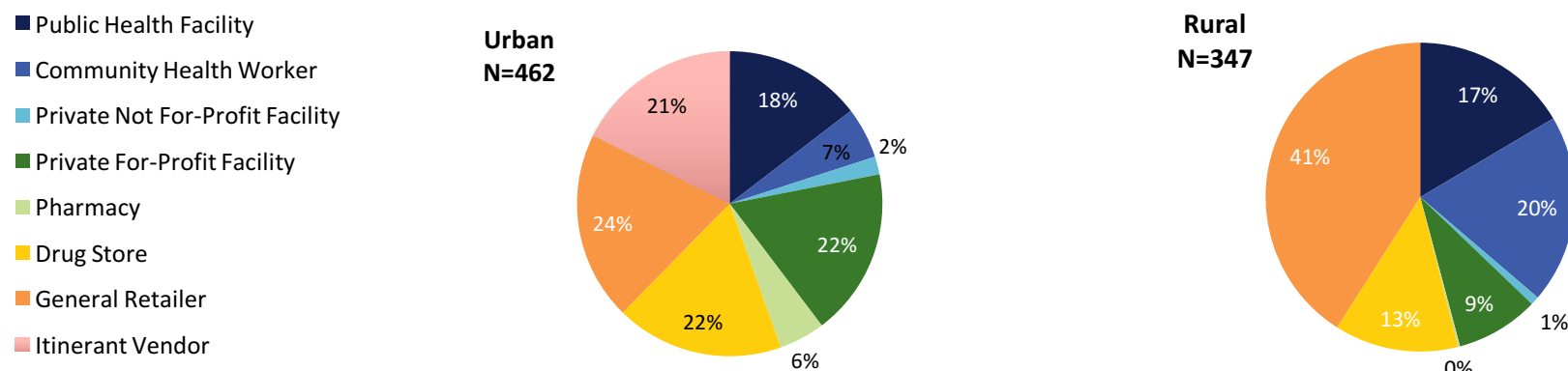
Among all outlets with at least one antimalarial in stock



The private sector accounted for approximately 80% of antimalarial-stocking outlets in 2010 and 2011, 37% in 2013, and 64% in 2015. General retailers were the most common type of private-sector, antimalarial-stocking outlet across survey rounds and accounted for 40% of all antimalarial-stocking outlets in 2015. Community health workers were a common option for malaria treatment in 2012 (52% of antimalarial-stocking outlets) and 2015 (19% of antimalarial-stocking outlets).

Figure 3. Market composition: outlet type distribution, 2015, urban/rural

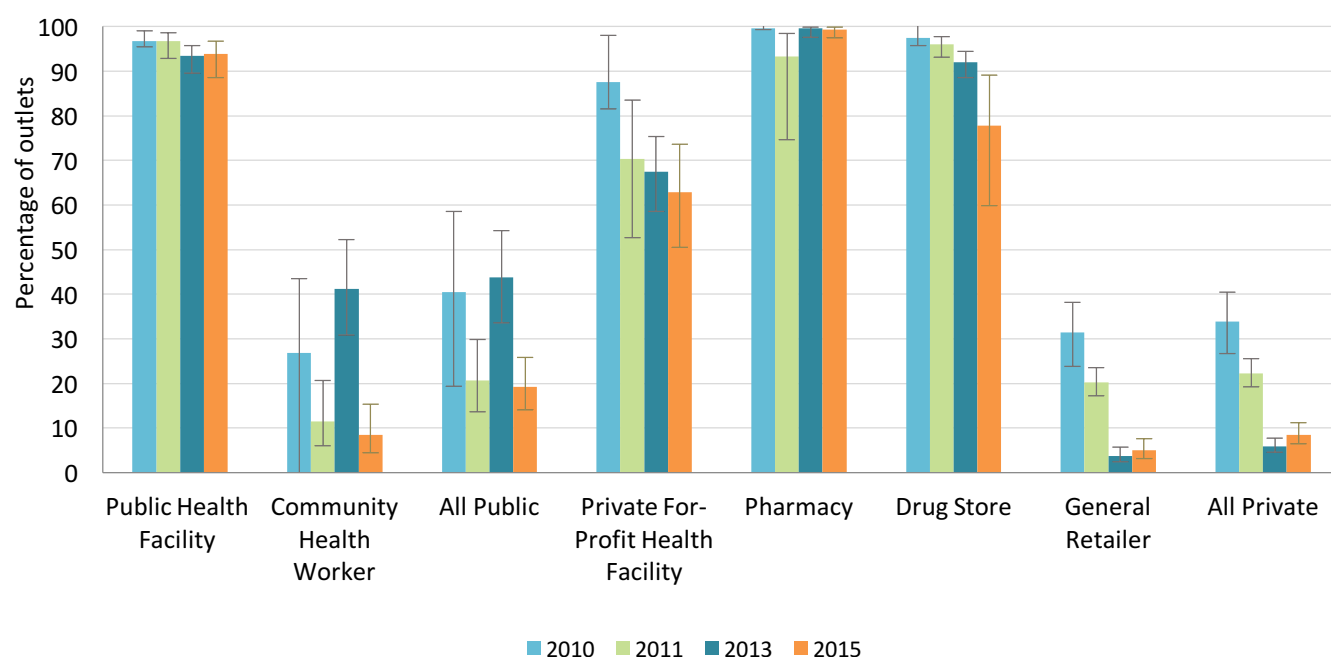
Among all outlets with at least one antimalarial in stock



The public sector accounted for 37% of antimalarial-stocking outlets in rural areas compared with 27% in urban areas. This difference was due to CHWs found in rural areas (20% of antimalarial-stocking outlets), but less commonly found in urban areas (7% of antimalarial-stocking outlets). In urban areas, private for-profit health facilities (22%), drug stores (22%), and general retailers (24%) accounted for most of the antimalarial-stocking outlets. In rural areas, general retailers were the most common outlet type (41%), and private for-profit health facilities (9%) and drug stores (13%) were less common.

Figure 4. Percentage of outlets with at least one antimalarial in stock on the day of the survey, 2010-2015

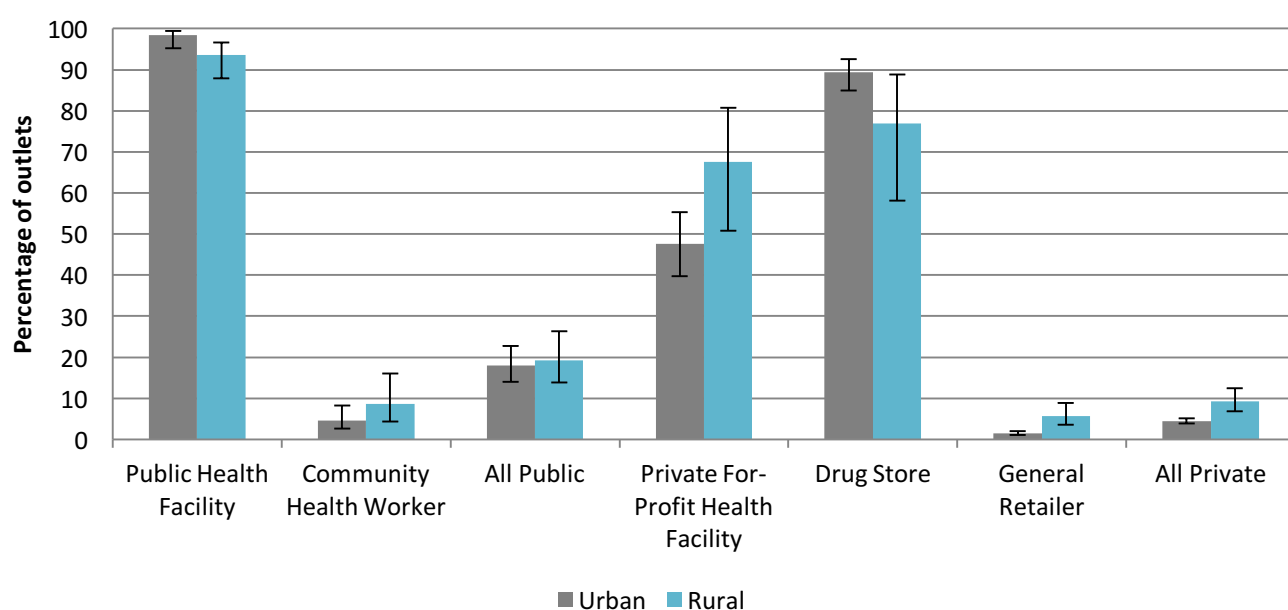
Among all screened outlets, across survey round



More than 90% of public health facilities were stocking antimalarial medicines during each survey round. Availability was also high across survey rounds (>90%) among pharmacies. In 2013, 41% of CHWs were stocking antimalarials as compared with 8% in 2015. A decline in antimalarial availability between 2013 and 2015 was also observed for drug stores (92%, 78%). Thousands of general retail outlets were screened during each survey round, and antimalarial availability was less than 10% in 2013 (6%) and 2015 (9%).

Figure 5. Percentage of outlets with at least one antimalarial in stock on the day of the survey, 2015, urban/rural

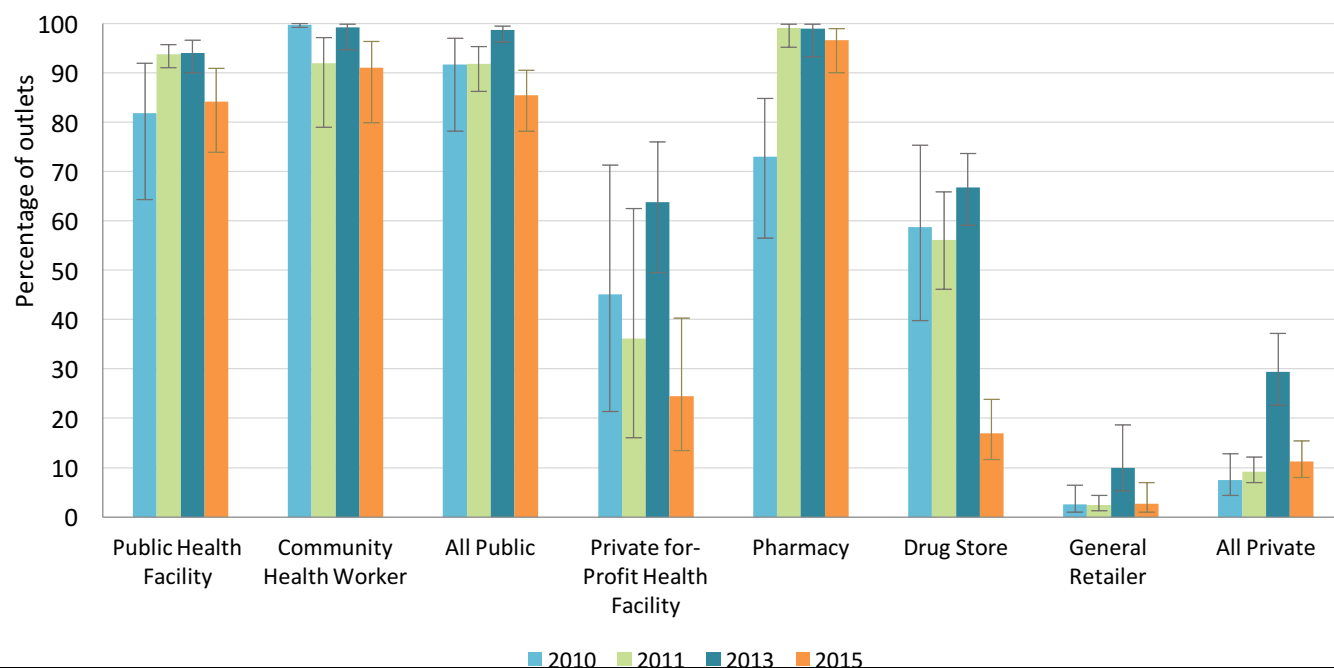
Among all screened outlets



Antimalarial availability was similar across urban and rural locations in the public sector as well as among pharmacies. Antimalarial availability was higher among private for-profit health facilities in rural (68%) versus urban areas (48%), as well as among general retailers in rural (9%) versus urban areas (5%). In contrast, data trends suggest that drug stores in urban areas were more likely to stock antimalarials (89%) versus in rural areas (77%).

Figure 6. Percentage of antimalarial-stocking outlets with ACT in stock on the day of the survey, 2010-2015

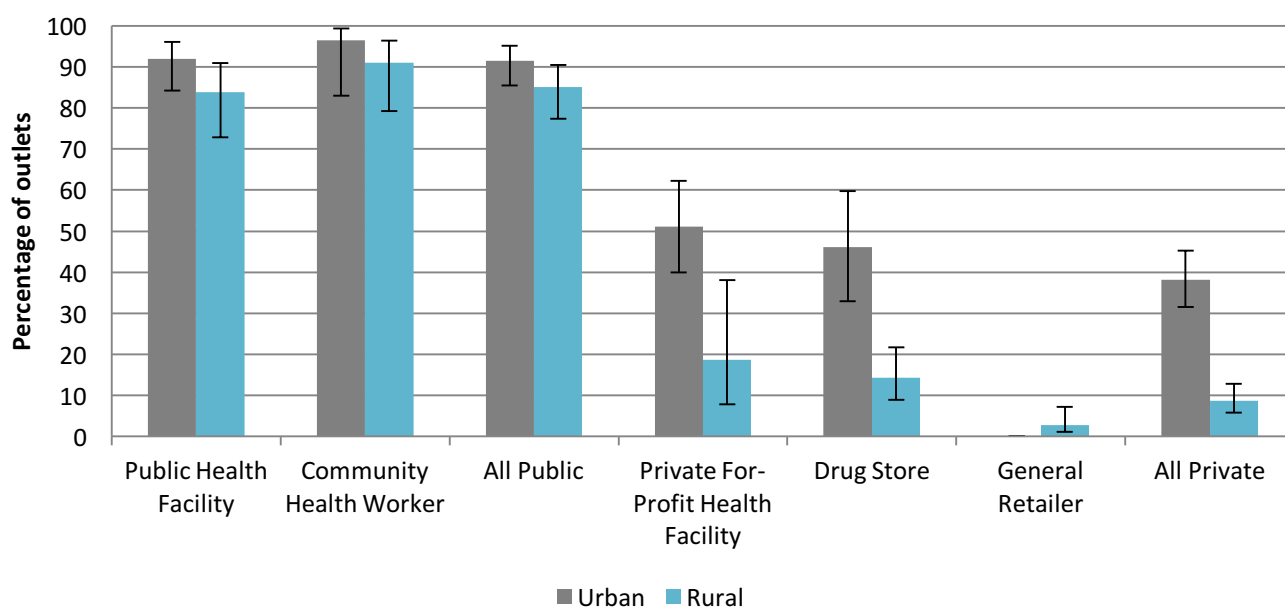
Among all outlets with at least one antimalarial in stock, across survey round



ACT availability was higher than 80% across survey rounds among antimalarial-stocking public health facilities. It was 84% in 2015, down from 94% in 2013. Overall private-sector availability declined from 29% in 2013 to 11% in 2015, with noticeable declines among all outlet types, except pharmacies. ACT availability dropped between 2013 and 2015 in private for-profit health facilities (64%, 25%), drug stores (67%, 17%), and general retailers (10%, 3%).

Figure 7. Percentage of antimalarial-stocking outlets with ACT in stock on the day of the survey, 2015, urban/rural

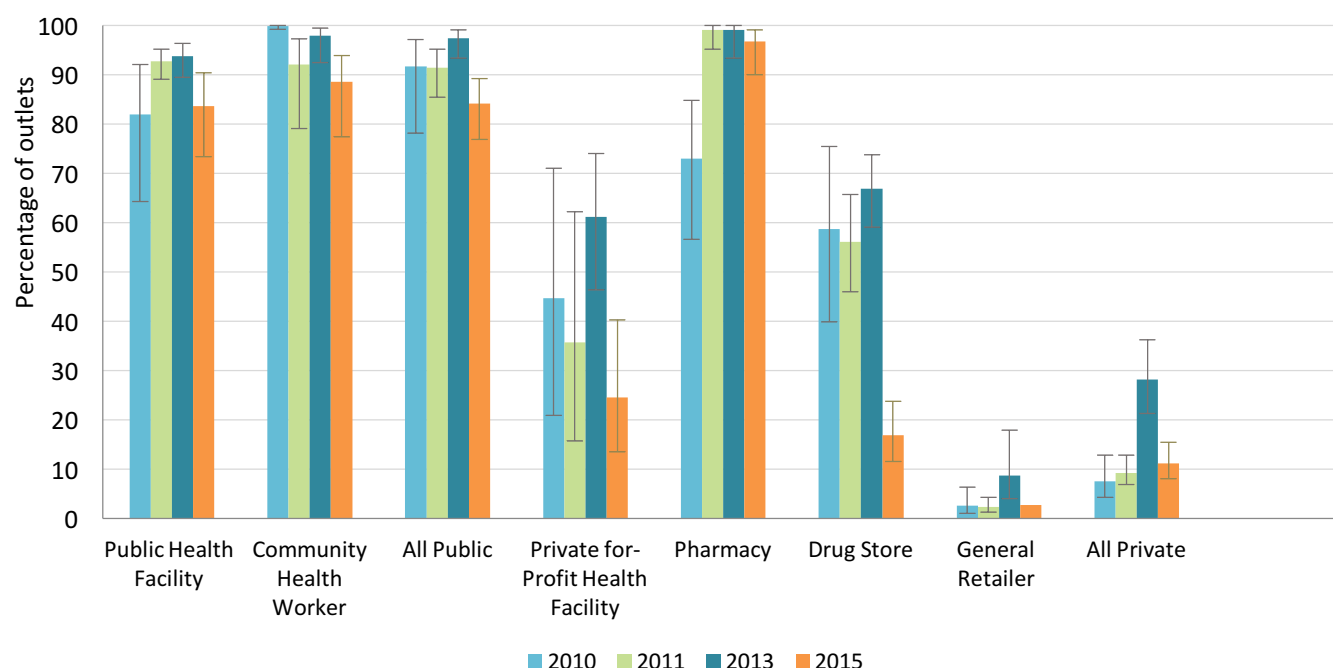
Among all outlets with at least one antimalarial in stock



ACT availability among antimalarial-stocking outlets was similar in urban versus rural public-sector outlets. In the private sector, ACT availability was higher in urban (38%) versus rural areas (9%), with notable urban/rural differences in private for-profit health facilities (51%, 19%) and drug stores (46%, 14%). Among antimalarial-stocking general retailers, ACT availability was 0% in urban areas and 3% in rural areas.

Figure 8. Percentage of antimalarial-stocking outlets with quality-assured ACT in stock on the day of the survey, 2010-2015

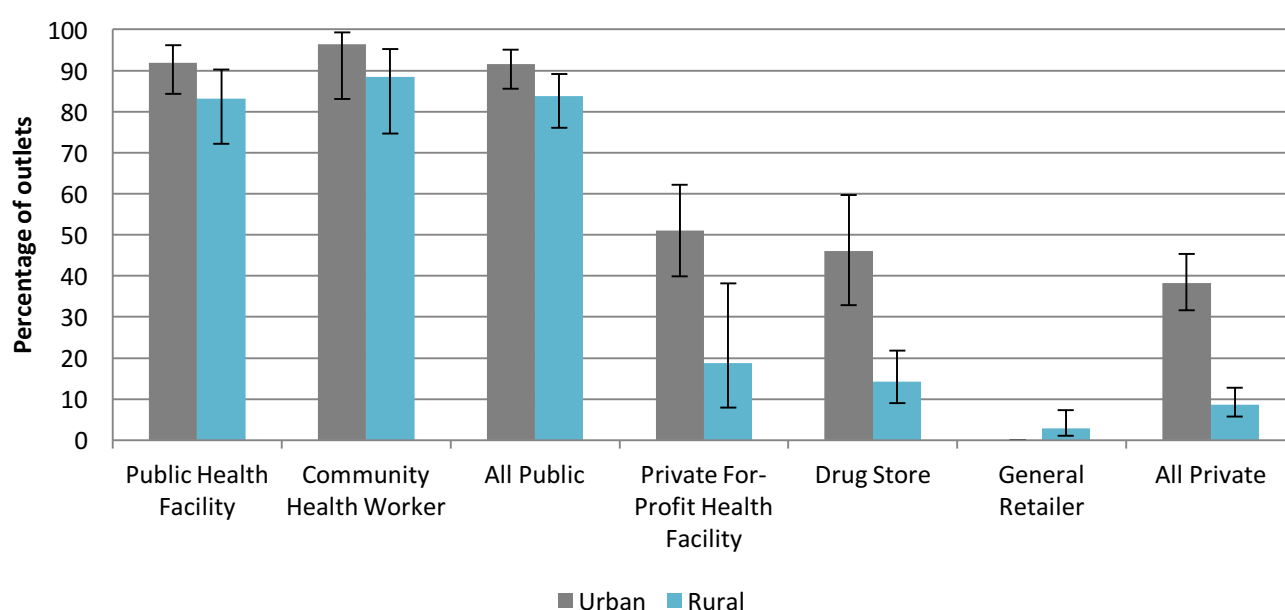
Among all outlets with at least one antimalarial in stock, across survey round



QA ACT availability was higher than 80% across survey rounds among antimalarial-stocking public health facilities. It was 84% in 2015, down from 94% in 2013. Overall private-sector availability declined from 28% in 2013 to 11% in 2015, with noticeable declines among all outlet types, except pharmacies. ACT availability dropped between 2013 and 2015 in private for-profit health facilities (61%, 25%), drug stores (67%, 17%), and general retailers (9%, 3%).

Figure 9. Percentage of antimalarial-stocking outlets with quality-assured ACT in stock on the day of the survey, 2015, urban/rural

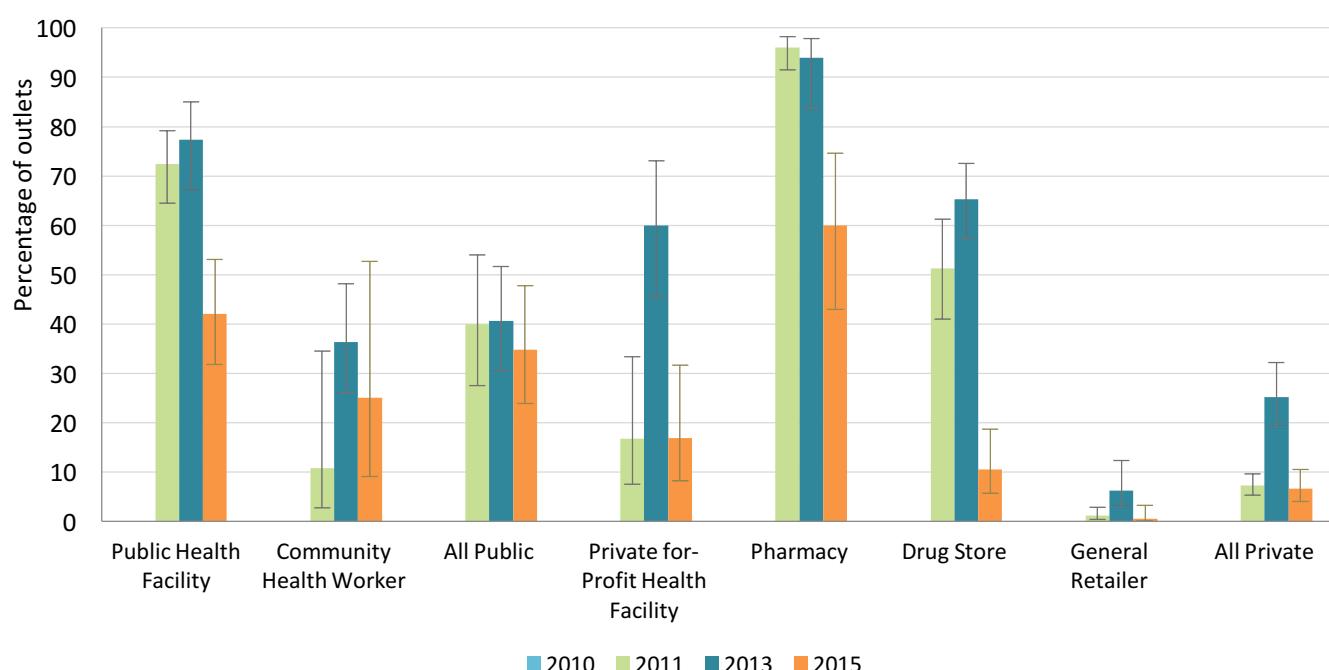
Among all outlets with at least one antimalarial in stock



QA ACT availability among antimalarial-stocking outlets was similar in urban versus rural public-sector outlets. In the private sector, QA ACT availability was higher in urban (38%) versus rural areas (9%), with notable urban/rural differences in private for-profit health facilities (51%, 19%) and drug stores (46%, 14%). Among antimalarial-stocking general retailers, QA ACT availability was 0% in urban areas and 3% in rural areas.

Figure 10. Percentage of antimalarial-stocking outlets with quality-assured ACT marked with the 'green leaf' logo in stock on the day of the survey, 2010-2015

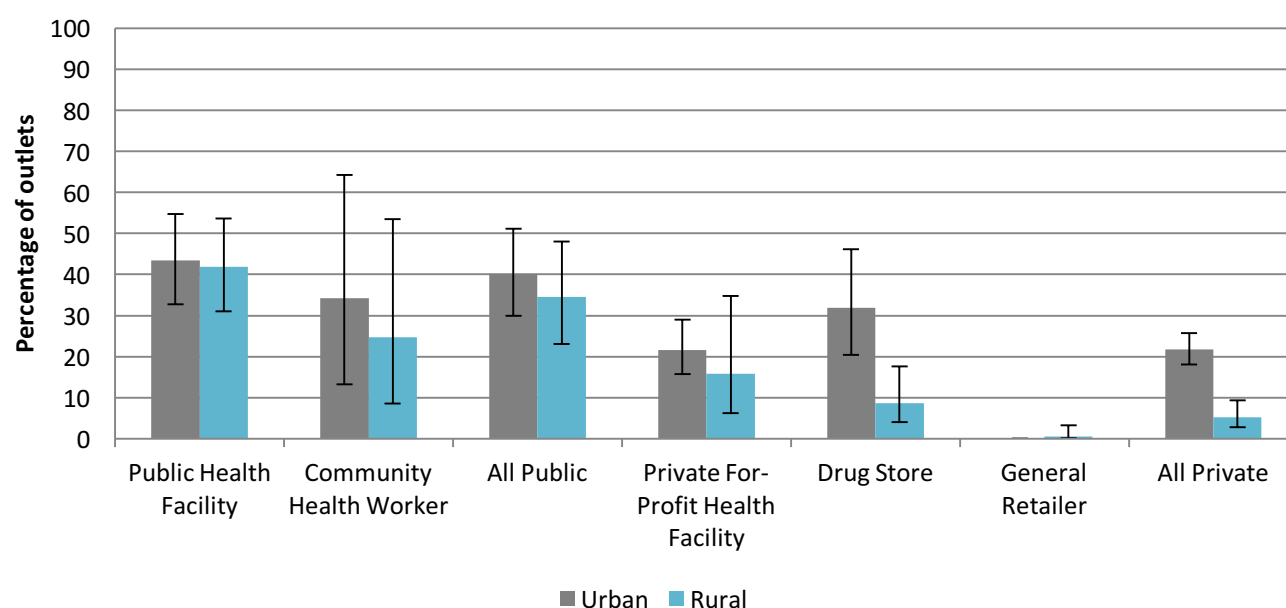
Among all outlets with at least one antimalarial in stock, across survey round



At the end of the AMFm pilot period in 2011, availability of QA ACTs with the 'green leaf' logo among antimalarial-stocking outlets was 72% among public health facilities, and this level of availability was maintained in 2014 (77%), but declined in 2015 (42%) as the AMFm transitioned to copayment mechanism for the private sector only. Within the private sector, availability of QA ACTs with the 'green leaf' logo was highest in 2013 (25%), but declined in 2015 to just 7%. Although 60% of antimalarial-stocking pharmacies had 'green leaf' QA ACT in stock in 2015, availability was much lower in private for-profit health facilities (17%), drug stores (11%), and general retail outlets (1%).

Figure 11. Percentage of antimalarial-stocking outlets with quality-assured ACT marked with the 'green leaf' logo in stock on the day of the survey, 2015, urban/rural

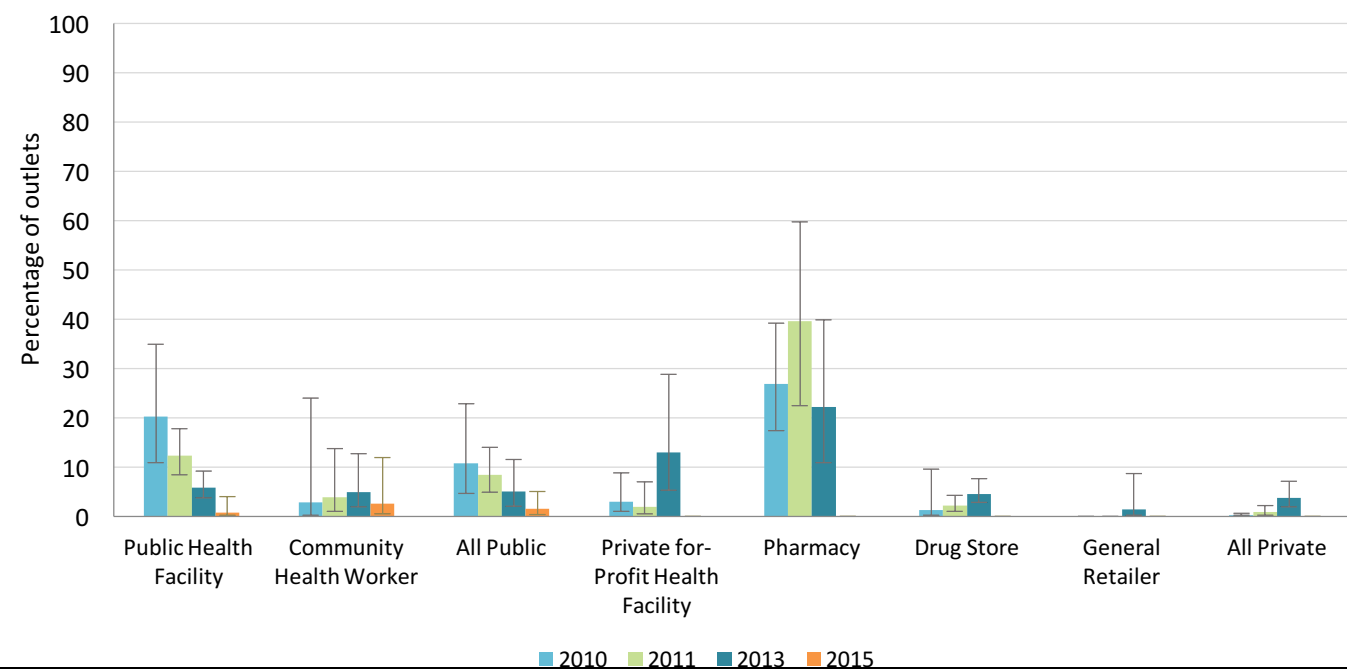
Among all outlets with at least one antimalarial in stock



Availability of QA ACTs with the 'green leaf' logo was similar in urban versus rural public-sector outlets. In the private sector, 'green leaf' QA ACTs were available in 22% of urban antimalarial-stocking outlets compared with 5% of rural outlets. Notable differences in availability are noted among drug stores in urban (32%) versus rural areas (9%).

Figure 12. Percentage of antimalarial-stocking outlets with non-quality assured ACT in stock on the day of the survey, 2010-2015

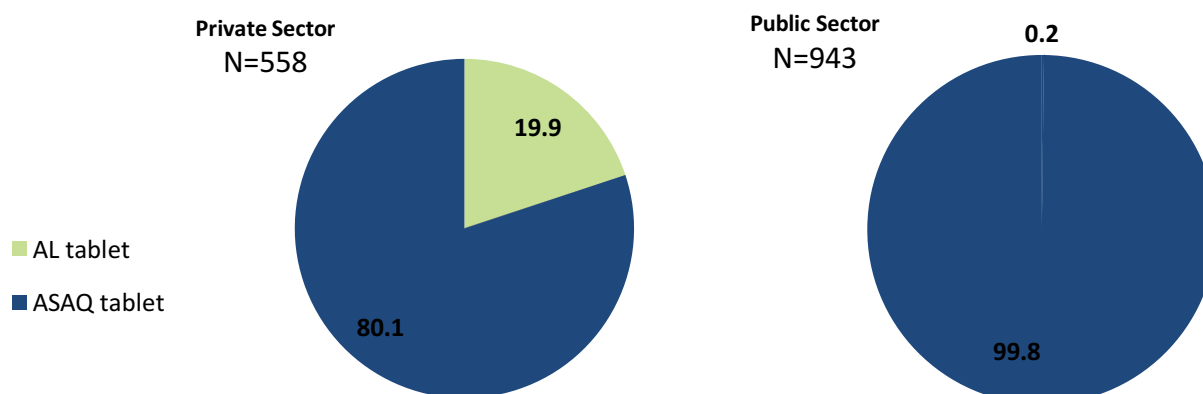
Among all outlets with at least one antimalarial in stock, across survey round



The availability of non-QA ACTs among antimalarial-stocking public health facilities declined over time: 20%, 12%, 6%, 1%. In the private sector, non-QA ACTs were previously found in pharmacies (e.g. 22% in 2013) and private for-profit health facilities (13% in 2013). However, in 2015, non-QA ACTs were not found in the private sector.

Figure 13. Types of quality-assured ACT audited among public- and private-sector outlets, 2015

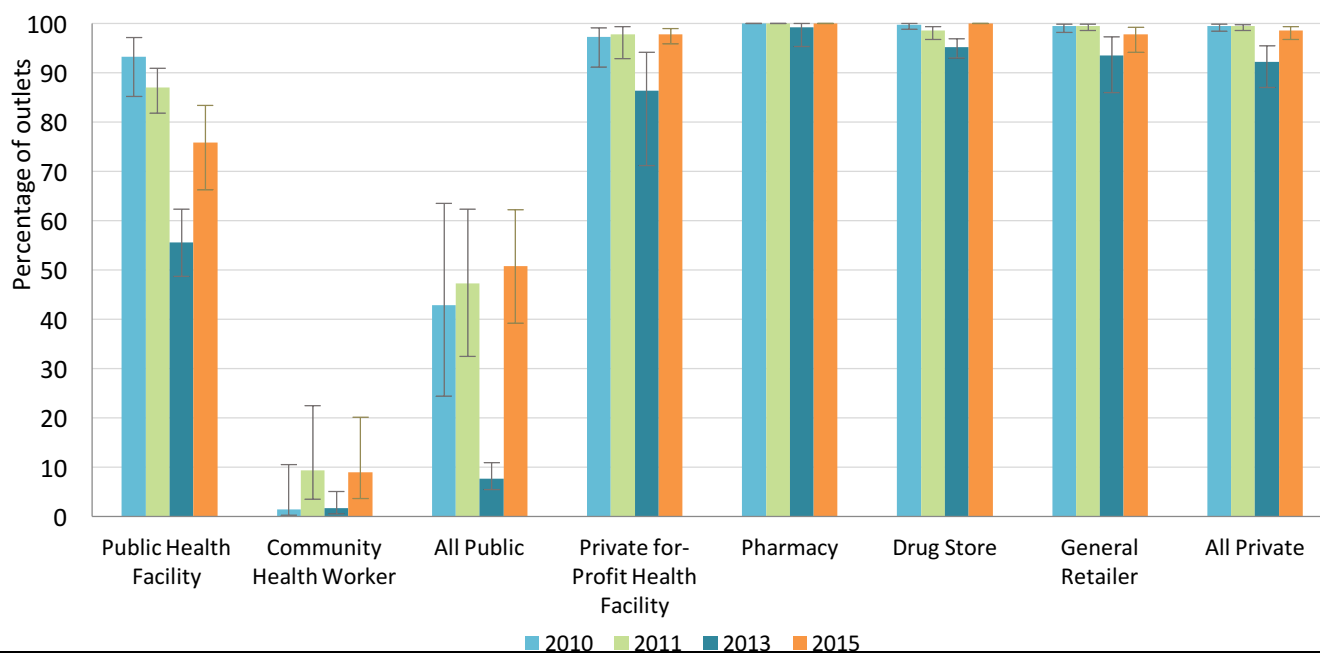
Among all ACT medicines audited, across sector, 2015



The majority of QA ACTs audited in both the public (99.8%) and private sector (80%) were ASAQ tablets. 19% of QA ACTs audited in the private sector were AL tablets.

Figure 14. Percentage of antimalarial-stocking outlets with non-artemisinin therapy in stock on the day of the survey, 2010-2015

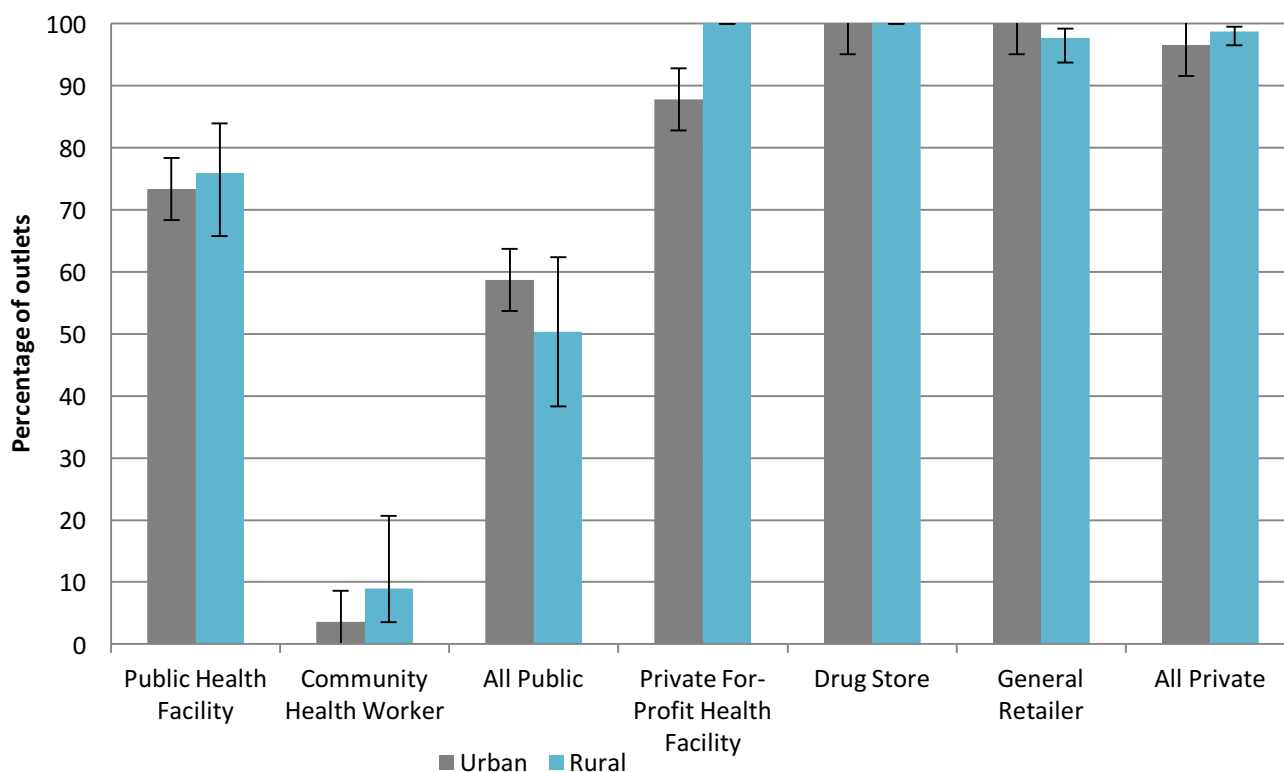
Among all outlets with at least one antimalarial in stock, across survey round



Availability of any non-artemisinin therapy among public health facilities decreased from more than 80% in 2010 (93%) and 2011 (87%) to 56% in 2013, and increased to 76% in 2015. In the private sector, non-artemisinin therapy availability remained high over time (>90%). In 2015, 99% of antimalarial-stocking outlets had non-artemisinin therapy in stock.

Figure 15. Percentage of antimalarial-stocking outlets with non-artemisinin therapy in stock on the day of the survey, 2015, urban/rural

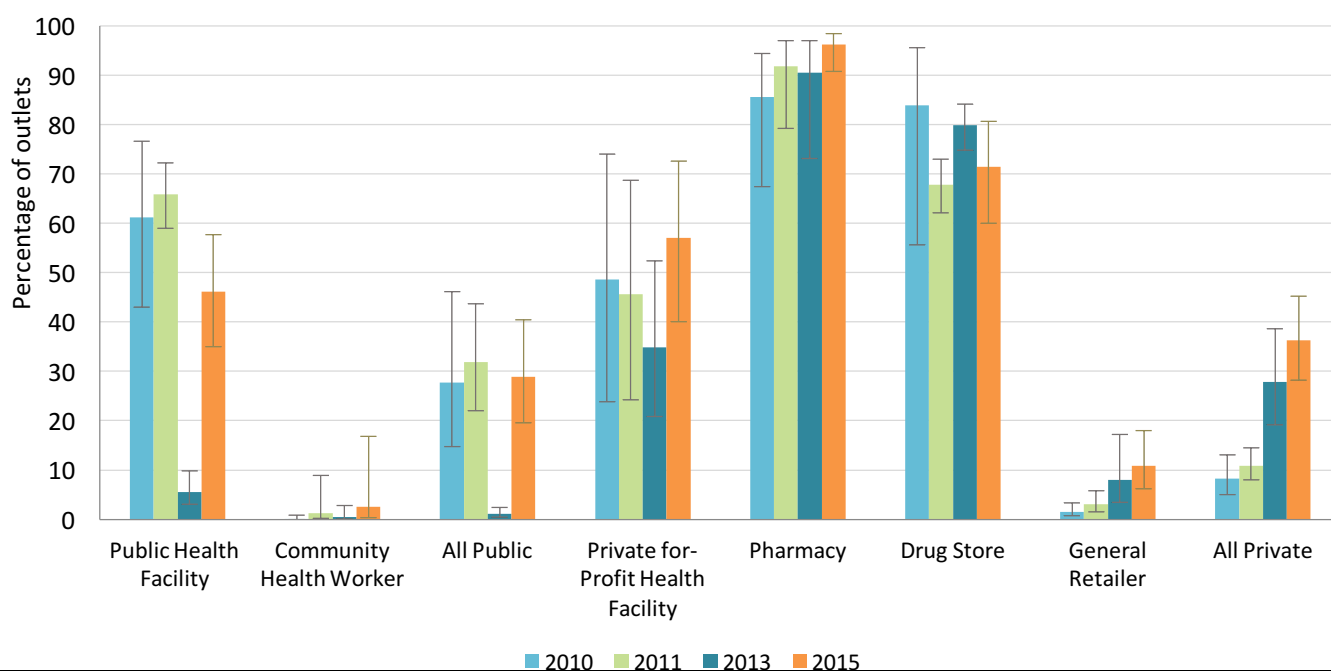
Among all outlets with at least one antimalarial in stock



Availability of non-artemisinin therapy among antimalarial-stocking outlets in urban versus rural areas was similar across all outlet types.

Figure 16. Percentage of antimalarial-stocking outlets with SP in stock on the day of the survey, 2010-2015

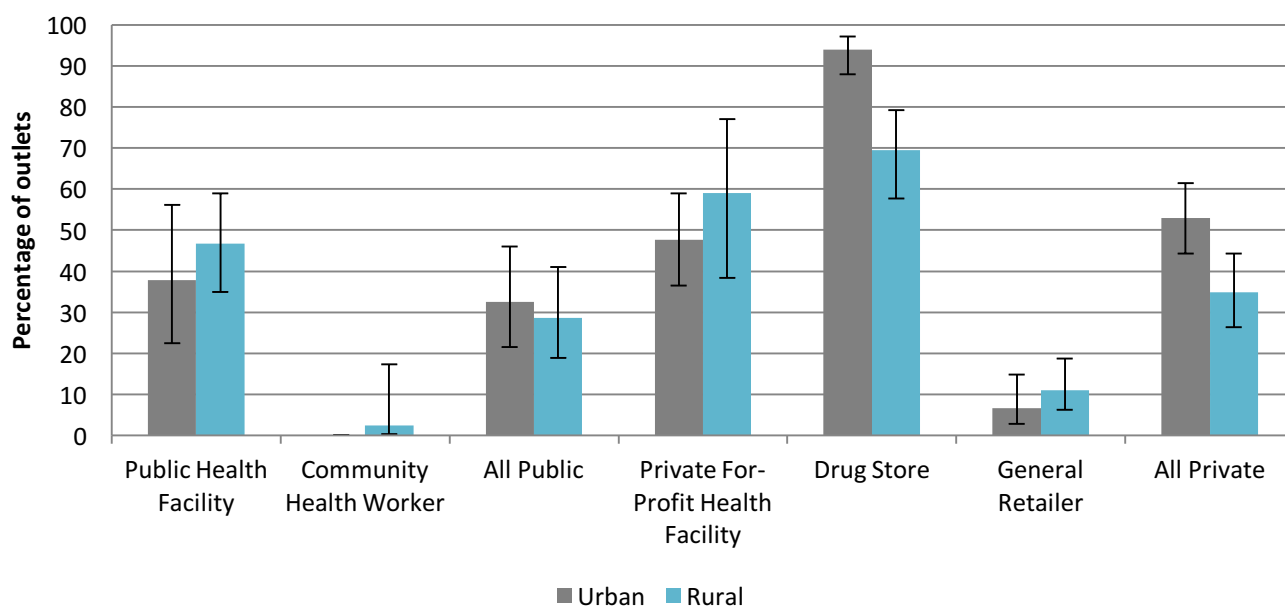
Among all outlets with at least one antimalarial in stock, across survey round



SP is no longer indicated for the case management of malaria, but is used for intermittent preventive therapy during pregnancy (IPTp). SP availability among antimalarial-stocking public health facilities was moderate in 2010 (61%) and 2011 (66%) but declined to 6% in 2013 and was 46% in 2015. In the private sector, SP availability has remained high among pharmacies over time, and it was 96% in 2015. Drug store availability has also remained high, and it was 72% in 2015. Availability among general retailers is low, and it was 11% in 2015.

Figure 17. Percentage of antimalarial-stocking outlets with SP in stock on the day of the survey, 2015, urban/rural

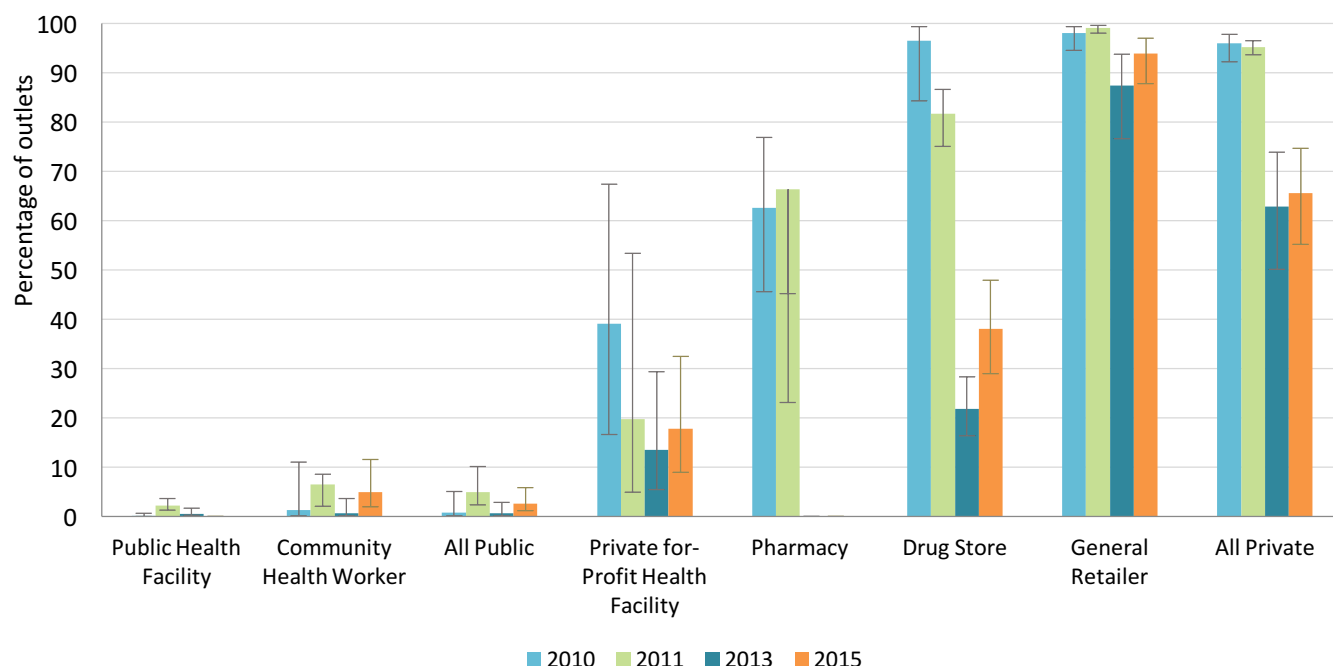
Among all outlets with at least one antimalarial in stock



SP availability was similar in urban versus rural areas across outlet types, with the exception of higher availability among antimalarial-stocking drug stores in urban (94%) versus rural areas (70%).

Figure 18. Percentage of antimalarial-stocking outlets with chloroquine in stock on the day of the survey, 2010-2015

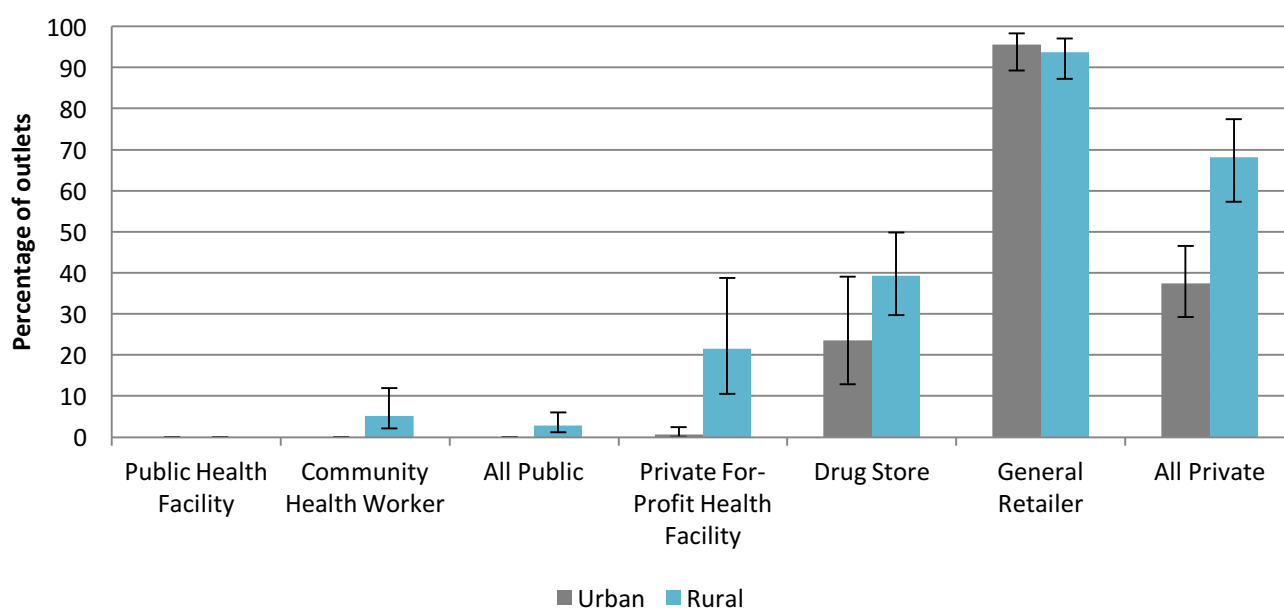
Among all outlets with at least one antimalarial in stock, across survey rounds



Chloroquine is no longer indicated for case management of malaria, and availability among public-sector antimalarial-stocking outlets was generally low across survey rounds. Within the private sector, chloroquine availability has declined over time in private for-profit health facilities (39%, 20%, 14%, 18%) and pharmacies (63%, 66%, 0%, 0%). Among drug stores, availability was high in 2010 (96%) and 2011 (82%) and declined to 22% in 2013. However, it increased to 38% in 2015. Availability remained high over time among general retail outlets, and it was 94% in 2015.

Figure 19. Percentage of antimalarial-stocking outlets with chloroquine in stock on the day of the survey, 2015, urban/rural

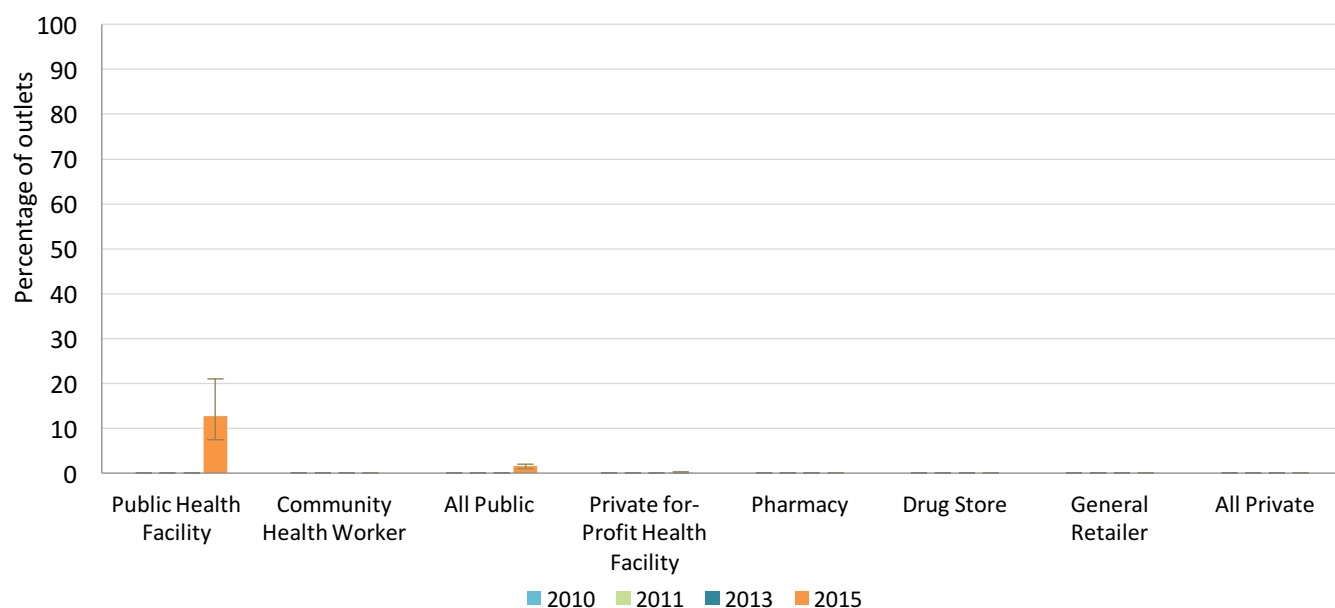
Among all outlets with at least one antimalarial in stock



Overall private-sector availability of chloroquine among antimalarial-stocking outlets was higher in rural (68%) versus urban areas (38%). This includes higher urban versus rural availability among private for-profit health facilities (22%, 1%) and drug stores (39%, 24%).

Figure 20. Percentage of antimalarial-stocking outlets with injectable artesunate in stock on the day of the survey, 2010-2015

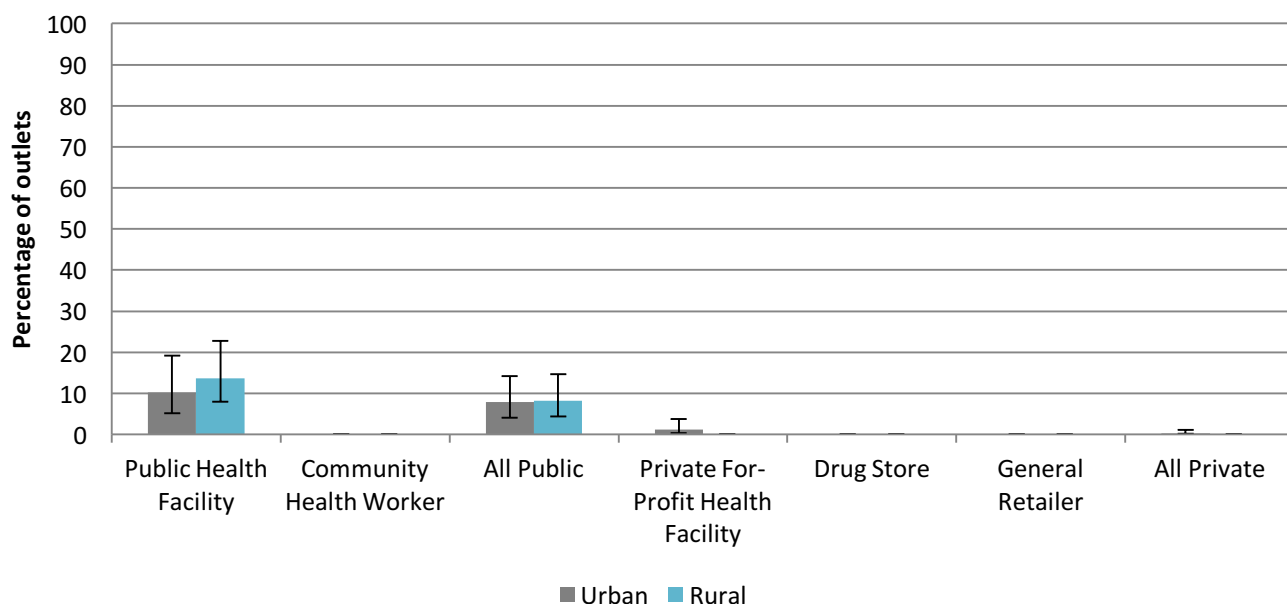
Among all outlets with at least one antimalarial in stock, across survey rounds



Injectable artesunate is the first-line treatment for severe malaria in Madagascar, and rollout was planned to take place by the end of 2015. 2015 availability remained low among public health facilities (14%) and private for-profit health facilities (<1%).

Figure 21. Percentage of antimalarial-stocking outlets with injectable artesunate in stock on the day of the survey, 2015, urban/rural

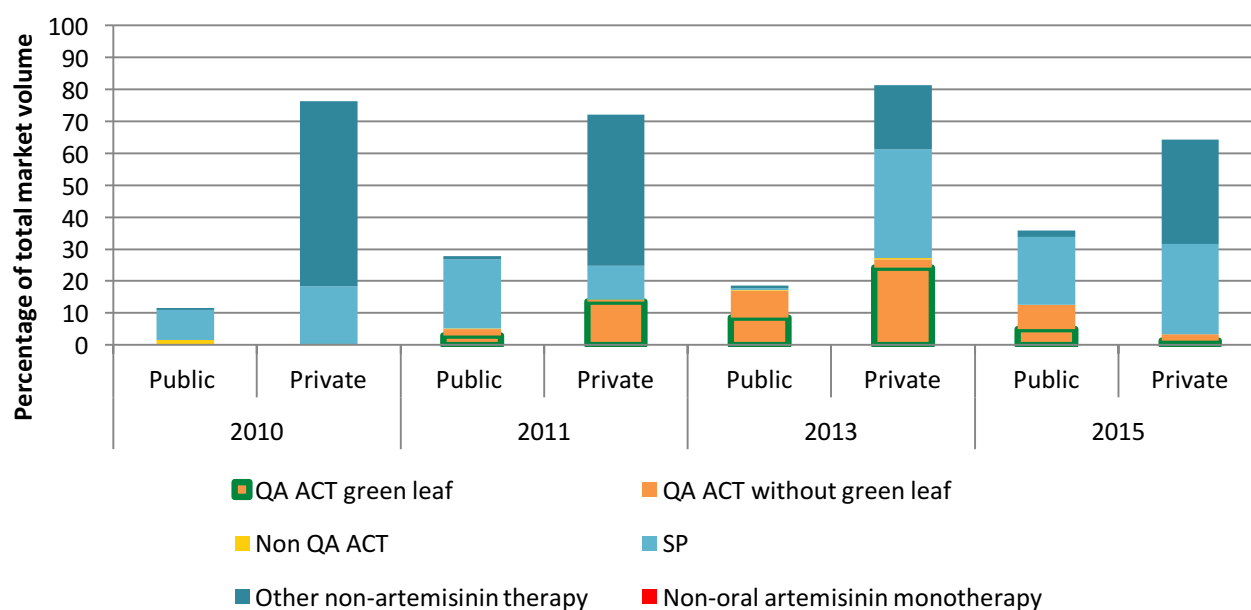
Among all outlets with at least one antimalarial in stock



Availability of injectable artesunate was similar in urban (10%) versus rural (14%) public health facilities.

Figure 22. Antimalarial market share, 2010-2015

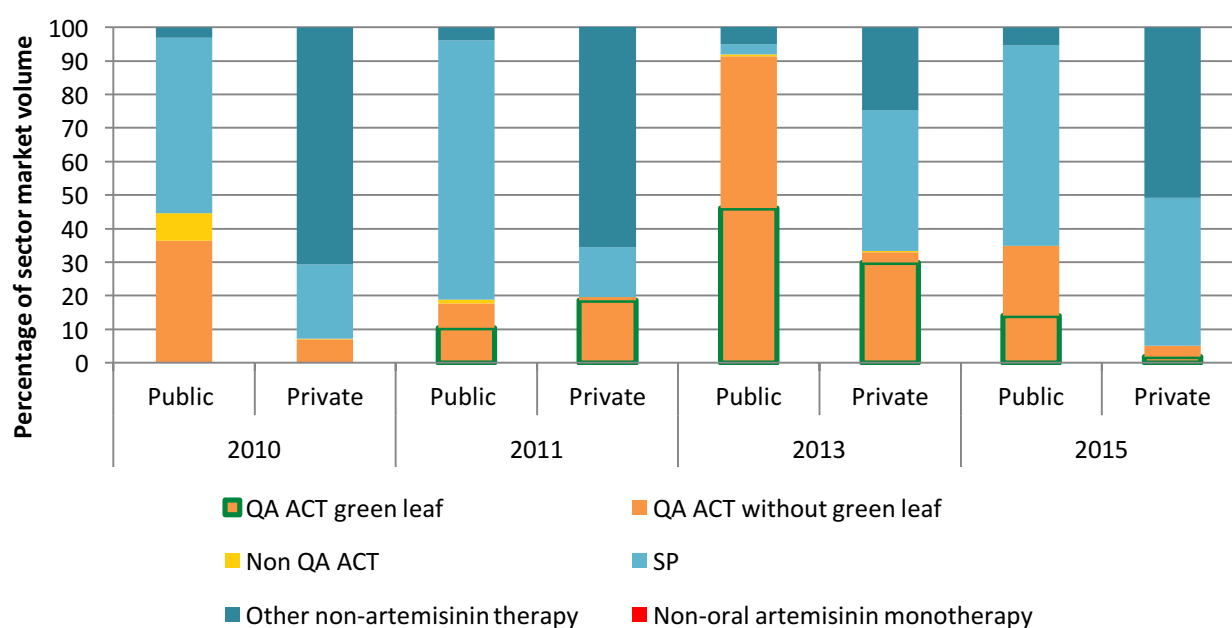
Relative market volume (sale/distribution) of antimalarial AETDs, by sector and antimalarial class, across survey round



The majority of antimalarials were distributed by the private sector during each survey round. Private-sector market share was 82% in 2010, 70% in 2011, 81% in 2013, and 64% in 2015. The majority of antimalarials distributed at each survey round were non-artemisinin therapies: 2010, 85%; 2011, 81%; 2013, 56%; 2015, 84%. In 2010 and 2011, non-artemisinin therapies other than SP were commonly distributed, namely chloroquine. In 2011, SP was most commonly distributed, with a market share of 35%. In 2015, half of all antimalarials distributed were SP treatments, and other non-artemisinin therapies, namely chloroquine, accounted for another 34% of all antimalarials distributed.

Figure 23. Antimalarial market share within sector, 2010-2015

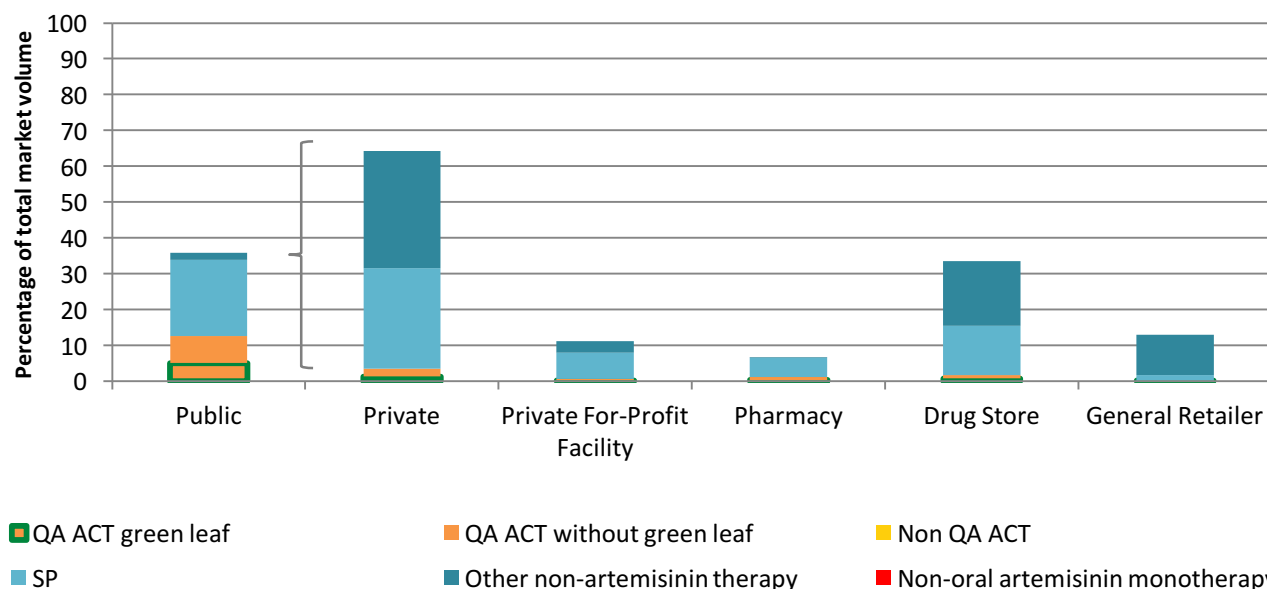
Relative market volume (sale/distribution) of antimalarial AETDs, within sector, by antimalarial class, across survey round



Within the public sector, market share for QA ACT varied at each survey round: 2010, 36%; 2011, 18%; 2013, 91%; and 2015, 35%. Aside from QA ACT, the primary antimalarial distributed in the public sector was SP at each survey round, although the public sector was experiencing stock outs for SP in 2013: 2010, 53%; 2011, 77%; 2013, 3%; 2015, 60%. Within the private sector, QA ACT market share increased from 7% in 2010 to 20% in 2011, and further to 33% in 2013. However, QA ACT market share reduced to just 5% in 2015. In 2010, non-artemisinin therapies accounted for 93% of all antimalarials distributed in the private sector.

Figure 24. Antimalarial market share, 2015

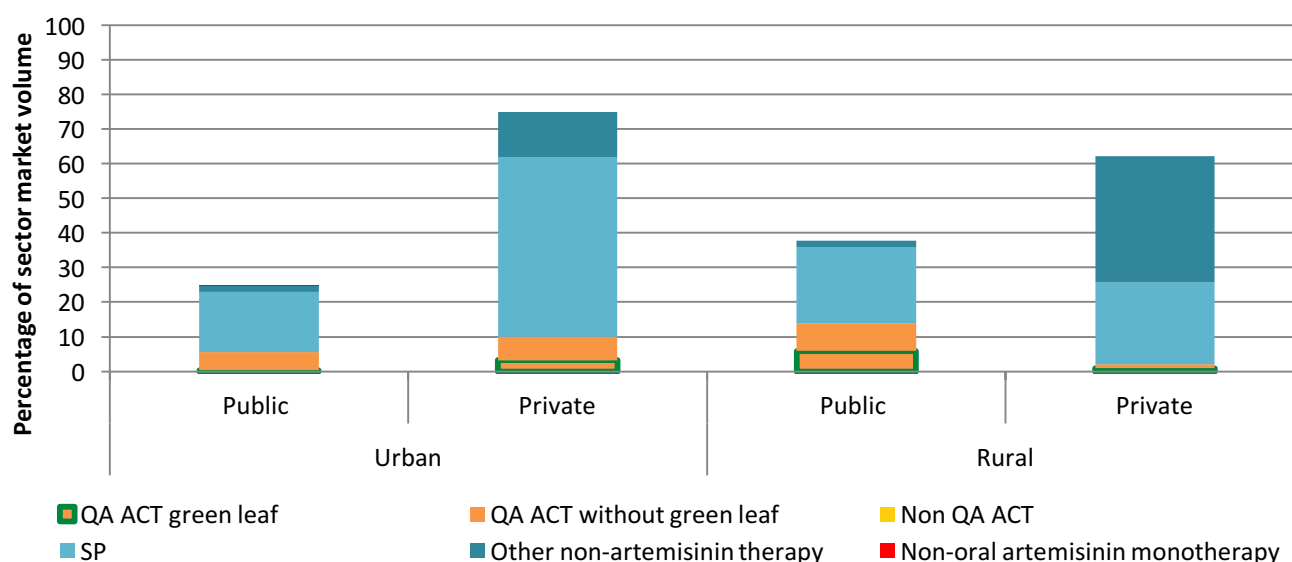
Relative market volume (sale/distribution) of antimalarial AETDs, by outlet type and antimalarial class



Private-sector market share in 2015 was comprised of relative market share for drug stores (33%) as well as general retailers (13%), private-for-profit health facilities (11%), and pharmacies (7%).

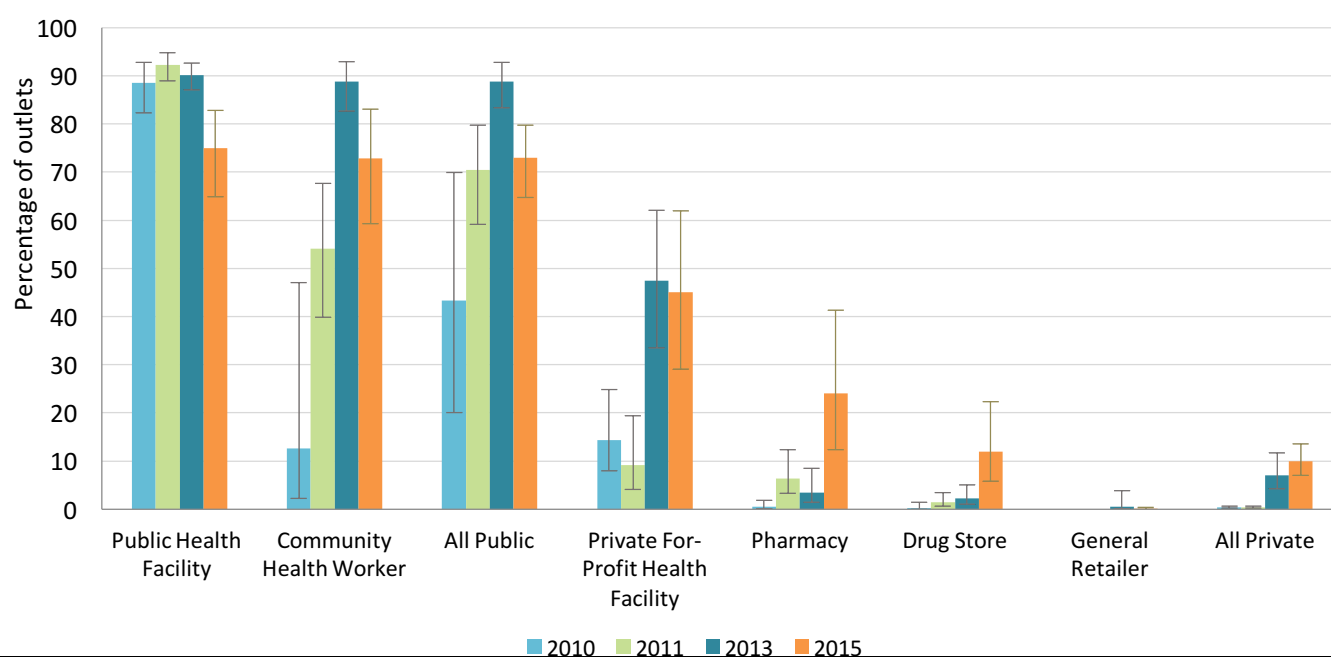
Figure 25. Antimalarial market share, 2015, urban/rural

Relative market volume (sale/distribution) of antimalarial AETDs, by sector and antimalarial class



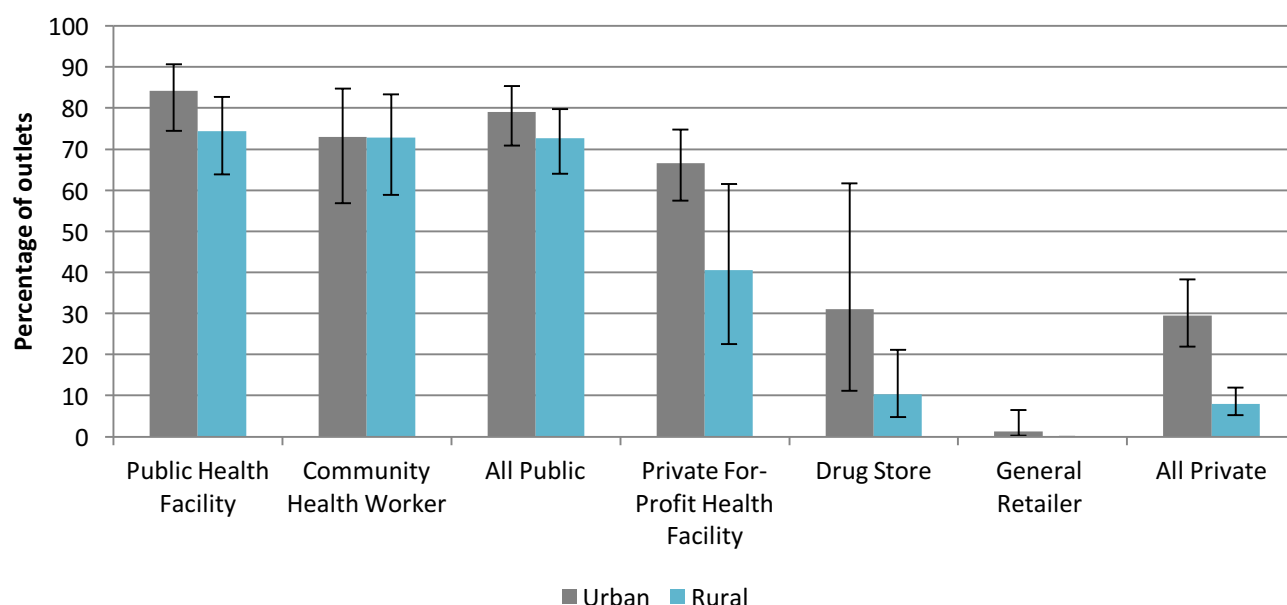
Market share for the private sector was slightly higher in urban (75%) versus rural areas (62%). In urban areas, market share was highest for pharmacies (32%) and drug stores (31%) and was very low for general retailers (3%). In rural areas, market share was highest for drug stores (34%), and general retailers had 15% of the market share. Market share for QA ACT was similar in urban (16%) and rural areas (16%). Non-artemisinin therapy was the most common type of antimalarial distributed in both urban (84%) and rural areas (84%). However, in urban areas, SP market share was 69% versus 46% in rural areas, meaning that distribution of other non-artemisinin therapies, namely chloroquine, was more common in rural versus urban areas.

Figure 26. Percentage of antimalarial-stocking outlets with malaria blood testing available, 2010-2015
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past three months, across survey round



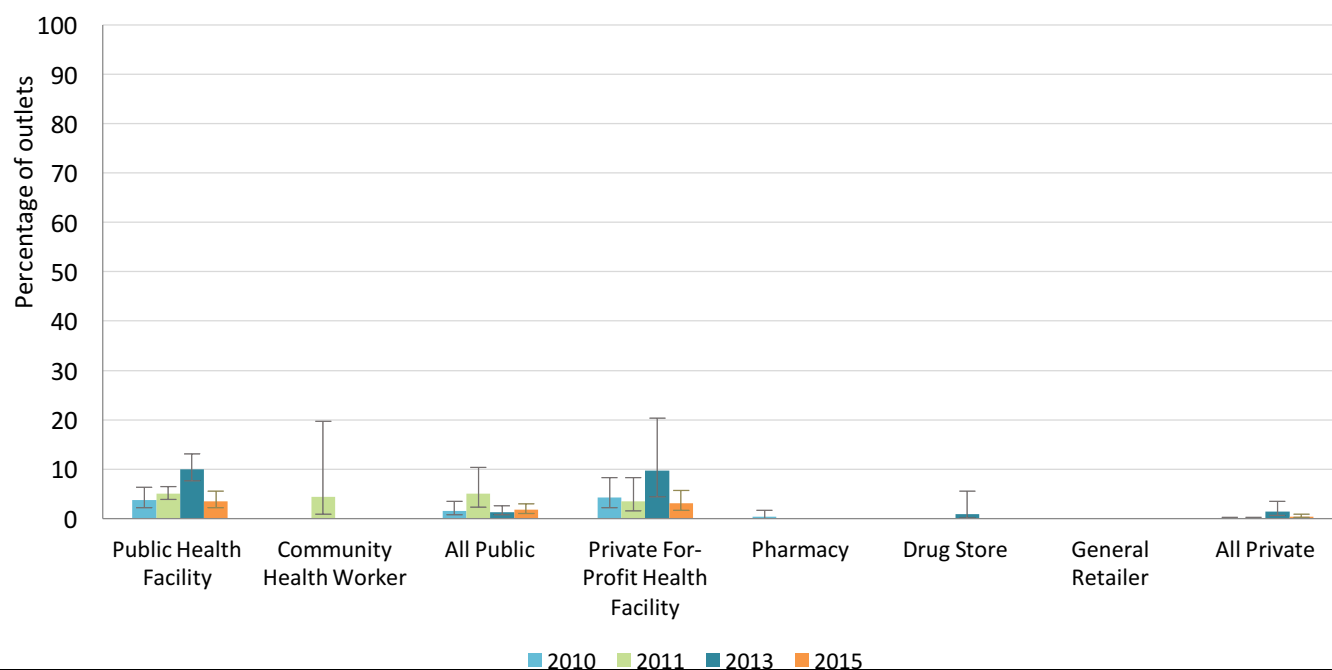
Among public health facilities stocking antimalarials, availability of malaria blood testing was high in 2010 (96%), 2011 (92%), and 2013 (90%), but declined to 75% in 2015. Availability among CHWs increased between 2010 (13%) and 2013 (89%), but declined to 73% in 2015. Within the private sector, malaria blood testing was available at more than 40% of private for-profit health facilities in 2013 (48%) and 2015 (45%) and among 24% of pharmacies, which was an increase over previous years (2010, 1%; 2011, 6%; 2013, 4%). There was also an increase in 2015 in malaria blood testing availability among drug stores from 2% in 2013 to 12% in 2015. Testing was generally not available among antimalarial-stocking general retailers (<1%).

Figure 27. Percentage of antimalarial-stocking outlets with malaria blood testing available, 2015, urban/rural
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past three months



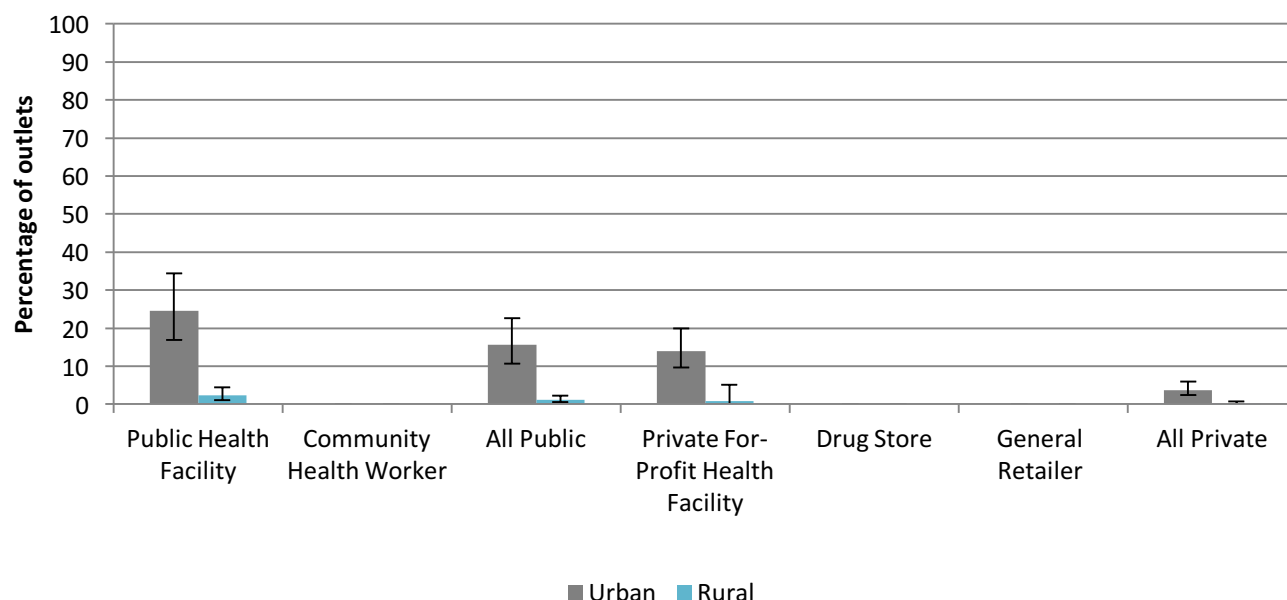
Data trends suggest higher availability of malaria blood testing among public health facilities in urban (84%) versus rural areas (74%). Overall private-sector availability of testing was higher in urban (29%) versus rural areas (8%). Data trends suggest higher availability in urban versus rural areas across all private-sector outlet types.

Figure 28. Percentage of antimalarial-stocking outlets with malaria microscopy available, 2010-2015
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past three months, across survey round



Availability of malaria microscopy was generally low among public and private health facilities. There was a decrease in availability between 2013 and 2015 among public health facilities (10%, 4%) as well as private for-profit health facilities (10%, 3%).

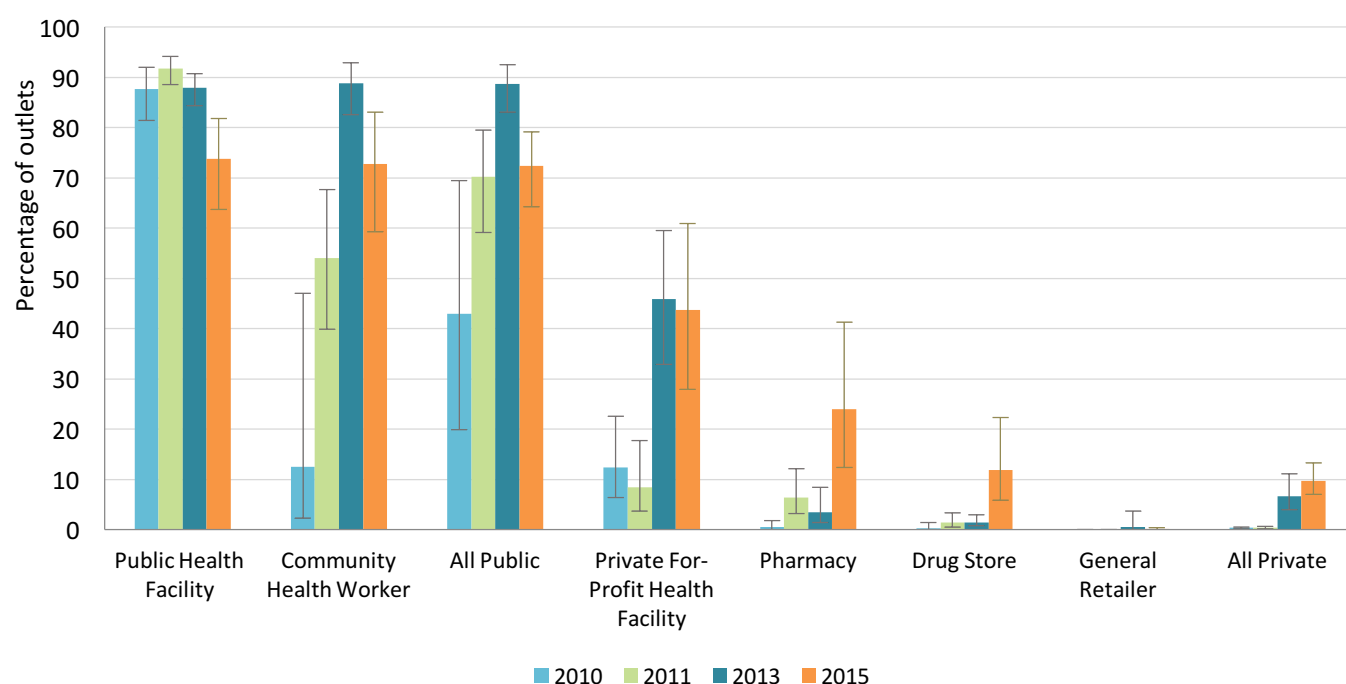
Figure 29. Percentage of antimalarial-stocking outlets with malaria microscopy available, 2015, urban/rural
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past three months



Malaria microscopy availability was generally restricted to urban areas, including among 25% of urban public health facilities compared with just 2% of rural public health facilities.

Figure 30. Percentage of antimalarial-stocking outlets with malaria RDTs, 2010-2015

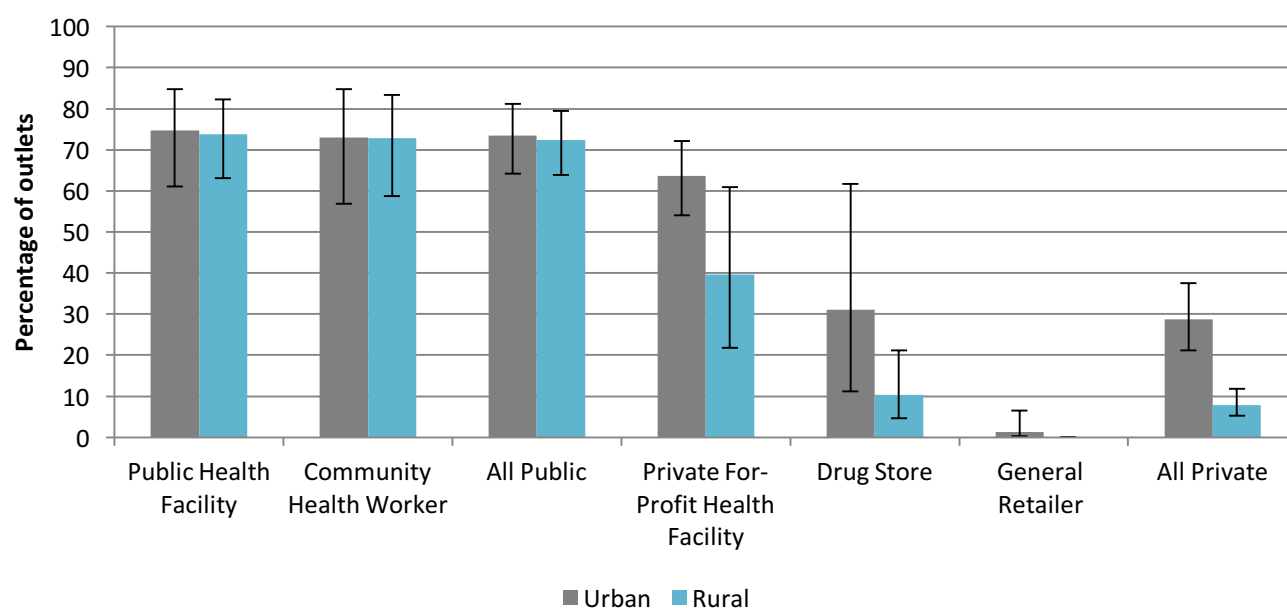
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past three months, across survey round



Among public health facilities stocking antimalarials, availability of malaria RDTs was high in 2010 (88%), 2011 (92%), and 2013 (88%), but declined to 74% in 2015. Availability among CHWs increased between 2010 (13%) and 2013 (89%), but declined to 73% in 2015. Within the private sector, malaria RDTs were available at more than 40% of private for-profit health facilities in 2013 (46%) and 2015 (44%) and among 24% of pharmacies, which was an increase over previous years (2010, 1%; 2011, 6%; 2013, 4%). There was also an increase in 2015 in malaria RDT availability among drug stores from 2% in 2013 to 12% in 2015. Malaria RDTs were generally not available among antimalarial-stocking general retailers (<1%).

Figure 31. Percentage of antimalarial-stocking outlets with malaria RDTs, 2015, urban/rural

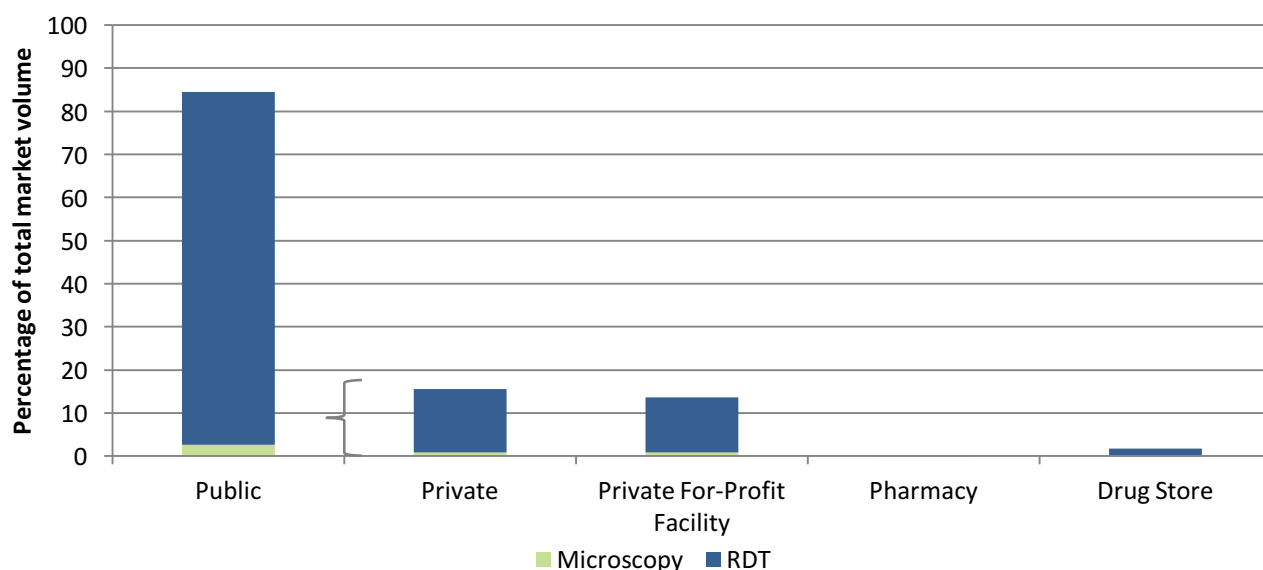
Among all outlets with at least one antimalarial in stock on the day of the survey or within the past three months, across urban and rural zones



Availability of malaria RDTs among antimalarial-stocking outlets was similar in urban versus rural areas among public-sector outlets. In the private sector, malaria RDT availability was 29% in urban areas compared to 8% in rural areas. Data trends suggest higher RDT availability in urban versus rural areas for all private-sector outlet types.

Figure 32. Malaria blood testing market share, 2015

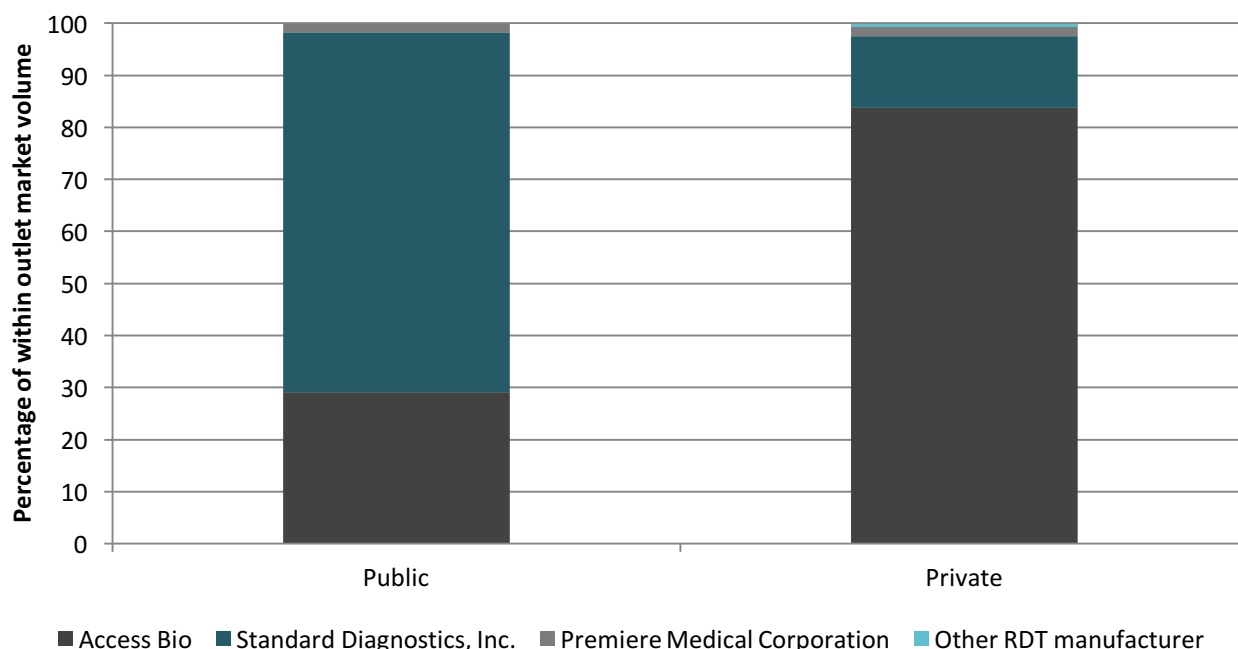
Relative market volume (sale/distribution) of malaria blood testing using RDTs and microscopy, by outlet type and type of test



The majority of malaria blood tests were provided by public-sector outlets (85%), and nearly all blood testing in Madagascar was performed using RDTs (97%). The private sector accounted for 16% of the malaria testing market share, and these tests were provided primarily by private for-profit health facilities (14% of the total market share).

Figure 33. Malaria RDT market share by manufacturer, across sector, 2015

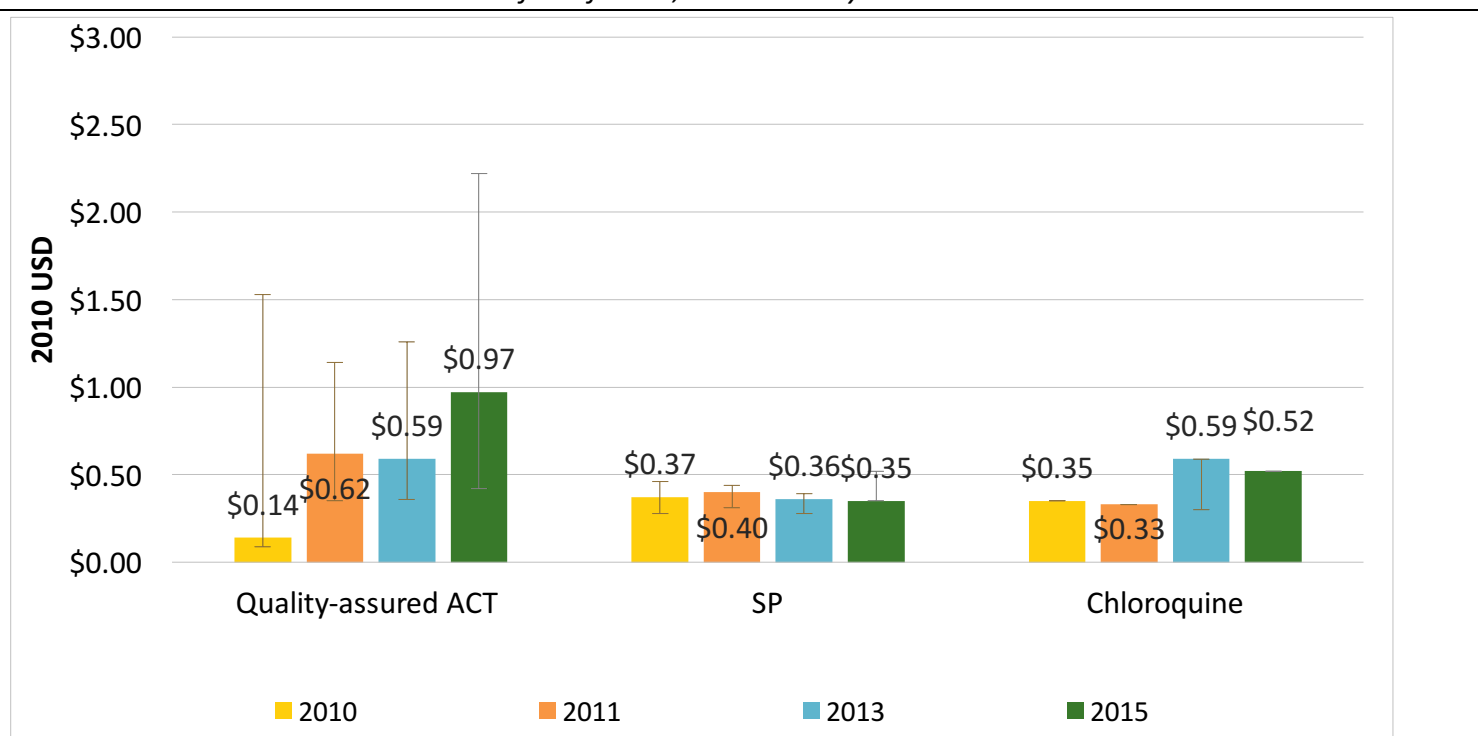
Relative market volume (sale/distribution) of malaria RDTs by manufacturer, within the public sector, private sector, and total market



In the public sector, Standard Diagnostics, Inc. accounted for the majority of malaria RDT market share at 67%. In the private sector, Access Bio accounted for the majority of malaria RDT market share at 79%.

Figure 34. Private-sector median price of antimalarial adult equivalent treatment dosages (AETD), 2010-2015

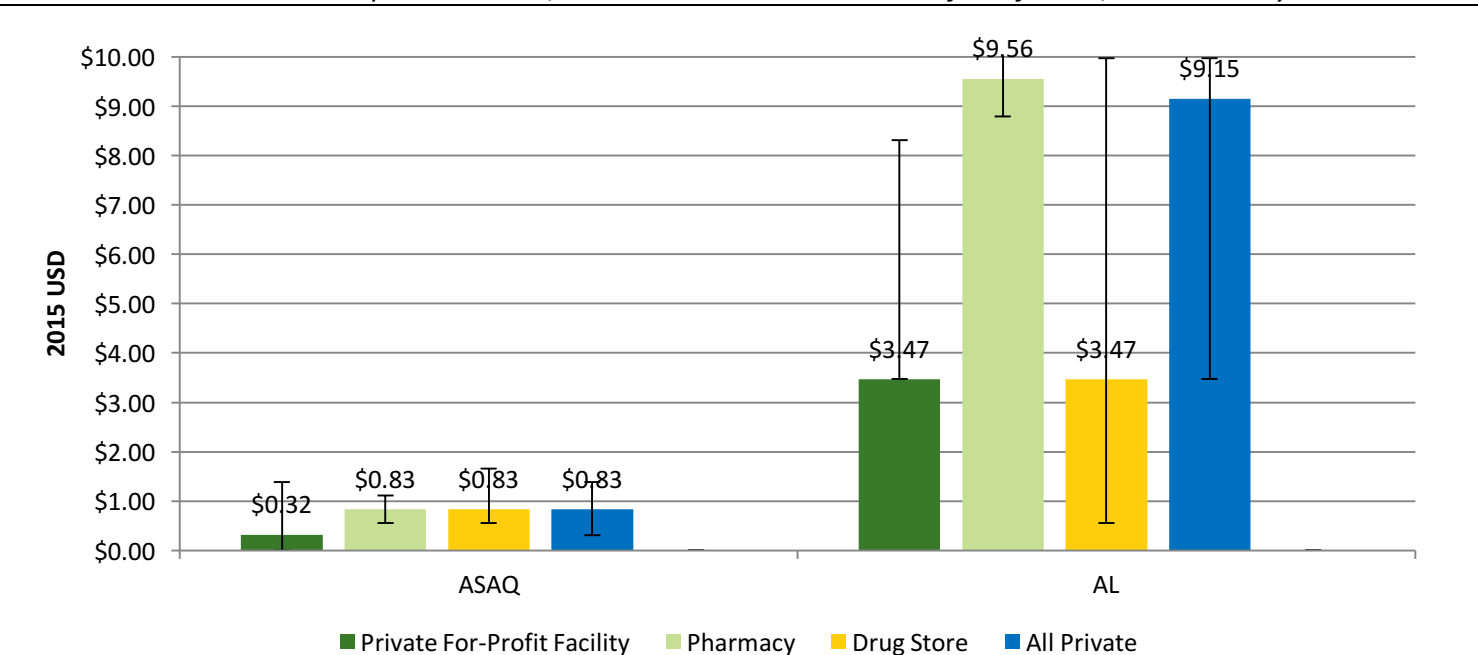
Among all SP and quality-assured ACT (tablet formulation only) available in the private sector, in 2010 US dollars to account for inflation, across survey round



The median private-sector price for one adult equivalent treatment dose (AETD) of QA ACT has increased over time. In 2015, QA ACT was nearly two times more expensive than chloroquine and nearly three times more expensive than SP.

Figure 35. Private-sector median price of antimalarial adult equivalent treatment dosages (AETD), by outlet type

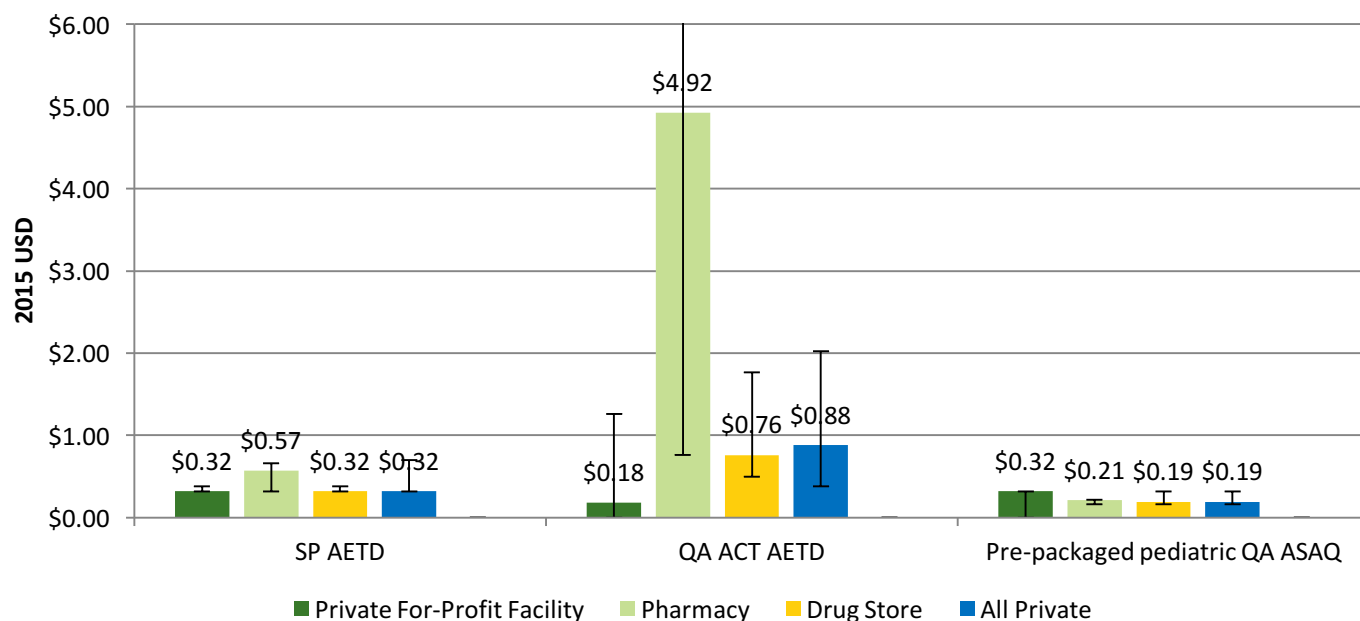
Among all quality-assured artesunate-amodiaquine (ASAQ) and artemether-lumefantrine (AL) available in the private sector, in 2015 US dollars to account for inflation, across survey round



ASAQ was cheaper than AL at all outlets.

Figure 36. Private-sector median price of SP and quality-assured ACT adult equivalent treatment dosages (AETD) and pre-packaged pediatric quality-assured ASAQ, 2015

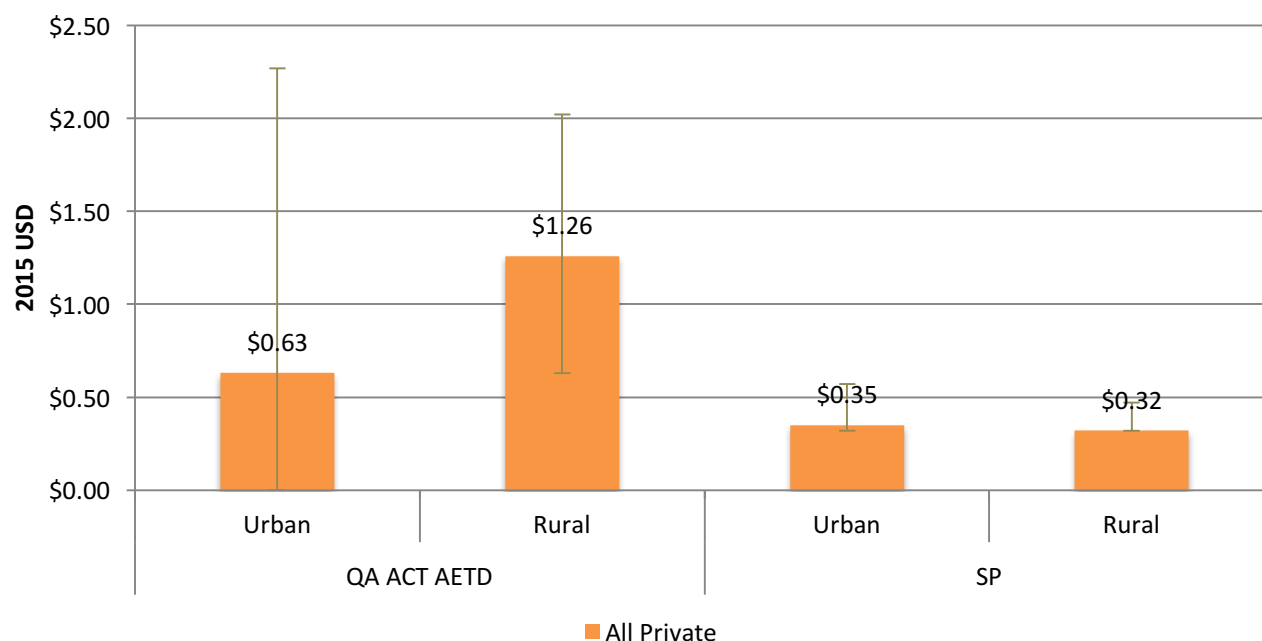
Among all SP, QA ACT, and pre-packaged pediatric (treatment for a two-year-old child) QA ASAQ (tablet formulation only) available in the private sector, in 2015 US Dollars



The 2015 median private-sector price for one AETD of QA ACT was lowest among private for-profit health facilities (\$0.18) and very high among pharmacies (\$4.92). Similarly, SP was more expensive in pharmacies (\$0.57), as compared to private facilities (\$0.32) and drug stores (\$0.32). The price of pre-packaged QA ASAQ for a two-year-old child was highest in private facilities (\$0.32) and lowest in drug stores (\$0.19).

Figure 37. Private-sector median price of SP and quality-assured ACT adult equivalent treatment dosages (AETD), 2015, urban/rural

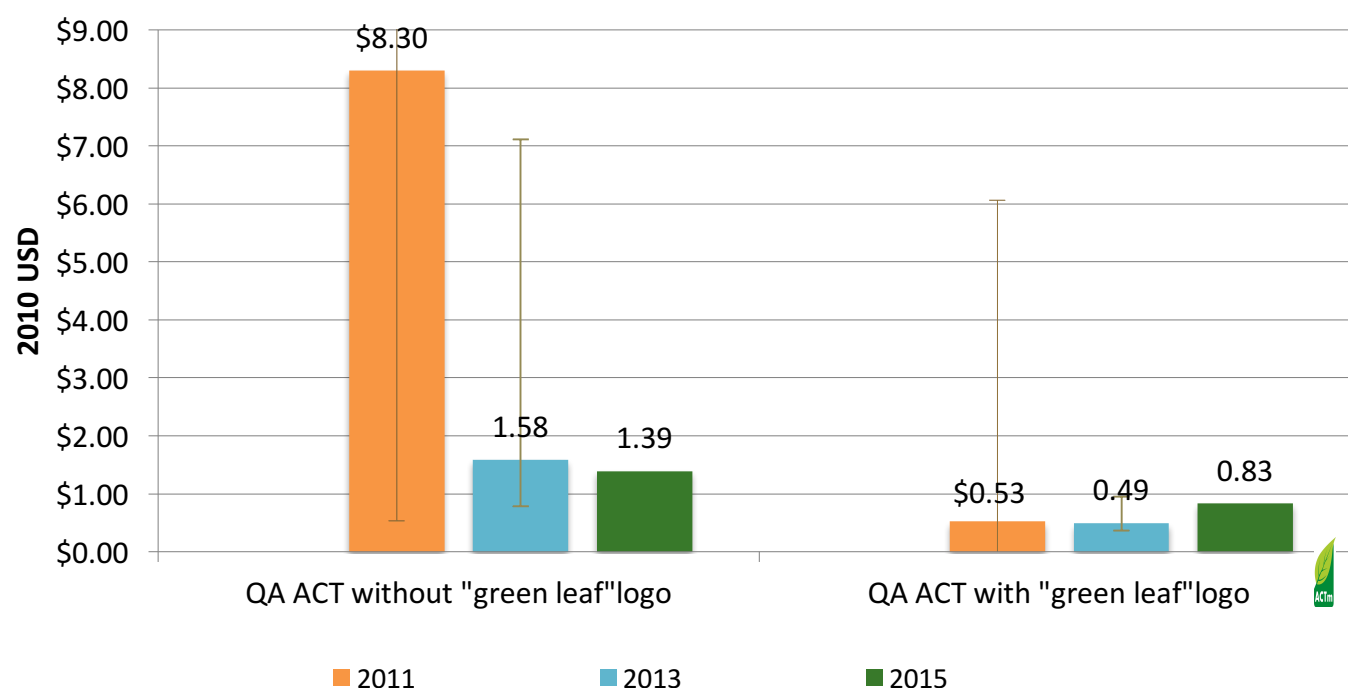
Among all SP and QA ACT, available in the private sector, in 2015 US Dollars, across survey round



The 2015 median private-sector price for one QA ACT AETD was \$0.63 in urban areas compared to \$1.26 in rural areas. The price of SP was similar in urban (\$0.35) and rural areas (\$0.32).

Figure 38. Private-sector median price of QA ACT adult equivalent treatment dosages (AETD) with and without the 'green leaf' logo, 2010-2015

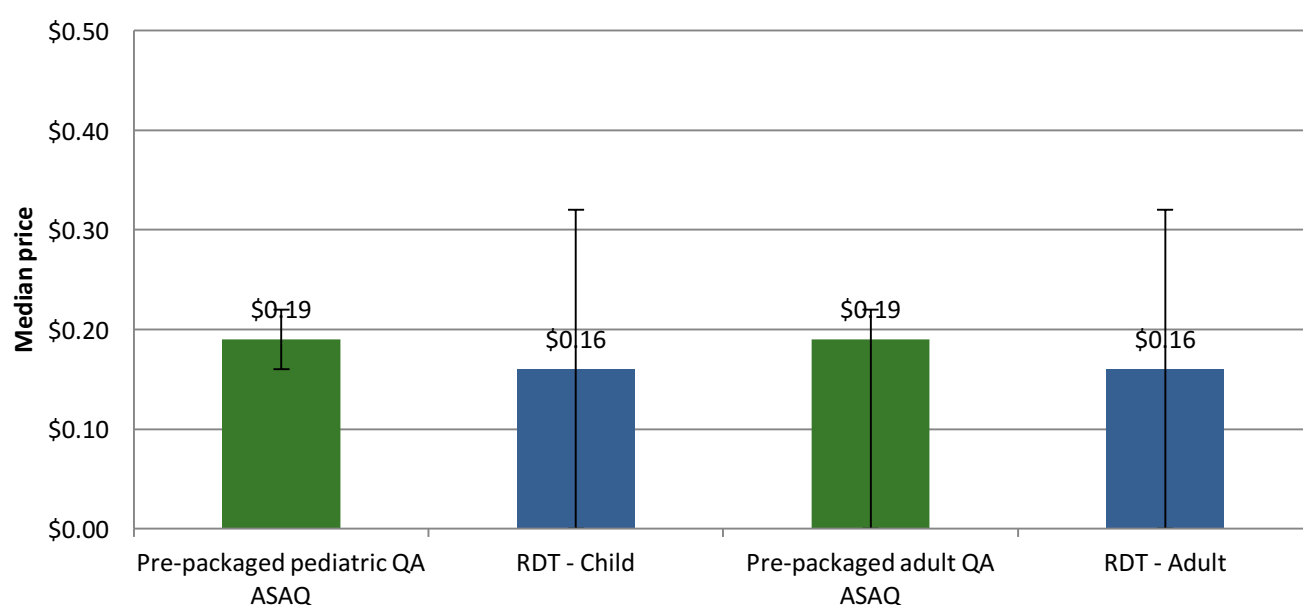
Among all quality-assured ACT (tablet formulation only) available in the private sector, in 2010 US dollars to account for inflation, across survey rounds



The median private-sector price for QA ACT with the 'green leaf' logo has been less expensive than QA ACT without the logo at each survey round. In 2015, QA ACT with the logo was about 1.5 times more expensive than QA ACT without the logo. The median price of QA ACT with the logo increased between 2013 and 2015, and the 2015 price was about 1.5 times more expensive than the 2013 price.

Figure 39. Median private-sector prices for malaria RDT testing and QA ACT for adults and children, 2015

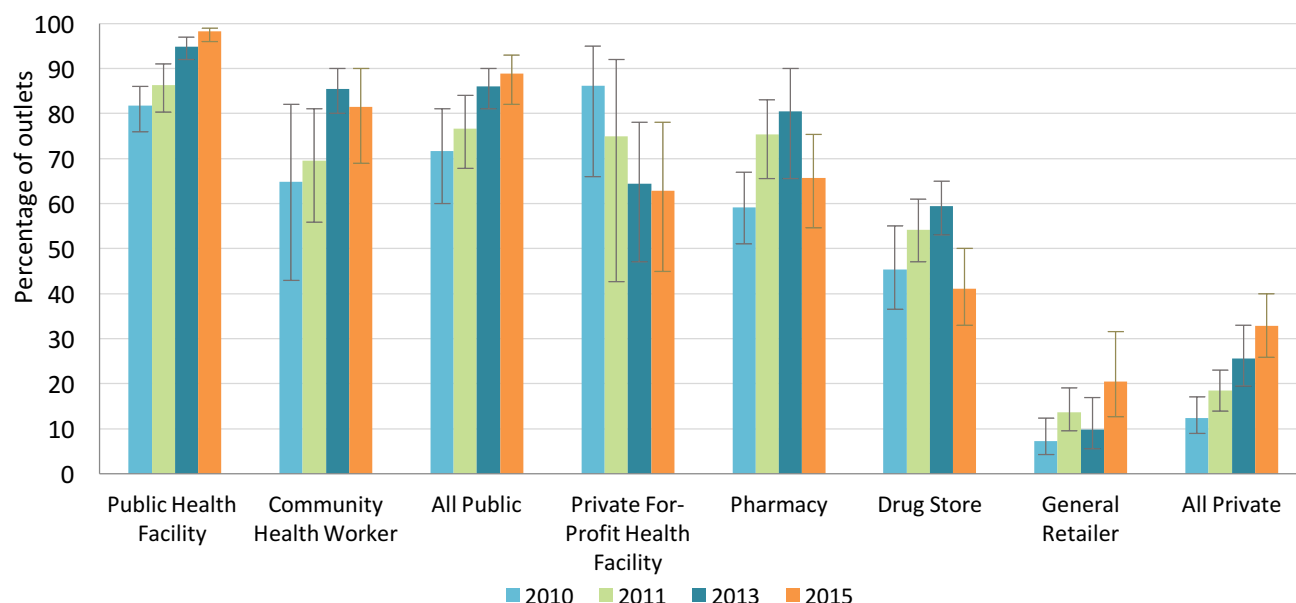
Among antimalarial-stocking outlets, in 2015 US dollars



The median private-sector price for malaria RDT testing for a child or adult was nearly the same cost as pre-packaged QA ASAQ treatment.

Figure 40. Percentage of providers who correctly state the first-line treatment for uncomplicated malaria, 2010-2015

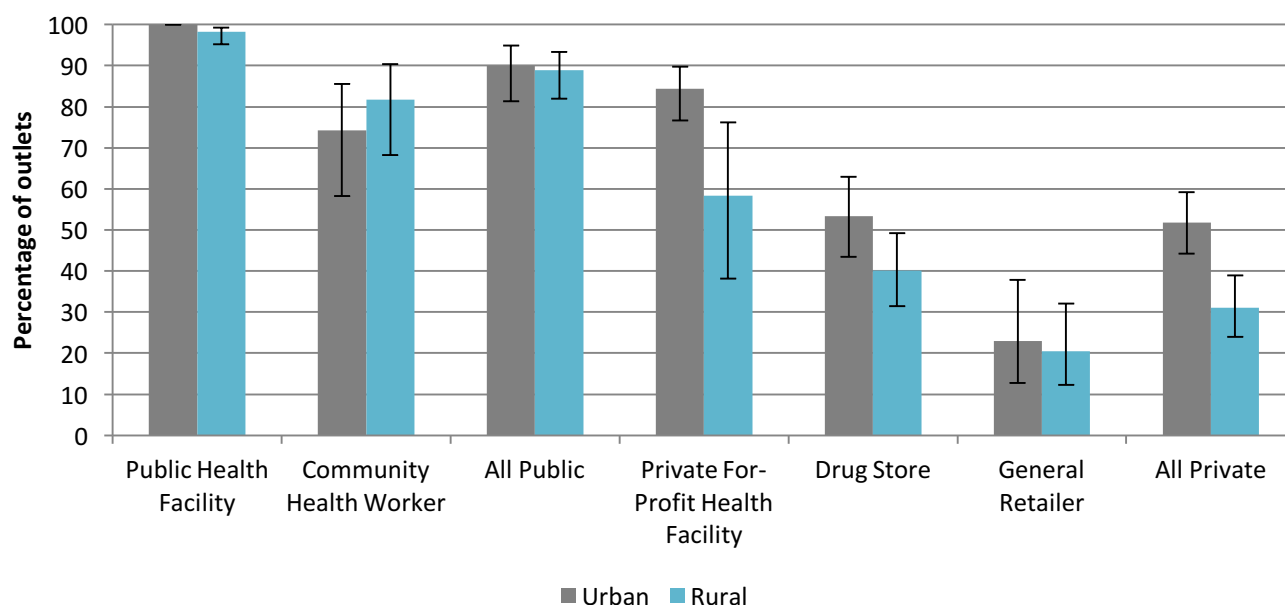
Among providers in outlets with at least one antimalarial in stock on the day of the survey or within the past three months, across survey round



Correct knowledge of the first-line treatment for uncomplicated malaria steadily increased over time within public health facilities, and 98% of providers had correct knowledge in 2015. Knowledge also increased over time among CHWs: from 65% in 2010 to 82% in 2015. Within the private sector, provider knowledge increased from 12% in 2010 to 33% in 2015. Data trends suggest an increase in provider knowledge among general retailers between 2013 and 2015, although overall only 21% of retailers could correctly state the first-line treatment. Data trends suggest a decrease in provider knowledge among other private outlet types between 2013 and 2015, including among private for-profit health facilities (64%, 63%), pharmacies (81%, 66%), and drug stores (59%, 41%).

Figure 41. Percentage of providers who correctly state the first-line treatment for uncomplicated malaria, 2015, urban/rural

Among providers in outlets with at least one antimalarial in stock on the day of the survey or within the past three months



Data trends suggest higher provider knowledge in urban versus rural areas within most outlet types. Across the total private sector, provider knowledge was higher in urban (52%) versus rural areas (31%).

Results Section A: Core Indicators

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	N=260	N=1,378	N=20	N=1,658	N=330	N=73	N=224	N=11,196	N=11,823	N=13,481
Any antimalarial at the time of survey visit	93.9 (88.5, 96.8)	8.4 (4.4, 15.4)	68.1 (53.2, 80.0)	19.2 (14.0, 25.8)	62.8 (50.5, 73.7)	99.4 (97.4, 99.9)	77.8 (59.8, 89.2)	5.0 (3.2, 7.6)	8.5 (6.5, 11.2)	11.0 (8.9, 13.7)
Any ACT	79.1 (69.2, 86.4)	7.7 (3.9, 14.3)	9.3 (1.7, 38.3)	16.4 (11.8, 22.5)	15.4 (8.9, 25.4)	96.2 (89.9, 98.6)	13.1 (8.4, 19.9)	0.1 (0.0, 0.4)	1.0 (0.7, 1.3)	4.6 (3.5, 6.0)
Artesunate-Amodiaquine Ψ	79.1 (69.1, 86.4)	7.7 (3.9, 14.3)	9.3 (1.7, 38.3)	16.4 (11.8, 22.5)	13.8 (7.8, 23.4)	70.6 (54.4, 82.9)	10.8 (7.0, 16.2)	0.1 (0.0, 0.4)	0.8 (0.6, 1.2)	4.5 (3.4, 5.9)
Artemether-Lumefantrine	0.5 (0.1, 2.7)	0.0 -	0.0 -	0.1 (0.0, 0.3)	2.2 (0.5, 8.2)	89.7 (81.8, 94.4)	2.7 (1.0, 6.9)	0.0 -	0.2 (0.1, 0.4)	0.2 (0.1, 0.3)
Quality-assured ACT (QA ACT)	78.4 (68.6, 85.8)	7.4 (3.9, 13.8)	9.3 (1.7, 38.3)	16.2 (11.6, 22.1)	15.4 (8.9, 25.4)	96.2 (89.9, 98.6)	13.1 (8.4, 19.9)	0.1 (0.0, 0.4)	1.0 (0.7, 1.3)	4.5 (3.4, 5.9)
QA ACT with the “green leaf” logo	39.5 (29.6, 50.3)	2.1 (0.7, 6.1)	3.4 (0.6, 17.7)	6.7 (4.4, 10.1)	10.6 (5.3, 20.1)	59.5 (42.8, 74.2)	8.2 (3.9, 16.3)	0.0 (0.0, 0.2)	0.6 (0.4, 0.9)	2.0 (1.4, 2.8)
QA ACT without the “green leaf” logo	74.6 (64.8, 82.4)	5.0 (2.5, 10.1)	8.9 (1.6, 37.3)	13.6 (9.9, 18.5)	9.4 (4.7, 18.1)	92.7 (85.8, 96.4)	5.5 (3.4, 8.9)	0.1 (0.0, 0.3)	0.5 (0.4, 0.8)	3.6 (2.7, 4.8)
QA Artesunate-Amodiaquine Ψ	78.4 (68.6, 85.8)	7.4 (3.9, 13.8)	9.3 (1.7, 38.3)	16.2 (11.6, 22.1)	13.8 (7.8, 23.4)	70.6 (54.4, 82.9)	10.8 (7.0, 16.2)	0.1 (0.0, 0.4)	0.8 (0.6, 1.2)	4.4 (3.3, 5.8)
Non-quality assured ACT (non-QA ACT)	0.7 (0.1, 3.8)	0.2 (0.0, 1.4)	0.0 -	0.3 (0.1, 1.1)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.1 (0.0, 0.3)
Nationally Registered ACT	79.1 (69.2, 86.4)	7.4 (3.9, 13.8)	9.3 (1.7, 38.3)	16.3 (11.7, 22.1)	15.4 (8.9, 25.4)	96.2 (89.9, 98.6)	13.1 (8.4, 19.9)	0.1 (0.0, 0.4)	1.0 (0.7, 1.3)	4.5 (3.5, 5.9)
Any non-artemisinin therapy	71.1 (62.0, 78.8)	0.7 (0.3, 1.9)	65.7 (54.2, 75.6)	9.8 (7.4, 12.8)	61.5 (49.2, 72.5)	99.4 (97.4, 99.9)	77.8 (59.8, 89.2)	4.9 (3.2, 7.5)	8.4 (6.4, 11.0)	8.7 (7.0, 10.9)
Sulfadoxine Pyrimethamine	43.4 (32.9, 54.5)	0.2 (0.0, 1.4)	10.0 (1.8, 39.5)	5.6 (3.9, 7.9)	35.9 (26.1, 46.9)	95.6 (90.5, 98.0)	55.6 (38.8, 71.2)	0.5 (0.3, 1.0)	3.1 (2.4, 4.0)	3.7 (2.9, 4.6)
Chloroquine	0.0 -	0.4 (0.1, 1.3)	24.9 (12.3, 44.0)	0.5 (0.2, 1.3)	11.2 (5.2, 22.4)	0.0 -	29.6 (22.7, 37.4)	4.7 (3.0, 7.3)	5.6 (3.8, 8.2)	4.4 (2.9, 6.5)
Oral quinine	11.7 (7.1, 18.7)	0.0 -	2.4 (0.3, 14.9)	1.5 (0.9, 2.3)	8.8 (4.5, 16.5)	34.7 (24.0, 47.3)	6.6 (3.0, 14.1)	0.0 -	0.4 (0.3, 0.7)	0.7 (0.5, 0.9)

Table A1: Availability of antimalarials, among all screened outlets, by outlet type

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	%	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	N=260	N=1,378	N=20	N=1,658	N=330	N=73	N=224	N=11,196	N=11,823	N=13,481
Other non-artemisinin therapy ^	9.7 (5.4, 16.6)	0.0 -	0.0 -	1.2 (0.6, 2.2)	0.2 (0.0, 0.7)	11.7 (4.7, 26.2)	0.0 -	0.0 -	0.0 -	0.3 (0.2, 0.5)
Oral artemisinin monotherapy	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
Non-oral artemisinin monotherapy	12.7 (7.5, 20.8)	0.0 -	1.0 (0.1, 7.9)	1.6 (0.9, 2.7)	0.1 (0.0, 0.4)	1.8 (0.6, 5.2)	0.0 -	0.0 -	0.0 -	0.4 (0.2, 0.7)
Any treatment for severe malaria	50.8 (40.5, 61.1)	0.2 (0.1, 0.8)	61.8 (53.7, 69.4)	6.8 (5.0, 9.1)	50.2 (37.2, 63.2)	76.5 (61.3, 87.0)	53.9 (37.6, 69.3)	0.1 (0.0, 0.4)	2.9 (2.3, 3.7)	3.8 (3.1, 4.7)
Artesunate IV/IM #	12.7 (7.4, 20.8)	0.0 -	1.0 (0.1, 7.9)	1.6 (0.9, 2.7)	0.1 (0.0, 0.4)	0.0 -	0.0 -	0.0 -	0.0 -	0.4 (0.2, 0.6)
Artemether IV/IM	0.1 (0.0, 0.6)	0.0 -	0.0 -	0.0 (0.0, 0.1)	0.0 -	1.8 (0.6, 5.2)	0.0 -	0.0 -	0.0 -	0.0 -
Quinine IV/IM	44.0 (33.9, 54.6)	0.2 (0.1, 0.8)	60.8 (52.9, 68.2)	5.9 (4.3, 8.1)	50.2 (37.2, 63.2)	76.5 (61.3, 87.0)	53.9 (37.6, 69.3)	0.1 (0.0, 0.4)	2.9 (2.3, 3.7)	3.6 (2.9, 4.5)

* The denominator includes 6 outlets that met screening criteria for a full interview but did not complete the interview (were not interviewed or completed a partial interview).

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, Artesunate Amodiaquine was the first-line treatment for uncomplicated malaria.

^ Note the other types of non-artemisinin therapy include; atovaquone-proguanil and halofantrine.

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table A2: Availability of antimalarials, among outlets stocking at least one antimalarial, by outlet type

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	N=244	N=92	N=16	N=352	N=167	N=72	N=189	N=260	N=688	N=1,040
Any ACT	84.2 (73.9, 91.0)	91.1 (79.9, 96.4)	13.6 (2.8, 46.7)	85.5 (78.2, 90.6)	24.5 (13.5, 40.3)	96.7 (90.0, 99.0)	16.9 (11.6, 23.8)	2.7 (1.0, 7.0)	11.2 (8.0, 15.4)	41.5 (32.5, 51.0)
Artesunate-Amodiaquine Ψ	84.2 (73.9, 91.0)	91.1 (79.9, 96.4)	13.6 (2.8, 46.7)	85.4 (78.2, 90.6)	22.0 (12.0, 36.9)	71.0 (54.7, 83.3)	13.9 (9.6, 19.7)	2.7 (1.0, 7.0)	9.6 (7.0, 13.1)	40.5 (31.8, 49.9)
Artemether-Lumefantrine	0.5 (0.1, 2.8)	0.0 -	0.0 -	0.3 (0.1, 1.8)	3.4 (0.8, 13.1)	90.2 (82.4, 94.8)	3.5 (1.4, 8.3)	0.0 -	2.8 (1.5, 5.4)	1.8 (1.0, 3.2)
Quality-assured ACT (QA ACT)	83.6 (73.4, 90.4)	88.6 (75.2, 95.2)	13.6 (2.8, 46.7)	84.1 (76.9, 89.3)	24.5 (13.5, 40.3)	96.7 (90.0, 99.0)	16.9 (11.6, 23.8)	2.7 (1.0, 7.0)	11.2 (8.0, 15.4)	40.9 (32.1, 50.3)
QA ACT with the “green leaf” logo	42.0 (31.8, 53.0)	25.0 (9.1, 52.7)	5.0 (1.0, 22.1)	34.8 (23.8, 47.7)	16.9 (8.2, 31.7)	59.9 (43.0, 74.6)	10.5 (5.7, 18.7)	0.5 (0.1, 3.2)	6.6 (4.0, 10.5)	18.1 (12.4, 25.6)
QA ACT without the “green leaf” logo	79.5 (69.2, 87.0)	60.0 (43.0, 74.9)	13.1 (2.6, 45.4)	70.7 (61.3, 78.7)	15.0 (7.1, 28.7)	93.3 (86.4, 96.8)	7.1 (4.1, 12.2)	1.7 (0.5, 6.0)	6.4 (4.1, 9.9)	32.6 (25.1, 41.2)
QA Artesunate Amodiaquine Ψ	83.5 (73.3, 90.4)	88.6 (75.2, 95.2)	13.6 (2.8, 46.7)	84.1 (76.9, 89.3)	22.0 (12.0, 36.9)	71.0 (54.7, 83.3)	13.9 (9.6, 19.7)	2.7 (1.0, 7.0)	9.6 (7.0, 13.1)	40.0 (31.4, 49.2)
Non-quality assured ACT (non-QA ACT)	0.8 (0.2, 4.0)	2.6 (0.5, 11.9)	0.0 -	1.5 (0.4, 5.1)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.6 (0.2, 2.2)
Nationally Registered ACT	84.2 (73.9, 91.0)	88.6 (75.2, 95.2)	13.6 (2.8, 46.7)	84.5 (77.3, 89.7)	24.5 (13.5, 40.3)	96.7 (90.0, 99.0)	16.9 (11.6, 23.8)	2.7 (1.0, 7.0)	11.2 (8.0, 15.4)	41.1 (32.3, 50.5)
Any non-artemisinin therapy	75.8 (66.2, 83.3)	8.9 (3.6, 20.1)	96.5 (81.3, 99.4)	50.7 (39.2, 62.2)	97.8 (95.8, 98.9)	100.0 -	100.0 -	97.8 (94.1, 99.2)	98.5 (96.7, 99.3)	79.0 (70.4, 85.6)
Sulfadoxine Pyrimethamine	46.2 (35.0, 57.7)	2.5 (0.3, 16.8)	14.7 (3.1, 48.1)	28.9 (19.5, 40.5)	57.1 (40.0, 72.6)	96.2 (90.8, 98.5)	71.5 (60.1, 80.7)	10.8 (6.2, 18.0)	36.3 (28.2, 45.3)	33.3 (26.2, 41.3)
Chloroquine	0.0 -	5.0 (2.0, 11.6)	36.6 (20.5, 56.3)	2.6 (1.2, 5.8)	17.8 (8.9, 32.5)	0.0 -	38.0 (29.0, 47.9)	93.8 (87.8, 97.0)	65.6 (55.2, 74.7)	39.9 (30.7, 49.9)
Oral quinine	12.5 (7.6, 19.9)	0.1 (0.0, 0.5)	3.5 (0.6, 18.7)	7.6 (4.7, 12.1)	13.9 (6.9, 26.0)	34.9 (24.2, 47.5)	8.5 (4.3, 16.3)	0.0 -	4.9 (3.2, 7.5)	6.0 (4.2, 8.5)
Other non-artemisinin therapy ^	10.3 (5.8, 17.6)	0.0 -	0.0 -	6.2 (3.3, 11.3)	0.2 (0.0, 1.2)	11.7 (4.7, 26.4)	0.0 -	0.0 -	0.2 (0.1, 0.5)	2.6 (1.4, 4.9)
Oral artemisinin monotherapy	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
Non-oral artemisinin monotherapy	13.6 (8.0, 22.1)	0.0 -	1.5 (0.2, 10.2)	8.2 (4.5, 14.2)	0.2 (0.1, 0.7)	1.8 (0.6, 5.2)	0.0 -	0.0 -	0.1 (0.0, 0.1)	3.4 (1.8, 6.1)
Any treatment for severe malaria	54.1 (43.4, 64.5)	2.6 (0.6, 10.8)	90.8 (66.9, 98.0)	35.2 (26.6, 44.9)	79.9 (65.0, 89.5)	77.0 (61.5, 87.5)	69.3 (57.2, 79.2)	2.3 (0.8, 6.0)	33.8 (26.3, 42.2)	34.4 (27.8, 41.6)

Artesunate IV/IM #	13.5 (7.9, 22.0)	0.0 -	1.5 (0.2, 10.2)	8.1 (4.5, 14.2)	0.2 (0.1, 0.7)	0.0 -	0.0 -	0.0 -	0.0 (0.0, 0.1)	3.3 (1.8, 6.0)
Artemether IV/IM	0.1 (0.0, 0.6)	0.0 -	0.0 -	0.1 (0.0, 0.4)	0.0 -	1.8 (0.6, 5.2)	0.0 -	0.0 -	0.0 (0.0, 0.1)	0.0 (0.0, 0.1)
Quinine IV/IM	46.9 (36.3, 57.7)	2.6 (0.6, 10.8)	89.4 (63.2, 97.6)	30.8 (22.9, 40.0)	79.9 (65.0, 89.5)	77.0 (61.5, 87.5)	69.3 (57.2, 79.2)	2.3 (0.8, 6.0)	33.8 (26.3, 42.2)	32.6 (26.3, 39.6)
<p>* Antimalarial-stocking outlets have at least one antimalarial in stock on the day of the survey, verified by presence of at least one antimalarial recorded in the antimalarial audit sheet. The denominator includes one outlet that met screening criteria for a full interview but did not complete the interview (were not interviewed or completed a partial interview).</p> <p>Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, Artesunate Amodiaquine was the first-line treatment for uncomplicated malaria.</p> <p>^ Note the other types of non-artemisinin therapy included atovaquone-proguanil and halofantrine.</p> <p># At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.</p>										
Source: ACTwatch Outlet Survey, Madagascar, 2015.										

Table A3: Types of quality-assured and Non-quality assured ACTs audited in the public and private sector				
ACT generic name and formulation	Quality-assured ACT		Non-Quality Assured ACT	
	Public sector	Private sector	Public Sector	Private Sector
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of all audited antimalarials:	N audited=943	N audited=558	N audited=4	N audited=0
Tablet formulation:				
Artesunate amodiaquine	99.8 (99.3, 100)	80.1 (72.7, 87.2)	96.5 (70.5, 99.7)	--
Artemether lumefantrine	0.2 (0.0, 0.7)	19.0 (12.8, 27.4)	0.0	--
Artemisinin naphthoquine	0.0 -	0.0 -	3.5 (0.3, 29.5)	--
Source: ACTwatch Outlet Survey, Madagascar, 2015.				

Table A4: Antimalarial market composition									
Outlet type, among outlets with at least 1 antimalarial in stock on the day of the survey:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
	%	%	%	%	%	%	%	%	%
N=809 outlets	16.6 (11.2, 23.8)	18.8 (10.9, 30.3)	1.0 (0.3, 3.6)	36.3 (25.8, 48.3)	9.7 (6.2, 14.9)	0.6 (0.3, 1.2)	13.7 (8.7, 20.8)	39.6 (30.3, 49.8)	63.7 (51.7, 74.2)
* Excluding booster sample outlets. Outlets with at least one antimalarial in stock on the day of the survey, verified by presence of at least one antimalarial recorded in the antimalarial audit sheet.									
Source: ACTwatch Outlet Survey, Madagascar, 2015.									

Table A5a: Price of tablet formulation antimalarials, by outlet type

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
Median price of a tablet AETD*:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
QA ACT ~	\$0.18 [0.00-1.26] ⁽¹⁷⁸⁾	\$4.92 [0.76-8.71] ⁽²⁶⁶⁾	\$0.76 [0.50-1.77] ⁽⁹⁴⁾	\$0.76 [0.76-0.88] ⁽⁴⁾	\$0.88 [0.38-2.02] ⁽⁵⁴²⁾
QA artesunate amodiaquine Ψ	\$0.00 [0.00-1.26] ⁽¹⁶²⁾	\$0.76 [0.50-1.01] ⁽¹²⁸⁾	\$0.76 [0.50-1.51] ⁽⁷⁸⁾	\$0.76 [0.76-0.88] ⁽⁴⁾	\$0.76 [0.28-1.26] ⁽³⁷²⁾
QA artemether-lumefantrine	\$3.15 [3.15-7.57] ⁽¹⁶⁾	\$8.71 [8.01-9.21] ⁽¹³⁸⁾	\$3.15 [0.50-9.09] ⁽¹⁶⁾	- -	\$8.33 [3.15-9.09] ⁽¹⁷⁰⁾
QA ACT with the "green leaf" logo	\$1.26 [0.00-1.77] ⁽⁵⁷⁾	\$0.82 [0.50-1.26] ⁽⁹⁴⁾	\$0.76 [0.38-1.51] ⁽⁶⁶⁾	\$0.63 [n/a] ⁽¹⁾	\$0.76 [0.38-1.51] ⁽²¹⁸⁾
QA ACT without the "green leaf" logo	\$0.00 [0.00-1.26] ⁽¹¹²⁾	\$8.49 [7.67-9.09] ⁽¹⁷²⁾	\$1.26 [0.63-3.15] ⁽²⁸⁾	\$0.76 [0.76-0.88] ⁽²⁾	\$1.26 [0.63-8.01] ⁽³¹⁴⁾
QA Artesunate-Amodiaquine Ψ	\$0.00 [0.00-1.26] ⁽¹⁶²⁾	\$0.76 [0.50-1.01] ⁽¹²⁸⁾	\$0.76 [0.50-1.51] ⁽⁷⁸⁾	\$0.76 [0.76-0.88] ⁽⁴⁾	\$0.76 [0.28-1.26] ⁽³⁷²⁾
SP	\$0.32 [0.32-0.38] ⁽⁸⁵⁾	\$0.57 [0.32-0.66] ⁽¹⁴⁸⁾	\$0.32 [0.32-0.38] ⁽¹⁹⁹⁾	\$0.47 [0.38-0.47] ⁽³²⁾	\$0.32 [0.32-0.47] ⁽⁴⁶⁴⁾
Chloroquine	\$0.47 [0.47-0.71] ⁽⁷⁾	- -	\$0.47 [0.47-0.47] ⁽⁵⁷⁾	\$0.47 [0.47-0.63] ⁽²³⁴⁾	\$0.47 [0.47-0.47] ⁽²⁹⁸⁾
Quinine	\$4.64 [3.98-9.28] ⁽¹⁵⁾	\$5.30 [5.30-21.55] ⁽²⁸⁾	\$7.95 [6.63-9.28] ⁽²¹⁾	- -	\$6.63 [5.30-9.28] ⁽⁶⁴⁾

* AETD - adult equivalent treatment dose - is the number of milligrams required to treat a 60kg adult (see Annex 11). Information provided by the respondent about price for a specific amount of antimalarial drug (e.g. price per tablet or price per specific package size) was converted to the price per AETD.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

~ All ACTs audited in the private sector in 2015 were quality-assured ACTs.

Figures in this table are derived using audited products with price information. The numbers of antimalarials captured in audit sheets with missing price information are as follows:

26 any ACT tablet, 23 artesunate amodiaquine , 3 artemether lumefantrine tablet, 25 QA ACT tablet, 9 QA ACT with the 'green leaf' logo tablet, 16 QA ACT without the 'green leaf' logo tablet, one non-quality assured ACT tablet, 11 SP tablets, 11 chloroquine tablets, and 4 quinine tablets.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table A5b: Price of pre-packaged antimalarials, by outlet type

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
Median price of one pre-packaged therapy:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
Adult QA artesunate amodiaquine	\$0.00 [0.00-0.00] ⁽³³⁾	\$0.19 [0.19-0.22] ⁽⁵⁾	\$0.22 [0.19-0.22] ⁽⁵⁾	- -	\$0.19 [0.00-0.22] ⁽⁴³⁾
Pediatric QA artesunate amodiaquine *	\$0.32 [0.00-0.32] ⁽⁴⁹⁾	\$0.21 [0.16-0.22] ⁽³⁵⁾	\$0.19 [0.16-0.32] ⁽²⁰⁾	\$0.19 [0.19-0.22] ⁽³⁾	\$0.19 [0.16-0.32] ⁽¹⁰⁷⁾

* Pediatric artesunate amodiaquine is the pre-packaged regimen appropriate for a 2-year old child.

Figures in this table are derived using audited products with price information. The numbers of antimalarials captured in audit sheets with missing price information are as follows:
4 adult artesunate amodiaquine and 2 child artesunate amodiaquine.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table A6: Availability of malaria blood testing among antimalarial-stocking outlets*, by outlet type

	Public Health Facility	Community Health Worker	Private Not-For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets** stocking	N=253	N=165	N=16	N=434	N=182	N=73	N=198	N=315	N=769	N=1,202
Any malaria blood testing	74.9 (64.9, 82.8)	72.8 (59.3, 83.1)	12.3 (2.6, 41.9)	72.9 (64.7, 79.7)	45.0 (29.1, 61.9)	24.0 (12.4, 41.3)	11.9 (5.9, 22.3)	0.1 (0.0, 0.4)	9.9 (7.1, 13.6)	37.7 (29.9, 46.2)
	N=253	N=165	N=16	N=434	N=182	N=73	N=198	N=315	N=769	N=1,202
Microscopic blood tests	3.5 (2.2, 5.5)	0.0 -	5.1 (0.9, 23.3)	1.8 (1.0, 3.0)	3.1 (1.6, 5.7)	0.0 -	0.0 -	0.0 -	0.4 (0.2, 0.8)	1.0 (0.6, 1.6)
	N=253	N=165	N=16	N=434	N=182	N=73	N=198	N=314	N=768	N=1,201
Rapid diagnostic tests (RDTs)	73.8 (63.8, 81.8)	72.8 (59.3, 83.1)	12.3 (2.6, 41.9)	72.4 (64.3, 79.2)	43.8 (28.0, 60.9)	24.0 (12.4, 41.3)	11.9 (5.9, 22.3)	0.1 (0.0, 0.4)	9.7 (7.0, 13.3)	37.4 (29.6, 45.9)
Quality-assured RDT Ψ	35.0 (25.9, 45.4)	29.9 (17.0, 47.1)	6.6 (1.3, 27.6)	32.0 (23.4, 42.1)	22.6 (11.6, 39.5)	2.9 (0.6, 12.1)	5.8 (2.5, 12.7)	0.0 -	4.8 (3.1, 7.3)	16.8 (12.4, 22.4)
<p>* Blood testing availability is reported among outlets that either had antimalarials in stock on the day of the survey or reportedly stocked antimalarials in the previous 3 months.</p> <p>** Results in this table are derived using responses captured among outlets with blood testing information. One antimalarial-stocking outlet was missing information about both availability of microscopy and availability of RDTs. Two antimalarial-stocking outlets had partial information about blood testing availability and are included in the denominator of the indicator "any blood testing available."</p> <p>Ψ The denominator includes 22 RDTs for which the QA status could not be determined due to incomplete product information.</p>										
Source: ACTwatch Outlet Survey, Madagascar, 2015.										

Table A7: Malaria blood testing market composition

Outlet type, among outlets with malaria blood testing available on the day of the survey:*	Public Health Facility	Community Health Worker	Private Not-For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
	%	%	%	%	%	%	%	%	%
N=520 outlets	18.0 (13.4, 23.9)	71.3 (63.6, 77.9)	0.2 (0.1, 0.4)	89.5 (82.5, 93.9)	7.6 (4.0, 14.1)	0.2 (0.1, 0.4)	2.7 (1.2, 5.7)	0.1 (0.0, 0.2)	10.5 (6.1, 17.5)

* Blood testing availability is reported among outlets that either had antimalarials in stock on the day of the survey or reportedly stocked antimalarials in the previous 3 months.

** Results in this table are derived using responses captured among outlets with blood testing information.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table A8: Price of malaria blood testing for adults, by outlet type

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
Total median price to consumers:*	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
Microscopic blood tests					
Adult	\$1.58 [0.95-2.52] ⁽²⁷⁾	- -	- -	- -	\$1.58 [0.95-2.52] ⁽²⁷⁾
Child under age 5	\$1.58 [0.95-2.52] ⁽²⁷⁾	- -	- -	- -	\$1.58 [0.95-2.52] ⁽²⁷⁾
Rapid diagnostic tests (RDTs)					
Adult	\$0.00 [0.00-0.32] ⁽¹¹²⁾	\$0.32 [0.32-0.32] ⁽¹¹⁾	\$0.32 [0.32-0.32] ⁽²⁰⁾	\$0.00 [n/a] ⁽¹⁾	\$0.16 [0.00-0.32] ⁽¹⁴⁴⁾
Child under 5	\$0.00 [0.00-0.32] ⁽¹¹²⁾	\$0.32 [0.32-0.32] ⁽¹¹⁾	\$0.32 [0.32-0.32] ⁽²⁰⁾	\$0.00 [n/a] ⁽¹⁾	\$0.16 [0.00-0.32] ⁽¹⁴⁴⁾
<p>* Total price to the consumer including consultation and/or service fees. Microscopic blood testing price information was not available (missing or “don’t know” response) for 42 adult RDTs, 42 child RDTs, 3 adult microscopy tests, and 3 child microscopy tests.</p>					
Source: ACTwatch Outlet Survey, Madagascar, 2015.					

Table A9: Antimalarial market share

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold / distributed:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	TOTAL Private	ANTI-MALARIAL TOTAL**
	%	%	%	%	%	%	%	%	%	%
1. Any ACT	11.2	1.3	0.1	12.5	0.5	1.2	1.6	0.1	3.4	15.9
Artesunate Amodiaquine Ψ	11.2	1.3	0.1	12.5	0.5	0.6	1.1	0.1	2.2	14.7
Artemether Lumefantrine	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.0	1.2	1.2
Quality-assured ACT (QA ACT)	11.2	1.3	0.1	12.5	0.5	1.2	1.6	0.1	3.4	15.9
QA ACT with the “green leaf” logo	4.5	0.5	0.0	5.0	0.2	0.3	0.7	0.1	1.3	6.3
QA ACT without the “green leaf” logo	6.7	0.7	0.1	7.5	0.3	0.9	1.0	0.0	2.1	9.6
Non-quality assured ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nationally Registered ACT	11.2	1.3	0.1	12.5	0.5	1.2	1.6	0.1	3.4	15.9
2. Any non-artemisinin therapy	21.9	1.0	0.4	23.3	10.7	5.5	31.7	12.9	60.8	84.1
Sulfadoxine Pyrimethamine	20.5	0.7	0.2	21.4	7.5	5.3	13.8	1.6	28.2	49.6
Chloroquine	0.0	0.2	0.1	0.3	1.7	0.0	16.6	11.3	29.6	29.9
Oral Quinine	0.2	0.0	0.0	0.2	0.2	0.1	0.4	0.0	0.7	0.9
Quinine IV/IM	1.0	0.0	0.1	1.2	1.3	0.2	0.8	0.0	2.3	3.5
Other non-artemisinin therapy ^	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Artesunate IV/IM #	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTLET TYPE TOTAL***	33.1	2.2	0.5	35.8	11.2	6.7	33.3	13.0	64.2	100.0

* A total of 6,410 AETDs were reportedly sold or distributed in the previous 7 days. See Annex 11 for a description of AETD calculation and Annex 12 for AETD numbers by outlet type and drug category.

** Row sum – market share for the specified antimalarial medicine.

*** Column sum – market share for the specified outlet type.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

^ Other non-artemisinin therapies include atovaquone-proguanil and halofantrine.

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Categories 1 through 4 sum to 100% in the far-right column – antimalarial total column.

A total of 2,169 antimalarials (in the census sample) were audited. Of these, 41 audited antimalarials were not included in market share calculations due to incomplete or inconsistent information.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table A10: Antimalarial market share across outlet type

AETDs sold or distributed in the previous week by antimalarial type as a percentage of all AETDs sold / distributed within each outlet type:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	TOTAL Private
	%	%	%	%	%	%	%	%	%
1. Any ACT	33.7	57.0	19.4	35.0	4.7	17.2	4.9	0.7	5.3
Artesunate Amodiaquine Ψ	33.7	57.0	19.4	35.0	4.4	8.4	3.2	0.7	3.4
Artemether Lumefantrine	0.0	0.0	0.0	0.0	0.3	8.8	1.7	0.0	1.9
Quality-assured ACT (QA ACT)	33.7	57.0	19.4	35.0	4.7	17.2	4.9	0.7	5.3
QA ACT with the “green leaf” logo	13.5	23.9	0.0	14.0	2.2	4.2	2.0	0.4	1.9
QA ACT without the “green leaf” logo	20.1	33.1	19.4	20.9	2.3	13.0	2.9	0.2	3.3
Non-quality assured ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nationally Registered ACT	33.7	57.0	19.4	35.0	4.7	17.2	4.9	0.7	5.3
2. Any non-artemisinin therapy	66.2	43.0	80.6	65.0	95.3	82.8	95.1	99.3	94.7
Sulfadoxine Pyrimethamine	62.0	30.8	42.5	59.8	67.1	79.0	41.5	12.3	44.0
Chloroquine	0.0	11.1	12.0	0.8	14.9	0.0	49.9	86.8	46.0
Oral Quinine	0.7	0.2	0.7	0.6	1.9	1.3	1.2	0.0	1.1
Quinine IV/IM	3.1	0.8	25.4	3.2	11.4	2.4	2.5	0.2	3.6
Other non-artemisinin therapy ^	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Artesunate IV/IM #	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* AETDs reportedly sold or distributed in the previous 7 days: 1,392 public health facility, 36 CHW, 76 private not-for-profit health facility, 822 private for-profit health facility, 2,530 pharmacy, 1,189 drug store, and 365 general retailer. See Annex 11 for a description of AETD calculation and Annex 12 for AETD numbers by outlet type and drug category.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

^ Note the other types of non-artemisinin therapy include atovaquone-proguanil and halofantrine.

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Categories 1 through 4 sum to 100% within each column.

A total of 2,169 antimalarials were audited. Of these, 41 audited antimalarials were not included in market share calculations due to incomplete or inconsistent information, including the following number of antimalarials by outlet type: 9 public health facility, one CHW, 3 private not-for-profit health facility, 6 private for profit, 3 pharmacy, 4 drug store, and 15 general retailer.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table A11: Malaria blood testing market share

Number of malaria blood tests provided in the previous week by outlet type and blood test type as a percentage of all blood tests provided:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	TOTAL Private	BLOOD TEST TOTAL**
	%	%	%	%	%	%	%	%	%	%
1. Malaria microscopy	2.6	0.0	0.1	2.7	0.8	0.0	0.0	0.0	0.8	3.5
2. RDT	44.6	36.2	0.9	81.8	12.8	0.1	1.8	0.0	14.7	96.5
OUTLET TYPE TOTAL***	47.2	36.2	1.0	84.5	13.7	0.1	1.8	0.0	15.5	100.0

* A total of 615 malaria blood tests were reportedly administered in the previous 7 days.

** Row sum – market share for the specified type of blood testing medicine.

*** Column sum – market share for the specified outlet type.

Categories 1 and 2 sum to 100% in the far-right column – malaria blood testing total column.

A total of 3,658 malaria blood tests were audited. Of these, 4 audited tests were not included in market share calculations due to incomplete or inconsistent information.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table A12: Malaria blood testing market share, across outlet type

Number of malaria blood tests provided in the previous week by blood test type as a percentage of all blood tests provided within each outlet type:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	TOTAL Private	BLOOD TEST TOTAL**
	%	%	%	%	%	%	%	%	%	%
Total blood testing market										
1. Malaria microscopy	5.5	0.0	10.0	3.2	6.1	0.0	0.0	0.0	5.4	3.5
2. RDT	94.5	100.0	90.0	96.8	93.9	100.0	100.0	0.0	94.6	96.5
Malaria RDT market										
Manufacturer										
Access Bio Inc.	21.8	37.2	67.0	29.1	81.5	100.0	99.4	--	83.7	37.4
Standard Diagnostics Inc.	78.2	60.0	0.0	69.2	15.9	0.0	0.0	--	13.8	60.8
Premier Medical Corporation Ltd	0.0	2.8	29.1	1.6	2.1	0.0	0.0	--	1.9	1.6
Unspecified manufacturer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0
Other	0.0	0.0	4.0	<0.1	0.5	0.0	0.6	--	0.5	0.1
Quality-assured RDT	24.7	32.8	47.2	28.5	61.4	0.0	40.1	--	58.5	33.1
<p>* Malaria blood tests reportedly administered in the previous 7 days: 1,791 public health facility, 475 CHW, 168 private not for-profit health facility, 1,122 private for-profit health facility, 18 pharmacy, 84 and drug store.</p> <p>Categories 1 through 2 sum to 100% within each column.</p> <p>A total of 615 malaria blood tests were audited. Of these, 4 audited tests were not included in market share calculations due to incomplete or inconsistent information.</p> <p>A total of 557 malaria RDTs were audited. Of these, 22 RDTs did not have sufficient information and therefore their quality status was unknown.</p>										
Source: ACTwatch Outlet Survey, Madagascar, 2015.										

Table A13: Provider case management knowledge and practices, by outlet type

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
Proportion of providers who:	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Would refer a 2-year-old child with symptoms of severe malaria to a health facility	-	N=165	-	N=165	-	N=73	N=198	N=314	N=585	N=750
Yes, would refer to health facility	n/a -	95.0 (90.5, 97.4)	n/a -	95.0 (90.5, 97.4)	n/a -	97.4 (93.5, 99.0)	85.6 (75.3, 92.0)	84.0 (72.7, 91.2)	84.7 (77.8, 89.7)	87.9 (83.3, 91.4)
Would recommend that a client with a negative malaria blood test take an antimalarial	N=253	N=164	N=16	N=433	N=177	N=66	N=162	N=159	N=564	N=997
Yes – sometimes	8.1 (4.4, 14.4)	4.5 (1.5, 12.4)	5.0 (1.0, 22.1)	6.2 (3.6, 10.5)	17.4 (9.1, 30.8)	12.3 (6.4, 22.4)	3.5 (1.4, 8.3)	3.8 (0.6, 19.8)	6.5 (3.6, 11.4)	6.3 (4.2, 9.4)
Yes – always	1.7 (0.6, 4.7)	4.4 (2.0, 9.4)	24.5 (13.3, 40.5)	3.4 (1.7, 6.4)	11.0 (5.0, 22.7)	2.7 (0.6, 11.5)	5.3 (2.3, 11.6)	1.1 (0.2, 4.7)	4.4 (3.0, 6.6)	3.9 (2.7, 5.6)
Circumstances cited for recommending antimalarial treatment to a client who tested negative for malaria:*	N=33	N=21	N=6	N=60	N=57	N=9	N=18	N=10	N=94	N=154
Patient has signs and symptoms of malaria.	91.8 (61.6, 98.7)	65.6 (35.2, 87.0)	100.0 -	80.1 (60.9, 91.2)	90.9 (72.5, 97.4)	82.9 (60.4, 93.9)	76.9 (48.3, 92.2)	7.1 (1.3, 29.8)	69.9 (42.3, 88.1)	75.1 (57.6, 87.0)
When the patient asks for antimalarial treatment.	33.9 (14.1, 61.6)	17.9 (6.3, 41.4)	9.9 (1.2, 50.6)	25.4 (14.4, 40.7)	36.7 (8.5, 78.5)	4.3 (0.9, 19.1)	25.2 (8.1, 56.2)	2.0 (0.3, 13.8)	25.8 (8.5, 56.6)	25.6 (14.0, 42.1)
Provider doesn't trust the test results.	0.7 (0.1, 3.1)	8.2 (1.3, 38.0)	0.0 -	4.1 (0.8, 19.3)	4.6 (0.6, 27.3)	14.0 (3.0, 46.2)	33.8 (12.8, 63.8)	73.7 (21.3, 96.7)	26.8 (9.3, 56.5)	15.2 (5.7, 34.9)
Other (all other reasons)	4.4 (0.7, 22.7)	38.1 (16.5, 65.7)	0.0 -	19.7 (8.5, 39.2)	6.1 (2.0, 17.5)	32.8 (10.5, 67.1)	24.7 (8.9, 52.5)	18.5 (1.7, 75.3)	14.3 (6.1, 30.0)	17.0 (9.1, 29.6)

Provider questions were administered to one staff member working in each outlet eligible for a full interview (current/recent antimalarial-stocking outlets or outlets providing malaria blood testing).

* No providers were missing information on circumstances for recommending antimalarials to clients who tested negative for malaria.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table A14: Provider antimalarial treatment knowledge and practices, by outlet type

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	(95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of providers who:	N=253	N=165	N=16	N=434	N=182	N=73	N=198	N=314	N=767	N=1,201
Correctly state the national first-line treatment for uncomplicated malaria ^Ψ	98.3 (95.5, 99.4)	81.5 (68.6, 89.8)	39.5 (25.9, 55.1)	88.9 (82.3, 93.3)	62.8 (45.2, 77.6)	65.7 (54.6, 75.4)	41.1 (32.9, 49.8)	20.5 (12.7, 31.5)	32.8 (25.9, 40.4)	57.6 (47.9, 66.6)
Correctly state the first-line dosing regimen for:										
An adult	71.4 (63.0, 78.6)	10.0 (4.1, 22.5)	12.0 (2.4, 43.0)	39.6 (30.5, 49.6)	19.4 (11.4, 31.2)	13.9 (7.6, 24.1)	14.4 (8.1, 24.4)	4.2 (1.1, 15.0)	9.3 (5.6, 15.1)	22.7 (16.8, 29.9)
A 2-year-old child	76.8 (67.9, 83.8)	49.2 (35.5, 63.1)	31.5 (22.6, 41.9)	62.2 (53.0, 70.6)	39.5 (26.4, 54.3)	35.0 (21.8, 50.9)	25.6 (19.4, 33.0)	9.1 (4.0, 19.1)	18.3 (14.1, 23.4)	37.7 (30.5, 45.5)
Report an ACT as the most effective antimalarial medicine for:										
Adults	85.9 (74.3, 92.8)	34.6 (21.0, 51.3)	12.1 (2.4, 43.1)	59.0 (48.3, 68.9)	40.6 (27.0, 55.7)	44.9 (34.8, 55.4)	16.8 (9.6, 27.7)	10.4 (4.2, 23.4)	16.8 (11.4, 24.1)	35.4 (27.5, 44.2)
Children	88.9 (76.6, 95.1)	95.3 (89.5, 98.0)	34.5 (23.5, 47.3)	91.3 (84.2, 95.3)	55.0 (35.2, 73.4)	72.1 (56.9, 83.5)	50.4 (41.9, 58.9)	19.4 (8.9, 37.4)	33.8 (25.8, 42.8)	59.2 (49.3, 68.4)
Report an ACT as the antimalarial he/she most commonly recommends for:										
Adults	84.2 (76.5, 89.7)	21.4 (14.3, 30.7)	9.2 (1.9, 34.3)	51.5 (42.4, 60.5)	30.6 (16.3, 50.0)	23.7 (15.6, 34.4)	7.1 (3.8, 13.0)	2.0 (0.6, 6.5)	7.7 (4.6, 12.5)	27.0 (20.6, 34.5)
Children	89.0 (82.0, 93.5)	92.1 (86.1, 95.6)	11.2 (2.4, 39.3)	89.4 (84.5, 92.8)	38.8 (23.4, 56.8)	36.6 (24.4, 50.8)	21.7 (14.9, 30.5)	7.2 (2.8, 17.3)	16.0 (10.9, 22.9)	48.4 (38.0, 59.0)

^Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was Madagascar's first-line treatment for uncomplicated malaria.

Numbers of providers (N) in this table are the total number of providers eligible for table indicators. The number of providers with missing information include 2 providers who were missing information on the national first-line treatment, the first-line dosing regimen for adults and children, the most effective antimalarial medicine for adults and children, and on the most often recommended antimalarial for adults and children.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Results Section B: Core Indicators across Urban/Rural Location

Table B1: Availability of antimalarials, among all screened outlets, by outlet type, across urban/rural location										
	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not- For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	Urban N=88 Rural N=172	Urban N=616 Rural N=762	Urban N=14 Rural N=6	Urban N=718 Rural N=940	Urban N=275 Rural N=55	Urban N=64 Rural N=9	Urban N=64 Rural N=160	Urban N=8,566 Rural N=2,630	Urban N=8,969 Rural N=2,854	Urban N=9,687 Rural N=3,794
Any antimalarial at the time of survey visit										
Urban	98.5 (95.2, 99.5)	4.6 (2.6, 8.2)	89.6 (75.0, 96.1)	18.0 (14.0, 22.8)	47.6 (39.8, 55.4)	99.1 (96.1, 99.8)	89.4 (85.0, 92.6)	1.5 (1.1, 2.0)	4.5 (3.9, 5.2)	5.7 (5.0, 6.5)
Rural	93.6 (87.9, 96.7)	8.6 (4.4, 16.0)	64.5 (52.8, 74.7)	19.3 (13.8, 26.3)	67.6 (50.8, 80.8)	100.0 -	76.9 (58.1, 88.8)	5.7 (3.6, 8.8)	9.3 (6.9, 12.5)	11.9 (9.3, 15.1)
Any ACT										
Urban	90.5 (82.7, 95.0)	4.4 (2.4, 8.0)	65.2 (42.7, 82.5)	16.5 (12.7, 21.1)	24.3 (17.1, 33.4)	94.2 (85.2, 97.9)	41.2 (30.0, 53.3)	0.0 -	1.7 (1.4, 2.1)	3.0 (2.5, 3.7)
Rural	78.4 (67.9, 86.2)	7.8 (3.9, 15.0)	0.0 -	16.4 (11.5, 22.9)	12.7 (5.6, 26.2)	100.0 -	11.0 (6.6, 17.7)	0.2 (0.1, 0.5)	0.8 (0.5, 1.2)	4.8 (3.5, 6.6)
Artesunate-Amodiaquine Ψ										
Urban	90.2 (82.2, 94.8)	4.4 (2.4, 8.0)	65.2 (42.7, 82.5)	16.4 (12.7, 21.0)	23.8 (16.7, 32.7)	73.8 (61.6, 83.2)	30.3 (19.7, 43.7)	0.0 -	1.5 (1.1, 1.9)	2.8 (2.3, 3.4)
Rural	78.4 (67.9, 86.2)	7.8 (3.9, 15.0)	0.0 -	16.4 (11.5, 22.9)	10.8 (4.4, 24.1)	64.3 (23.9, 91.2)	9.3 (5.7, 14.8)	0.2 (0.1, 0.5)	0.7 (0.4, 1.1)	4.7 (3.4, 6.5)
Artemether-Lumefantrine										
Urban	1.2 (0.4, 4.2)	0.0 -	0.0 -	0.2 (0.0, 0.6)	3.0 (1.3, 6.9)	84.4 (74.5, 90.9)	11.6 (4.9, 25.0)	0.0 -	0.7 (0.5, 1.0)	0.6 (0.4, 0.9)
Rural	0.5 (0.1, 3.1)	0.0 -	0.0 -	0.1 (0.0, 0.4)	1.9 (0.3, 12.8)	100.0 -	2.1 (0.6, 6.8)	0.0 -	0.2 (0.1, 0.4)	0.1 (0.1, 0.3)
Quality-assured ACT (QA ACT)										
Urban	90.5 (82.7, 95.0)	4.4 (2.4, 8.0)	65.2 (42.7, 82.5)	16.5 (12.7, 21.1)	24.3 (17.1, 33.4)	94.2 (85.2, 97.9)	41.2 (30.0, 53.3)	0.0 -	1.7 (1.4, 2.1)	3.0 (2.5, 3.7)
Rural	77.7 (67.4, 85.5)	7.6 (3.9, 14.4)	0.0 -	16.2 (11.4, 22.4)	12.7 (5.6, 26.2)	100.0 -	11.0 (6.6, 17.7)	0.2 (0.1, 0.5)	0.8 (0.5, 1.2)	4.7 (3.5, 6.4)
QA ACT with the “green leaf” logo										

Table B1: Availability of antimalarials, among all screened outlets, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not- For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	Urban N=88 Rural N=172	Urban N=616 Rural N=762	Urban N=14 Rural N=6	Urban N=718 Rural N=940	Urban N=275 Rural N=55	Urban N=64 Rural N=9	Urban N=64 Rural N=160	Urban N=8,566 Rural N=2,630	Urban N=8,969 Rural N=2,854	Urban N=9,687 Rural N=3,794
Urban	42.7 (32.2, 53.9)	1.6 (0.6, 4.2)	24.0 (13.1, 39.9)	7.2 (5.2, 10.0)	10.3 (7.0, 14.9)	57.0 (44.9, 68.4)	28.6 (18.3, 41.7)	0.0 -	1.0 (0.8, 1.2)	1.5 (1.2, 1.9)
Rural	39.3 (28.9, 50.7)	2.1 (0.7, 6.5)	0.0 -	6.7 (4.3, 10.3)	10.8 (4.4, 24.1)	64.3 (23.9, 91.2)	6.6 (2.7, 15.3)	0.0 (0.0, 0.2)	0.5 (0.3, 0.8)	2.1 (1.4, 3.1)
QA ACT without the "green leaf" logo										
Urban	88.2 (80.7, 93.0)	3.2 (1.6, 6.4)	62.5 (40.8, 80.1)	15.1 (11.7, 19.2)	18.7 (12.0, 28.0)	89.0 (80.0, 94.2)	16.1 (8.1, 29.7)	0.0 -	1.2 (0.9, 1.5)	2.4 (2.0, 2.9)
Rural	73.8 (63.4, 82.1)	5.1 (2.4, 10.5)	0.0 -	13.5 (9.6, 18.7)	6.5 (1.9, 20.3)	100.0 -	4.7 (2.6, 8.4)	0.1 (0.0, 0.4)	0.4 (0.2, 0.8)	3.8 (2.8, 5.2)
QA Artesunate-Amodiaquine Ψ										
Urban	90.2 (82.2, 94.8)	4.4 (2.4, 8.0)	65.2 (42.7, 82.5)	16.4 (12.7, 21.0)	23.8 (16.7, 32.7)	73.8 (61.6, 83.2)	30.3 (19.7, 43.7)	0.0 -	1.5 (1.1, 1.9)	2.8 (2.3, 3.4)
Rural	77.7 (67.4, 85.5)	7.6 (3.9, 14.4)	0.0 -	16.2 (11.4, 22.4)	10.8 (4.4, 24.1)	64.3 (23.9, 91.2)	9.3 (5.7, 14.8)	0.2 (0.1, 0.5)	0.7 (0.4, 1.1)	4.7 (3.4, 6.4)
Non-quality assured ACT (non-QA ACT)										
Urban	0.8 (0.2, 4.0)	0.0 -	0.0 -	0.1 (0.0, 0.5)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
Rural	0.7 (0.1, 4.1)	0.2 (0.0, 1.5)	0.0 -	0.3 (0.1, 1.2)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.1 (0.0, 0.3)
Nationally Registered ACT										
Urban	90.5 (82.7, 95.0)	4.4 (2.4, 8.0)	65.2 (42.7, 82.5)	16.5 (12.7, 21.1)	24.3 (17.1, 33.4)	94.2 (85.2, 97.9)	41.2 (30.0, 53.3)	0.0 -	1.7 (1.4, 2.1)	3.0 (2.5, 3.7)
Rural	78.4 (67.9, 86.2)	7.6 (3.9, 14.4)	0.0 -	16.2 (11.5, 22.5)	12.7 (5.6, 26.2)	100.0 -	11.0 (6.6, 17.7)	0.2 (0.1, 0.5)	0.8 (0.5, 1.2)	4.8 (3.5, 6.5)
Any non-artemisinin therapy										
Urban	72.2 (56.2, 84.0)	0.2 (0.0, 0.8)	72.9 (57.7, 84.1)	10.6 (7.8, 14.1)	41.8 (34.8, 49.1)	99.1 (96.1, 99.8)	89.4 (85.0, 92.6)	1.5 (1.1, 2.0)	4.4 (3.7, 5.1)	4.9 (4.3, 5.6)
Rural	71.1 (61.4, 79.1)	0.8 (0.3, 2.0)	64.5 (52.8, 74.7)	9.7 (7.3, 12.9)	67.6 (50.8, 80.8)	100.0 -	76.9 (58.1, 88.8)	5.5 (3.5, 8.6)	9.2 (6.8, 12.3)	9.3 (7.3, 11.9)

Table B1: Availability of antimalarials, among all screened outlets, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not- For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	Urban N=88 Rural N=172	Urban N=616 Rural N=762	Urban N=14 Rural N=6	Urban N=718 Rural N=940	Urban N=275 Rural N=55	Urban N=64 Rural N=9	Urban N=64 Rural N=160	Urban N=8,566 Rural N=2,630	Urban N=8,969 Rural N=2,854	Urban N=9,687 Rural N=3,794
Sulfadoxine Pyrimethamine										
Urban	37.3 (22.2, 55.3)	0.0 -	70.1 (54.6, 82.1)	5.9 (3.7, 9.2)	22.7 (16.2, 30.7)	93.4 (86.3, 96.9)	84.1 (77.2, 89.2)	0.1 (0.0, 0.2)	2.4 (1.9, 3.0)	2.7 (2.2, 3.3)
Rural	43.7 (32.6, 55.4)	0.2 (0.0, 1.4)	0.0 -	5.5 (3.8, 8.0)	40.0 (28.0, 53.3)	100.0 -	53.4 (36.5, 69.5)	0.6 (0.3, 1.2)	3.2 (2.4, 4.3)	3.8 (3.0, 4.9)
Chloroquine										
Urban	0.0 -	0.0 -	0.0 -	0.0 -	0.3 (0.1, 1.2)	0.0 -	21.1 (11.7, 35.1)	1.4 (1.1, 2.0)	1.7 (1.2, 2.3)	1.5 (1.1, 2.1)
Rural	0.0 -	0.4 (0.1, 1.4)	29.0 (12.2, 54.6)	0.5 (0.2, 1.3)	14.5 (6.6, 29.1)	0.0 -	30.2 (22.8, 38.8)	5.3 (3.3, 8.4)	6.4 (4.2, 9.5)	4.9 (3.2, 7.3)
Oral quinine										
Urban	33.0 (21.1, 47.6)	0.2 (0.0, 0.8)	16.7 (5.4, 41.2)	4.7 (3.2, 6.8)	5.7 (3.4, 9.3)	30.4 (20.2, 43.0)	6.6 (3.7, 11.5)	0.0 -	0.4 (0.3, 0.6)	0.8 (0.6, 1.0)
Rural	10.5 (5.8, 18.1)	0.0 -	0.0 -	1.3 (0.8, 2.2)	9.7 (4.4, 19.9)	43.2 (22.0, 67.3)	6.7 (2.8, 14.9)	0.0 -	0.4 (0.3, 0.7)	0.6 (0.4, 1.0)
Other non-artemisinin therapy ^										
Urban	6.0 (1.8, 17.7)	0.0 -	0.0 -	0.8 (0.3, 2.2)	0.6 (0.1, 2.9)	7.2 (3.3, 15.1)	0.0 -	0.0 -	0.1 (0.0, 0.1)	0.1 (0.1, 0.2)
Rural	9.9 (5.4, 17.3)	0.0 -	0.0 -	1.2 (0.6, 2.3)	0.0 -	20.5 (3.9, 61.9)	0.0 -	0.0 -	0.0 -	0.3 (0.2, 0.6)
Oral artemisinin monotherapy										
Urban	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
Rural	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
Non-oral artemisinin monotherapy										
Urban	10.1 (5.1, 18.8)	0.0 -	7.0 (1.3, 30.2)	1.4 (0.8, 2.4)	0.5 (0.2, 1.8)	2.7 (1.0, 7.2)	0.0 -	0.0 -	0.0 (0.0, 0.1)	0.2 (0.1, 0.3)
Rural	12.9 (7.4, 21.5)	0.0 -	0.0 -	1.6 (0.9, 2.8)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.4 (0.2, 0.7)

Table B1: Availability of antimalarials, among all screened outlets, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not- For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	Urban N=88 Rural N=172	Urban N=616 Rural N=762	Urban N=14 Rural N=6	Urban N=718 Rural N=940	Urban N=275 Rural N=55	Urban N=64 Rural N=9	Urban N=64 Rural N=160	Urban N=8,566 Rural N=2,630	Urban N=8,969 Rural N=2,854	Urban N=9,687 Rural N=3,794
Any treatment for severe malaria										
Urban	45.2 (32.2, 58.9)	0.0 -	45.8 (36.0, 55.8)	6.5 (4.7, 9.1)	33.5 (26.1, 41.8)	87.6 (80.2, 92.5)	73.3 (65.9, 79.6)	0.0 -	2.4 (1.9, 3.0)	2.8 (2.3, 3.4)
Rural	51.1 (40.2, 62.0)	0.2 (0.1, 0.9)	64.5 (52.8, 74.7)	6.8 (4.9, 9.3)	55.4 (38.0, 71.5)	54.8 (27.6, 79.3)	52.4 (35.7, 68.5)	0.1 (0.0, 0.4)	3.0 (2.2, 4.0)	4.0 (3.1, 5.0)
Artesunate IV/IM #										
Urban	10.1 (5.1, 18.8)	0.0 -	7.0 (1.3, 30.2)	1.4 (0.8, 2.4)	0.5 (0.2, 1.8)	0.0 -	0.0 -	0.0 -	0.0 -	0.1 (0.1, 0.2)
Rural	12.8 (7.3, 21.5)	0.0 -	0.0 -	1.6 (0.9, 2.8)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.4 (0.2, 0.7)
Artemether IV/IM										
Urban	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	2.7 (1.0, 7.2)	0.0 -	0.0 -	0.0 -	0.0 -
Rural	0.1 (0.0, 0.6)	0.0 -	0.0 -	0.0 (0.0, 0.1)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
Quinine IV/IM										
Urban	40.8 (28.1, 54.8)	0.0 -	38.7 (28.7, 49.8)	5.9 (4.0, 8.6)	33.5 (26.1, 41.8)	87.6 (80.2, 92.5)	73.3 (65.9, 79.6)	0.0 -	2.4 (1.9, 3.0)	2.7 (2.2, 3.3)
Rural	44.2 (33.5, 55.4)	0.2 (0.1, 0.9)	64.5 (52.8, 74.7)	5.9 (4.2, 8.2)	55.4 (38.0, 71.5)	54.8 (27.6, 79.3)	52.4 (35.7, 68.5)	0.1 (0.0, 0.4)	3.0 (2.2, 4.0)	3.7 (2.9, 4.8)

* The denominator includes 6 outlets that met screening criteria for a full interview but did not complete the interview (were not interviewed or completed a partial interview).

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, Artesunate Amodiaquine was the first-line treatment for uncomplicated malaria.

^ Note the other types of non-artemisinin therapy included; atovaquone-proguanil and halofantrine.

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B2: Availability of antimalarials, among all outlets stocking at least one antimalarial, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	Urban N=85 Rural N=159	Urban N=34 Rural N=58	Urban N=12 Rural N=4	Urban N=131 Rural N=221	Urban N=129 Rural N=38	Urban N=63 Rural N=9	Urban N=57 Rural N=132	Urban N=110 Rural N=150	Urban N=359 Rural N=329	Urban N=490 Rural N=550
Any ACT										
Urban	91.9 (84.3, 96.1)	96.4 (83.0, 99.3)	72.8 (49.5, 88.0)	91.5 (85.5, 95.1)	51.1 (39.9, 62.2)	95.1 (85.1, 98.5)	46.1 (32.9, 59.7)	0.0 -	38.2 (31.6, 45.3)	53.3 (46.2, 60.3)
Rural	83.8 (72.8, 90.9)	91.0 (79.3, 96.4)	0.0 -	85.1 (77.4, 90.5)	18.7 (7.9, 38.1)	100.0 -	14.3 (9.0, 21.8)	2.8 (1.1, 7.3)	8.7 (5.8, 12.8)	40.6 (31.2, 50.7)
Artesunate-Amodiaquine Ψ										
Urban	91.6 (83.9, 95.8)	96.4 (83.0, 99.3)	72.8 (49.5, 88.0)	91.2 (85.3, 94.9)	50.0 (39.0, 61.0)	74.5 (62.0, 83.9)	33.9 (21.7, 48.7)	0.0 -	32.2 (25.2, 40.0)	48.9 (41.2, 56.6)
Rural	83.8 (72.8, 90.9)	91.0 (79.3, 96.4)	0.0 -	85.1 (77.4, 90.5)	15.9 (6.3, 34.8)	64.3 (23.9, 91.2)	12.1 (7.7, 18.5)	2.8 (1.1, 7.3)	7.5 (5.1, 11.0)	39.9 (30.7, 49.9)
Artemether-Lumefantrine										
Urban	1.2 (0.4, 4.3)	0.0 -	0.0 -	0.9 (0.2, 3.0)	6.3 (2.7, 14.0)	85.2 (75.1, 91.6)	13.0 (5.4, 27.9)	0.0 -	15.0 (10.8, 20.6)	11.0 (7.8, 15.4)
Rural	0.5 (0.1, 3.4)	0.0 -	0.0 -	0.3 (0.0, 2.1)	2.8 (0.4, 18.6)	100.0 -	2.7 (0.8, 8.3)	0.0 -	1.7 (0.6, 4.6)	1.1 (0.4, 2.7)
Quality-assured ACT (QA ACT)										
Urban	91.9 (84.3, 96.1)	96.4 (83.0, 99.3)	72.8 (49.5, 88.0)	91.5 (85.5, 95.1)	51.1 (39.9, 62.2)	95.1 (85.1, 98.5)	46.1 (32.9, 59.7)	0.0 -	38.2 (31.6, 45.3)	53.3 (46.2, 60.3)
Rural	83.1 (72.2, 90.2)	88.4 (74.6, 95.2)	0.0 -	83.7 (76.1, 89.2)	18.7 (7.9, 38.1)	100.0 -	14.3 (9.0, 21.8)	2.8 (1.1, 7.3)	8.7 (5.8, 12.8)	40.0 (30.7, 50.0)
QA ACT with the “green leaf” logo										
Urban	43.4 (32.7, 54.7)	34.3 (13.2, 64.3)	26.8 (14.8, 43.6)	40.1 (30.0, 51.2)	21.6 (15.7, 29.0)	57.5 (45.0, 69.2)	31.9 (20.5, 46.1)	0.0 -	21.7 (18.1, 25.8)	26.9 (22.3, 32.0)
Rural	41.9 (31.1, 53.6)	24.7 (8.6, 53.5)	0.0 -	34.5 (23.1, 48.1)	15.9 (6.3, 34.8)	64.3 (23.9, 91.2)	8.6 (4.0, 17.7)	0.5 (0.1, 3.3)	5.2 (2.8, 9.3)	17.4 (11.5, 25.5)
QA ACT without the “green leaf” logo										
Urban	89.6 (82.7, 94.0)	70.4 (46.5, 86.7)	69.7 (47.1, 85.6)	83.9 (76.5, 89.2)	39.3 (26.7, 53.5)	89.8 (80.7, 94.9)	18.0 (8.7, 33.6)	0.0 -	26.3 (20.8, 32.7)	42.6 (36.2, 49.2)
Rural	78.9 (68.0, 86.8)	59.7 (42.2, 75.0)	0.0 -	70.1 (60.2, 78.4)	9.7 (2.7, 29.4)	100.0 -	6.2 (3.1, 12.0)	1.8 (0.5, 6.4)	4.6 (2.4, 8.5)	31.9 (24.0, 41.0)

Table B2: Availability of antimalarials, among all outlets stocking at least one antimalarial, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	Urban N=85 Rural N=159	Urban N=34 Rural N=58	Urban N=12 Rural N=4	Urban N=131 Rural N=221	Urban N=129 Rural N=38	Urban N=63 Rural N=9	Urban N=57 Rural N=132	Urban N=110 Rural N=150	Urban N=359 Rural N=329	Urban N=490 Rural N=550
QA Artesunate-Amodiaquine Ψ										
Urban	91.6 (83.9, 95.8)	96.4 (83.0, 99.3)	72.8 (49.5, 88.0)	91.2 (85.3, 94.9)	50.0 (39.0, 61.0)	74.5 (62.0, 83.9)	33.9 (21.7, 48.7)	0.0 -	32.2 (25.2, 40.0)	48.9 (41.2, 56.6)
Rural	83.1 (72.2, 90.2)	88.4 (74.6, 95.2)	0.0 -	83.7 (76.1, 89.2)	15.9 (6.3, 34.8)	64.3 (23.9, 91.2)	12.1 (7.7, 18.5)	2.8 (1.1, 7.3)	7.5 (5.1, 11.0)	39.3 (30.2, 49.1)
Non-quality assured ACT (non-QA ACT)										
Urban	0.8 (0.2, 4.1)	0.0 -	0.0 -	0.6 (0.1, 2.7)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.2 (0.0, 0.8)
Rural	0.8 (0.1, 4.4)	2.6 (0.5, 12.2)	0.0 -	1.5 (0.4, 5.4)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.6 (0.2, 2.4)
Nationally Registered ACT										
Urban	91.9 (84.3, 96.1)	96.4 (83.0, 99.3)	72.8 (49.5, 88.0)	91.5 (85.5, 95.1)	51.1 (39.9, 62.2)	95.1 (85.1, 98.5)	46.1 (32.9, 59.7)	0.0 -	38.2 (31.6, 45.3)	53.3 (46.2, 60.3)
Rural	83.8 (72.8, 90.9)	88.4 (74.6, 95.2)	0.0 -	84.1 (76.5, 89.6)	18.7 (7.9, 38.1)	100.0 -	14.3 (9.0, 21.8)	2.8 (1.1, 7.3)	8.7 (5.8, 12.8)	40.1 (30.9, 50.2)
Any non-artemisinin therapy										
Urban	73.3 (56.9, 85.1)	3.6 (0.7, 17.0)	81.4 (56.8, 93.5)	58.7 (47.3, 69.2)	87.8 (81.8, 92.1)	100.0 -	100.0 -	100.0 -	96.5 (94.3, 97.9)	85.8 (81.5, 89.3)
Rural	75.9 (65.7, 83.9)	9.0 (3.6, 20.7)	100.0 -	50.3 (38.3, 62.3)	100.0 -	100.0 -	100.0 -	97.7 (93.7, 99.2)	98.7 (96.5, 99.5)	78.5 (69.2, 85.6)
Sulfadoxine Pyrimethamine										
Urban	37.9 (22.5, 56.1)	0.0 -	78.3 (54.3, 91.6)	32.6 (21.6, 46.0)	47.6 (36.5, 59.0)	94.2 (86.6, 97.6)	94.0 (87.9, 97.2)	6.6 (2.8, 14.9)	52.9 (44.3, 61.4)	47.2 (39.8, 54.7)
Rural	46.7 (34.9, 58.9)	2.5 (0.3, 17.4)	0.0 -	28.7 (18.9, 41.0)	59.1 (38.4, 77.1)	100.0 -	69.5 (57.7, 79.2)	11.0 (6.2, 18.7)	34.8 (26.4, 44.3)	32.3 (24.8, 40.7)
Chloroquine										
Urban	0.0 -	0.0 -	0.0 -	0.0 -	0.6 (0.1, 2.5)	0.0 -	23.6 (12.9, 39.1)	95.6 (89.3, 98.3)	37.5 (29.2, 46.5)	26.9 (20.3, 34.6)
Rural	0.0 -	5.1 (2.1, 11.9)	45.0 (21.7, 70.7)	2.8 (1.2, 6.0)	21.5 (10.6, 38.8)	0.0 -	39.3 (29.7, 49.8)	93.7 (87.2, 97.0)	68.2 (57.3, 77.4)	40.9 (31.2, 51.4)
Oral quinine										

Table B2: Availability of antimalarials, among all outlets stocking at least one antimalarial, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	Urban N=85 Rural N=159	Urban N=34 Rural N=58	Urban N=12 Rural N=4	Urban N=131 Rural N=221	Urban N=129 Rural N=38	Urban N=63 Rural N=9	Urban N=57 Rural N=132	Urban N=110 Rural N=150	Urban N=359 Rural N=329	Urban N=490 Rural N=550
Urban	33.5 (21.4, 48.3)	3.6 (0.7, 17.0)	18.6 (6.5, 43.2)	25.8 (17.6, 36.3)	12.0 (7.0, 19.6)	30.7 (20.4, 43.3)	7.4 (4.1, 13.0)	0.0 -	8.9 (6.4, 12.3)	13.7 (10.2, 18.1)
Rural	11.2 (6.3, 19.2)	0.0 -	0.0 -	6.6 (3.8, 11.4)	14.4 (6.3, 29.5)	43.2 (22.0, 67.3)	8.7 (4.1, 17.3)	0.0 -	4.6 (2.8, 7.3)	5.4 (3.6, 8.1)
Other non-artemisinin therapy ^										
Urban	6.1 (1.9, 18.0)	0.0 -	0.0 -	4.3 (1.3, 13.0)	1.4 (0.3, 6.3)	7.2 (3.2, 15.4)	0.0 -	0.0 -	1.2 (0.5, 2.7)	2.1 (1.0, 4.2)
Rural	10.5 (5.8, 18.4)	0.0 -	0.0 -	6.3 (3.2, 11.7)	0.0 -	20.5 (3.9, 61.9)	0.0 -	0.0 -	0.1 (0.0, 0.5)	2.7 (1.4, 5.2)
Oral artemisinin monotherapy										
Urban	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
Rural	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
Non-oral artemisinin monotherapy										
Urban	10.2 (5.2, 19.1)	0.0 -	7.8 (1.5, 32.9)	7.8 (4.1, 14.2)	1.1 (0.3, 3.7)	2.8 (1.0, 7.3)	0.0 -	0.0 -	0.6 (0.3, 1.5)	2.7 (1.6, 4.5)
Rural	13.8 (7.9, 22.9)	0.0 -	0.0 -	8.2 (4.4, 14.7)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	3.4 (1.8, 6.4)
Any treatment for severe malaria										
Urban	46.0 (32.7, 59.9)	0.0 -	51.1 (38.8, 63.2)	36.3 (26.9, 46.8)	70.4 (59.2, 79.6)	88.4 (80.9, 93.2)	81.9 (71.6, 89.1)	0.0 -	53.2 (46.6, 59.7)	48.4 (42.2, 54.7)
Rural	54.6 (43.2, 65.6)	2.6 (0.6, 11.2)	100.0 -	35.2 (26.2, 45.4)	82.0 (62.6, 92.5)	54.8 (27.6, 79.3)	68.1 (55.3, 78.7)	2.4 (0.9, 6.3)	32.0 (24.3, 40.8)	33.3 (26.4, 41.0)
Artesunate IV/IM #										
Urban	10.2 (5.2, 19.1)	0.0 -	7.8 (1.5, 32.9)	7.8 (4.1, 14.2)	1.1 (0.3, 3.7)	0.0 -	0.0 -	0.0 -	0.3 (0.1, 1.1)	2.4 (1.4, 4.3)
Rural	13.7 (7.9, 22.8)	0.0 -	0.0 -	8.1 (4.4, 14.6)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	3.4 (1.8, 6.4)
Artemether IV/IM										

Table B2: Availability of antimalarials, among all outlets stocking at least one antimalarial, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	Urban N=85 Rural N=159	Urban N=34 Rural N=58	Urban N=12 Rural N=4	Urban N=131 Rural N=221	Urban N=129 Rural N=38	Urban N=63 Rural N=9	Urban N=57 Rural N=132	Urban N=110 Rural N=150	Urban N=359 Rural N=329	Urban N=490 Rural N=550
Urban	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	2.8 (1.0, 7.3)	0.0 -	0.0 -	0.3 (0.1, 1.0)	0.2 (0.1, 0.7)
Rural	0.1 (0.0, 0.6)	0.0 -	0.0 -	0.1 (0.0, 0.4)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 (0.0, 0.2)
Quinine IV/IM										
Urban	41.4 (28.5, 55.7)	0.0 -	43.2 (30.6, 56.8)	32.5 (23.1, 43.5)	70.4 (59.2, 79.6)	88.4 (80.9, 93.2)	81.9 (71.6, 89.1)	0.0 -	53.2 (46.6, 59.7)	47.3 (41.0, 53.8)
Rural	47.2 (36.0, 58.7)	2.6 (0.6, 11.2)	100.0 -	30.8 (22.5, 40.5)	82.0 (62.6, 92.5)	54.8 (27.6, 79.3)	68.1 (55.3, 78.7)	2.4 (0.9, 6.3)	32.0 (24.3, 40.8)	31.5 (24.9, 38.8)

* Antimalarial-stocking outlets have at least one antimalarial in stock on the day of the survey, verified by presence of at least one antimalarial recorded in the antimalarial audit sheet. The denominator includes one outlet that met screening criteria for a full interview but did not complete the interview (was not interviewed or completed a partial interview).

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, Artesunate Amodiaquine was the first-line treatment for uncomplicated malaria.

^ Note the other types of non-artemisinin therapy included atovaquone-proguanil and halofantrine.

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B4: Antimalarial market composition, across urban/rural location

Outlet type, among outlets with at least 1 antimalarial in stock on the day of the survey:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
	%	%	%	%	%	%	%	%	%
Urban, N=462 outlets	17.7 (13.7, 22.6)	6.6 (3.8, 11.0)	2.3 (1.2, 4.1)	26.6 (21.7, 32.0)	21.6 (17.0, 27.0)	5.9 (4.0, 8.8)	21.6 (13.9, 32.0)	24.3 (18.4, 31.4)	73.4 (68.0, 78.3)
Rural, N=347 outlets	16.5 (10.7, 24.6)	19.8 (11.3, 32.6)	0.9 (0.2, 4.3)	37.2 (25.6, 50.5)	8.7 (5.1, 14.5)	0.2 (0.0, 1.3)	13.0 (7.7, 21.0)	41.0 (30.9, 51.9)	62.8 (49.5, 74.4)
* Excluding booster sample outlets. Outlets with at least one antimalarial in stock on the day of the survey, verified by presence of at least one antimalarial recorded in the antimalarial audit sheet.									
Source: ACTwatch Outlet Survey, Madagascar, 2015.									

Table B5a: Price of tablet formulation antimalarials, by outlet type, across urban/rural location					
	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
Median price of a tablet AETD*:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
Quality-assured (QA) ACT					
Urban	\$0.00 [0.00-0.00] ⁽¹⁶⁶⁾	\$2.27 [0.76-8.83] ⁽²⁴⁴⁾	\$0.76 [0.38-1.51] ⁽⁴⁴⁾	- -	\$0.63 [0.00-2.27] ⁽⁴⁵⁴⁾
Rural	\$1.26 [1.26-1.89] ⁽¹²⁾	\$7.73 [0.82-8.61] ⁽²²⁾	\$0.88 [0.50-1.77] ⁽⁵⁰⁾	\$0.76 [0.76-0.88] ⁽⁴⁾	\$1.26 [0.63-2.02] ⁽⁸⁸⁾
QA artesunate-a modiaquine Ψ					
Urban	\$0.00 [0.00-0.00] ⁽¹⁵¹⁾	\$0.76 [0.47-1.26] ⁽¹²²⁾	\$0.63 [0.38-1.26] ⁽³³⁾	- -	\$0.38 [0.00-0.76] ⁽³⁰⁶⁾
Rural	\$1.26 [1.26-1.89] ⁽¹¹⁾	\$0.76 [0.76-0.82] ⁽⁶⁾	\$0.76 [0.63-1.51] ⁽⁴⁵⁾	\$0.76 [0.76-0.88] ⁽⁴⁾	\$0.88 [0.63-1.51] ⁽⁶⁶⁾
QA artemether-lumefantrine					
Urban	\$8.48 [0.19-8.83] ⁽¹⁵⁾	\$8.83 [8.30-9.46] ⁽¹²²⁾	\$9.09 [8.83-9.09] ⁽¹¹⁾	- -	\$8.83 [8.20-9.28] ⁽¹⁴⁸⁾
Rural	\$3.15 (1)	\$8.01 [7.86-8.83] ⁽¹⁶⁾	\$3.15 [0.50-3.15] ⁽⁵⁾	- -	\$3.15 [3.15-8.01] ⁽²²⁾
QA ACT with the “green leaf” logo					
Urban	\$0.00 [0.00-0.63] ⁽⁴⁷⁾	\$0.88 [0.50-1.26] ⁽⁸⁸⁾	\$0.63 [0.38-1.26] ⁽²⁹⁾	- -	\$0.63 [0.38-1.26] ⁽¹⁶⁴⁾
Rural	\$1.26 [0.32-1.89] ⁽¹⁰⁾	\$0.76 [0.76-0.82] ⁽⁶⁾	\$0.76 [0.44-1.51] ⁽³⁷⁾	\$0.63 (1)	\$0.76 [0.44-1.51] ⁽⁵⁴⁾
QA ACT without the “green leaf” logo					
Urban	\$0.00 [0.00-0.00] ⁽¹¹⁰⁾	\$8.49 [4.42-9.21] ⁽¹⁵⁶⁾	\$7.57 [0.63-9.09] ⁽¹⁵⁾	- -	\$0.76 [0.00-8.83] ⁽²⁸¹⁾
Rural	\$1.26 [1.26-3.15] ⁽²⁾	\$8.01 [7.86-8.83] ⁽¹⁶⁾	\$1.26 [0.63-2.52] ⁽¹³⁾	\$0.76 [0.76-0.88] ⁽²⁾	\$1.26 [0.76-3.15] ⁽³³⁾
QA Artesunate-Amodiaquine Ψ					

Table B5a: Price of tablet formulation antimalarials, by outlet type, across urban/rural location

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
Median price of a tablet AETD*:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
Urban	\$0.00 [0.00-0.00] ⁽¹⁵¹⁾	\$0.76 [0.47-1.26] ⁽¹²²⁾	\$0.63 [0.38-1.26] ⁽³³⁾	- -	\$0.38 [0.00-0.76] ⁽³⁰⁶⁾
Rural	\$1.26 [1.26-1.89] ⁽¹¹⁾	\$0.76 [0.76-0.82] ⁽⁶⁾	\$0.76 [0.63-1.51] ⁽⁴⁵⁾	\$0.76 [0.76-0.88] ⁽⁴⁾	\$0.88 [0.63-1.51] ⁽⁶⁶⁾
Sulfadoxine Pyrimethamine					
Urban	\$0.19 [0.00-0.32] ⁽⁵⁹⁾	\$0.57 [0.35-0.66] ⁽¹²⁶⁾	\$0.35 [0.32-0.47] ⁽⁷⁷⁾	\$0.32 [0.32-0.47] ⁽¹⁴⁾	\$0.35 [0.32-0.57] ⁽²⁷⁶⁾
Rural	\$0.32 [0.32-0.47] ⁽²⁶⁾	\$0.57 [0.32-0.66] ⁽²²⁾	\$0.32 [0.32-0.32] ⁽¹²²⁾	\$0.47 [0.38-0.47] ⁽¹⁸⁾	\$0.32 [0.32-0.47] ⁽¹⁸⁸⁾
Chloroquine					
Urban	\$0.47 ⁽¹⁾	- -	\$0.39 [0.33-0.47] ⁽¹²⁾	\$0.47 [0.47-0.47] ⁽⁹⁷⁾	\$0.47 [0.39-0.47] ⁽¹¹⁰⁾
Rural	\$0.47 [0.47-0.71] ⁽⁶⁾	- -	\$0.47 [0.47-0.47] ⁽⁴⁵⁾	\$0.47 [0.47-0.71] ⁽¹³⁷⁾	\$0.47 [0.47-0.47] ⁽¹⁸⁸⁾
Quinine					
Urban	\$5.30 [2.65-6.63] ⁽¹²⁾	\$6.63 [5.30-23.01] ⁽²⁴⁾	\$6.63 [5.30-6.63] ⁽⁴⁾	- -	\$6.63 [5.30-6.63] ⁽⁴⁰⁾
Rural	\$4.64 [3.98-9.28] ⁽³⁾	\$5.30 [1.33-5.30] ⁽⁴⁾	\$7.95 [6.63-9.28] ⁽¹⁷⁾	- -	\$7.95 [4.64-9.28] ⁽²⁴⁾

* AETD - adult equivalent treatment dose - is the number of milligrams required to treat a 60kg adult (see Annex 11). Information provided by the respondent about price for a specific amount of antimalarial drug (e.g. price per tablet or price per specific package size) was converted to the price per AETD.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

Figures in this table are derived using audited products with price information. The numbers of antimalarials captured in audit sheets with missing price information are as follows:

26 any ACT tablets, 23 artesunate amodiaquine, 3 artemether lumefantrine tablets, 25 QA ACT tablets, 9 QA ACT with the 'green leaf' logo tablets, 16 QA ACT without the 'green leaf' logo tablets, one non-quality assured ACT tablet, 11 SP tablets, 11 chloroquine tablets, and 4 quinine tablets.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B5b: Price of pre-packaged antimalarials, by outlet type, across urban/rural location

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
Median price of one pre-packaged therapy:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
Adult QA artesunate amodiaquine					
Urban	\$0.00 [0.00-0.00] ⁽³³⁾	\$0.19 [0.19-0.22] ⁽⁵⁾	\$0.19 [0.19-0.28] ⁽³⁾	- -	\$0.00 [0.00-0.19] ⁽⁴¹⁾
Rural	- -	- -	\$0.22 [0.22-0.22] ⁽²⁾	- -	\$0.22 [0.22-0.22] ⁽²⁾
Pediatric QA artesunate amodiaquine *					
Urban	\$0.00 [0.00-0.00] ⁽⁴³⁾	\$0.22 [0.16-0.22] ⁽³⁴⁾	\$0.19 [0.19-0.25] ⁽⁸⁾	- -	\$0.16 [0.00-0.21] ⁽⁸⁵⁾
Rural	\$0.32 [0.32-0.32] ⁽⁶⁾	\$0.19 ⁽¹⁾	\$0.19 [0.16-0.32] ⁽¹²⁾	\$0.19 [0.19-0.22] ⁽³⁾	\$0.22 [0.16-0.32] ⁽²²⁾
<p>* Pediatric QA artesunate amodiaquine is the pre-packaged regimen appropriate for a 2-year-old child.</p> <p>Figures in this table are derived using audited products with price information. The numbers of antimalarials captured in audit sheets with missing price information are as follows: 4 adult artesunate amodiaquine and 2 child artesunate amodiaquine.</p> <p>Source: ACTwatch Outlet Survey, Madagascar, 2015.</p>					

Table B6: Availability of malaria blood testing among antimalarial-stocking outlets*, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets** stocking	Urban N=85 Rural N=168	Urban N=54 Rural N=111	Urban N=12 Rural N=4	Urban N=151 Rural N=283	Urban N=141 Rural N=41	Urban N=64 Rural N=9	Urban N=58 Rural N=140	Urban N=143 Rural N=172	Urban N=406 Rural N=362	Urban N=557 Rural N=645
Any malaria blood testing										
Urban	84.2 (74.5, 90.7)	73.0 (56.9, 84.8)	65.4 (46.7, 80.4)	79.0 (70.8, 85.3)	66.6 (57.4, 74.7)	32.5 (17.3, 52.6)	31.1 (11.2, 61.7)	1.3 (0.3, 6.5)	29.4 (21.9, 38.3)	44.2 (37.5, 51.1)
Rural	74.4 (63.8, 82.7)	72.8 (58.8, 83.4)	0.0 -	72.6 (64.0, 79.7)	40.5 (22.6, 61.5)	7.4 (1.0, 39.2)	10.3 (4.7, 21.1)	0.0 -	8.0 (5.3, 11.9)	37.2 (28.9, 46.3)
	Urban N=85 Rural N=168	Urban N=54 Rural N=111	Urban N=12 Rural N=4	Urban N=151 Rural N=283	Urban N=141 Rural N=41	Urban N=64 Rural N=9	Urban N=58 Rural N=140	Urban N=143 Rural N=172	Urban N=406 Rural N=362	Urban N=557 Rural N=645
Malaria microscopy										
Urban	24.6 (16.9, 34.4)	0.0 -	27.3 (8.7, 59.7)	15.7 (10.6, 22.6)	14.0 (9.6, 19.9)	0.0 -	0.0 -	0.0 -	3.7 (2.4, 5.9)	7.3 (5.4, 9.8)
Rural	2.3 (1.1, 4.5)	0.0 -	0.0 -	1.1 (0.5, 2.3)	0.8 (0.1, 5.1)	0.0 -	0.0 -	0.0 -	0.1 (0.0, 0.7)	0.5 (0.3, 1.1)
	Urban N=85 Rural N=168	Urban N=54 Rural N=111	Urban N=12 Rural N=4	Urban N=151 Rural N=283	Urban N=141 Rural N=41	Urban N=64 Rural N=9	Urban N=58 Rural N=140	Urban N=142 Rural N=172	Urban N=405 Rural N=362	Urban N=556 Rural N=645
Rapid diagnostic tests (RDTs)										
Urban	74.7 (61.0, 84.8)	73.0 (56.9, 84.8)	65.4 (46.7, 80.4)	73.5 (64.2, 81.1)	63.6 (54.0, 72.2)	32.5 (17.3, 52.6)	31.1 (11.2, 61.7)	1.3 (0.3, 6.5)	28.7 (21.2, 37.5)	42.0 (34.8, 49.7)
Rural	73.8 (63.1, 82.2)	72.8 (58.8, 83.4)	0.0 -	72.3 (63.8, 79.5)	39.7 (21.8, 60.9)	7.4 (1.0, 39.2)	10.3 (4.7, 21.1)	0.0 -	7.9 (5.3, 11.8)	37.0 (28.8, 46.1)
Quality-assured RDT Ψ										
Urban	26.7 (14.8, 43.5)	29.6 (18.4, 44.0)	35.0 (19.4, 54.8)	28.3 (21.4, 36.4)	25.3 (18.6, 33.6)	4.3 (0.9, 17.8)	9.1 (3.8, 20.2)	0.0 -	9.5 (6.8, 13.3)	15.1 (11.9, 19.1)
Rural	35.5 (25.8, 46.5)	29.9 (16.6, 47.8)	0.0 -	32.2 (23.2, 42.8)	22.1 (9.6, 43.1)	0.0 -	5.5 (2.2, 13.2)	0.0 -	4.3 (2.6, 7.2)	16.9 (12.2, 23.0)

* Blood testing availability is reported among outlets that either had antimalarials in stock on the day of the survey or reportedly stocked antimalarials in the previous 3 months.

** Results in this table are derived using responses captured among outlets with blood testing information. One antimalarial-stocking outlet was missing information about both availability of microscopy and availability of RDTs. 2 antimalarial-stocking outlet had partial information about blood testing availability and are included in the denominator of the indicator "any blood testing available."

Ψ The denominator includes 22 RDTs for which the QA status could not be determined due to incomplete product information.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B8: Price of malaria blood testing, by outlet type, across urban/rural location

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private
Total median price to consumers:*	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
Malaria microscopy					
Adult					
Urban	\$1.26 [0.79-1.89] ⁽²⁶⁾	- -	- -	- -	\$1.26 [0.79-1.89] ⁽²⁶⁾
Rural	\$2.52 (1)	- -	- -	- -	\$2.52 (1)
Child under age 5					
Urban	\$1.26 [0.79-1.89] ⁽²⁶⁾	- -	- -	- -	\$1.26 [0.79-1.89] ⁽²⁶⁾
Rural	\$2.52 (1)	- -	- -	- -	\$2.52 (1)
Rapid diagnostic tests (RDTs)					
Adult					
Urban	\$0.00 [0.00-0.32] ⁽⁹⁶⁾	\$0.32 [0.32-0.32] ⁽¹¹⁾	\$0.32 [0.32-0.47] ⁽¹⁵⁾	\$0.00 (1)	\$0.32 [0.00-0.32] ⁽¹²³⁾
Rural	\$0.16 [0.00-0.32] ⁽¹⁶⁾	- -	\$0.32 [0.32-0.32] ⁽⁵⁾	- -	\$0.16 [0.00-0.32] ⁽²¹⁾
Child under 5					
Urban	\$0.00 [0.00-0.32] ⁽⁹⁶⁾	\$0.32 [0.32-0.32] ⁽¹¹⁾	\$0.32 [0.32-0.47] ⁽¹⁵⁾	\$0.00 (1)	\$0.32 [0.00-0.32] ⁽¹²³⁾
Rural	\$0.16 [0.00-0.32] ⁽¹⁶⁾	- -	\$0.32 [0.32-0.32] ⁽⁵⁾	- -	\$0.16 [0.00-0.32] ⁽²¹⁾

* Total price to the consumer including consultation and/or service fees.

Microscopic blood testing price information was not available (missing or “don’t know” response) for 42 adult RDTs, 42 child RDTs, 3 adult microscopy tests, and 3 child microscopy tests.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B9.1: Antimalarial market share, urban

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/ distributed:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	TOTAL Private	ANTI-MALARIAL TOTAL**
	%	%	%	%	%	%	%	%	%	%
1. Any ACT	5.1	0.0	0.5	5.6	1.7	6.8	1.6	0.0	10.0	15.7
Artesunate Amodiaquine Ψ	5.1	0.0	0.5	5.6	1.5	3.5	1.2	0.0	6.1	11.7
Artemether Lumefantrine	0.0	0.0	0.0	0.0	0.2	3.3	0.4	0.0	3.9	3.9
Quality-assured ACT (QA ACT)	5.0	0.0	0.5	5.6	1.7	6.8	1.6	0.0	10.0	15.6
QA ACT with the “green leaf” logo	0.3	0.0	0.0	0.3	0.4	1.8	1.0	0.0	3.2	3.4
QA ACT without the “green leaf” logo	4.6	0.0	0.5	5.2	1.1	5.0	0.6	0.0	6.8	12.0
Non-quality assured ACT	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Nationally Registered ACT	5.1	0.0	0.5	5.6	1.7	6.8	1.6	0.0	10.0	15.7
2. Any non-artemisinin therapy	18.0	0.0	1.3	19.3	7.6	25.4	29.0	2.9	64.9	84.2
Sulfadoxine Pyrimethamine	16.1	0.0	1.2	17.3	6.6	23.9	21.1	0.3	51.9	69.2
Chloroquine	0.0	0.0	0.0	0.0	0.0	0.0	6.1	2.6	8.7	8.7
Oral Quinine	0.8	0.0	0.0	0.9	0.5	0.6	0.2	0.0	1.2	2.1
Quinine IV/IM	0.7	0.0	0.1	0.8	0.5	0.9	1.7	0.0	3.1	3.9
Other non-artemisinin therapy ^	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Artesunate IV/IM #	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
OUTLET TYPE TOTAL***	23.1	0.1	1.8	25.0	9.3	32.2	30.6	2.9	75.0	100.0

* A total of 4,879 AETDs were reportedly sold or distributed in the previous 7 days. See Annex 11 for a description of AETD calculation and Annex 12 for AETD numbers by outlet type and drug category.

** Row sum – market share for the specified antimalarial medicine.

*** Column sum – market share for the specified outlet type.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

^ Other non-artemisinin therapies include atovaquone-proguanil and halofantrine

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Categories 1 through 4 sum to 100% in the far-right column – antimalarial total column.

A total of 1,473 antimalarials were audited. Of these, 25 audited antimalarials were not included in market share calculations due to incomplete or inconsistent information.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B9.2: Antimalarial market share, rural

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/ distributed:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	TOTAL Private	ANTI-MALARIAL TOTAL**
	%	%	%	%	%	%	%	%	%	%
1. Any ACT	12.3	1.5	0.0	13.8	0.3	0.1	1.6	0.1	2.1	16.0
Artesunate Amodiaquine Ψ	12.3	1.5	0.0	13.8	0.3	0.0	1.0	0.1	1.5	15.3
Artemether Lumefantrine	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.0	0.7	0.7
Quality-assured ACT (QA ACT)	12.3	1.5	0.0	13.8	0.3	0.1	1.6	0.1	2.1	16.0
QA ACT with the “green leaf” logo	5.3	0.6	0.0	5.9	0.2	0.0	0.6	0.1	0.9	6.8
QA ACT without the “green leaf” logo	7.1	0.9	0.0	7.9	0.1	0.1	1.0	0.0	1.2	9.2
Non-quality assured ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nationally Registered ACT	12.3	1.5	0.0	13.8	0.3	0.1	1.6	0.1	2.1	16.0
2. Any non-artemisinin therapy	22.7	1.1	0.2	24.0	11.3	1.7	32.2	14.8	60.0	84.0
Sulfadoxine Pyrimethamine	21.4	0.8	0.0	22.2	7.7	1.7	12.4	1.8	23.7	45.9
Chloroquine	0.0	0.3	0.1	0.4	2.0	0.0	18.6	12.9	33.6	33.9
Oral Quinine	0.1	0.0	0.0	0.1	0.2	0.0	0.5	0.0	0.6	0.7
Quinine IV/IM	1.1	0.0	0.1	1.2	1.4	0.0	0.7	0.0	2.1	3.4
Other non-artemisinin therapy ^	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Artesunate IV/IM #	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTLET TYPE TOTAL***	35.0	2.6	0.2	37.8	11.6	1.8	33.8	14.9	62.2	100.0

* A total of 1,531 AETDs were reportedly sold or distributed in the previous 7 days. See Annex 11 for a description of AETD calculation and Annex 12 for AETD numbers by outlet type and drug category.

** Row sum – market share for the specified antimalarial medicine.

*** Column sum – market share for the specified outlet type.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

^ Other non-artemisinin therapies include atovaquone-proguanil and halofantrine.

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Categories 1 through 4 sum to 100% in the far-right column – antimalarial total column.

A total of 696 antimalarials were audited. Of these, 16 audited antimalarials were not included in market share calculations due to incomplete or inconsistent information.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B10.1: Antimalarial market share across outlets, urban

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/ distributed:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	TOTAL Private
	%	%	%	%	%	%	%	%	%
1. Any ACT	21.9	48.7	30.0	22.5	18.3	21.1	5.1	0.0	13.4
Artesunate Amodiaquine Ψ	21.8	48.7	30.0	22.5	15.7	10.8	3.8	0.0	8.1
Artemether Lumefantrine	0.0	0.0	0.0	0.0	2.5	10.3	1.3	0.0	5.3
Quality-assured ACT (QA ACT)	21.5	48.7	30.0	22.2	18.3	21.1	5.1	0.0	13.4
QA ACT with the “green leaf” logo	1.2	25.4	0.0	1.2	4.7	5.5	3.1	0.0	4.2
QA ACT without the “green leaf” logo	20.0	23.3	30.0	20.8	12.2	15.6	2.0	0.0	9.0
Non-quality assured ACT	0.4	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Nationally Registered ACT	21.9	48.7	30.0	22.5	18.3	21.1	5.1	0.0	13.4
2. Any non-artemisinin therapy	77.8	51.3	70.0	77.2	81.7	78.9	94.9	100.0	86.6
Sulfadoxine Pyrimethamine	69.4	0.0	65.5	68.9	71.2	74.3	69.0	11.4	69.3
Chloroquine	0.0	0.0	0.0	0.0	0.0	0.0	19.9	88.6	11.6
Oral Quinine	3.6	51.3	1.1	3.6	5.1	1.7	0.6	0.0	1.6
Quinine IV/IM	3.2	0.0	3.4	3.2	5.4	2.8	5.5	0.0	4.1
Other non-artemisinin therapy ^	1.6	0.0	0.0	1.5	0.0	0.1	0.0	0.0	0.0
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Artesunate IV/IM #	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
OUTLET TYPE TOTAL***	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* A total of 4,879 AETDs were reportedly sold or distributed in the previous 7 days. See Annex 11 for a description of AETD calculation and Annex 12 for AETD numbers by outlet type and drug category.

** Row sum – market share for the specified antimalarial medicine.

*** Column sum – market share for the specified outlet type.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

^ Other non-artemisinin therapies include atovaquone-proguanil and halofantrine.

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Categories 1 through 4 sum to 100% in the far-right column – antimalarial total column.

A total of 1,473 antimalarials were audited. Of these, 25 audited antimalarials were not included in market share calculations due to incomplete or inconsistent information.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B10.2: Antimalarial market share across outlets, rural

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/ distributed:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	TOTAL Private
%	%	%	%	%	%	%	%	%	%
1. Any ACT	35.3	57.0	0.0	36.6	2.7	3.9	4.9	0.7	3.4
Artesunate Amodiaquine Ψ	35.3	57.0	0.0	36.6	2.7	0.0	3.1	0.7	2.4
Artemether Lumefantrine	0.0	0.0	0.0	0.0	0.0	3.9	1.8	0.0	1.1
Quality-assured ACT (QA ACT)	35.3	57.0	0.0	36.6	2.7	3.9	4.9	0.7	3.4
QA ACT with the “green leaf” logo	15.1	23.9	0.0	15.6	1.8	0.0	1.8	0.5	1.4
QA ACT without the “green leaf” logo	20.2	33.1	0.0	21.0	0.8	3.9	3.1	0.2	2.0
Non-quality assured ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nationally Registered ACT	35.3	57.0	0.0	36.6	2.7	3.9	4.9	0.7	3.4
2. Any non-artemisinin therapy	64.7	43.0	100.0	63.4	97.3	96.1	95.1	99.3	96.6
Sulfadoxine Pyrimethamine	61.0	31.0	0.0	58.6	66.5	95.0	36.8	12.4	38.1
Chloroquine	0.0	11.2	34.1	0.9	17.2	0.0	55.0	86.7	54.0
Oral Quinine	0.3	0.0	0.0	0.3	1.4	0.0	1.3	0.0	1.0
Quinine IV/IM	3.1	0.8	65.9	3.2	12.3	1.1	2.0	0.2	3.5
Other non-artemisinin therapy ^	0.4	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Artesunate IV/IM #	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTLET TYPE TOTAL***	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* A total of 1,531 AETDs were reportedly sold or distributed in the previous 7 days. See Annex 11 for a description of AETD calculation and Annex 12 for AETD numbers by outlet type and drug category.

** Row sum – market share for the specified antimalarial medicine.

*** Column sum – market share for the specified outlet type.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

^ Other non-artemisinin therapies include atovaquone-proguanil and halofantrine.

At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate IV/IM was the first-line treatment for severe malaria.

Categories 1 through 4 sum to 100% in the far-right column – antimalarial total column.

A total of 696 antimalarials were audited. Of these, 16 audited antimalarials were not included in market share calculations due to incomplete or inconsistent information.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B13: Provider case management knowledge and practices, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
Proportion of providers who:	% (95% CI)	% (95% CI)	(95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Would refer a 2-year-old child with symptoms of severe malaria to a health facility	-	Urban N=54 Rural N=111	-	Urban N=54 Rural N=111	-	Urban N=64 Rural N=9	Urban N=58 Rural N=140	Urban N=142 Rural N=172	Urban N=264 Rural N=321	Urban N=318 Rural N=432
Yes, would refer to health facility										
Urban	n/a	97.8 (93.5, 99.2)	n/a	97.8 (93.5, 99.2)	n/a	96.1 (90.6, 98.4)	93.2 (86.3, 96.8)	98.3 (96.1, 99.3)	96.3 (93.9, 97.7)	96.5 (94.4, 97.9)
Rural	n/a	94.9 (90.2, 97.4)	n/a	94.9 (90.2, 97.4)	n/a	100.0 -	84.9 (74.0, 91.8)	83.1 (71.0, 90.8)	83.8 (76.3, 89.2)	87.4 (82.4, 91.1)
Would recommend that a client with a negative malaria blood test take an antimalarial	Urban N=85 Rural N=168	Urban N=54 Rural N=110	Urban N=12 Rural N=4	Urban N=151 Rural N=282	Urban N=138 Rural N=39	Urban N=60 Rural N=6	Urban N=50 Rural N=112	Urban N=63 Rural N=96	Urban N=311 Rural N=253	Urban N=462 Rural N=535
Yes – sometimes										
Urban	11.3 (6.0, 20.4)	3.6 (1.1, 11.1)	26.8 (14.8, 43.6)	9.4 (5.2, 16.6)	23.8 (17.6, 31.4)	12.1 (6.2, 22.4)	10.8 (5.7, 19.5)	6.4 (3.1, 12.6)	14.2 (10.4, 19.2)	12.6 (8.7, 17.8)
Rural	7.9 (4.1, 14.7)	4.5 (1.5, 12.8)	0.0 -	6.1 (3.4, 10.7)	16.1 (6.7, 33.6)	13.0 (2.0, 51.5)	2.8 (0.9, 8.4)	3.6 (0.5, 22.2)	5.6 (2.6, 11.4)	5.8 (3.6, 9.2)
Yes – always										
Urban	7.8 (4.0, 14.5)	2.8 (1.0, 7.8)	11.3 (4.0, 28.2)	6.2 (3.7, 10.2)	6.7 (3.5, 12.3)	3.6 (0.8, 15.1)	3.2 (0.9, 10.7)	3.2 (1.3, 7.5)	4.4 (2.7, 7.1)	5.0 (3.4, 7.5)
Rural	1.3 (0.3, 5.2)	4.5 (2.0, 9.7)	27.5 (16.2, 42.6)	3.2 (1.6, 6.5)	12.0 (4.9, 26.5)	0.0 -	5.5 (2.3, 12.6)	1.0 (0.2, 5.5)	4.4 (2.9, 6.9)	3.8 (2.5, 5.7)
Circumstances cited for recommending antimalarial treatment to a client who tested negative for malaria:*	Urban N=18 Rural N=15	Urban N=8 Rural N=13	Urban N=5 Rural N=1	Urban N=31 Rural N=29	Urban N=45 Rural N=12	Urban N=8 Rural N=1	Urban N=7 Rural N=11	Urban N=8 Rural N=2	Urban N=68 Rural N=26	Urban N=99 Rural N=55
Patient has signs and symptoms of malaria.										
Urban	95.4 (79.1, 99.1)	100.0 -	100.0 -	96.8 (85.0, 99.4)	89.8 (79.3, 95.3)	78.6 (52.5, 92.4)	12.6 (2.4, 45.4)	63.9 (22.8, 91.4)	68.2 (51.9, 81.0)	77.2 (63.5, 86.8)
Rural	91.4 (56.8, 98.8)	64.7 (33.9, 86.7)	100.0 -	78.7 (58.2, 90.8)	91.2 (66.1, 98.2)	100.0 -	87.5 (46.5, 98.3)	- -	70.3 (36.7, 90.6)	74.8 (54.4, 88.1)

Table B13: Provider case management knowledge and practices, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
Proportion of providers who:	% (95% CI)	% (95% CI)	(95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
When the patient asks for antimalarial treatment.										
Urban	27.1 (13.7, 46.6)	- -	40.8 (8.6, 83.5)	25.0 (14.7, 39.3)	36.7 (21.9, 54.5)	5.4 (1.0, 23.9)	- -	18.0 (5.2, 47.1)	23.0 (14.9, 33.7)	23.6 (16.2, 33.2)
Rural	34.7 (13.0, 65.4)	18.4 (6.5, 42.4)	- -	25.4 (13.8, 42.2)	36.8 (5.6, 85.0)	- -	29.3 (9.2, 63.0)	- -	26.4 (6.9, 63.4)	25.9 (12.9, 45.1)
Provider doesn't trust the test results.										
Urban	6.1 (1.4, 22.3)	- -	- -	4.2 (1.0, 16.9)	- -	17.5 (3.7, 54.1)	33.1 (24.9, 42.4)	29.1 (14.2, 50.3)	12.8 (8.1, 19.8)	10.1 (6.5, 15.4)
Rural	- -	8.5 (1.3, 38.8)	- -	4.1 (0.7, 21.7)	5.7 (0.7, 33.7)	- -	33.9 (10.7, 68.5)	79.2 (19.1, 98.4)	29.7 (9.1, 64.0)	16.0 (5.3, 39.1)
Other (all other reasons)										
Urban	4.6 (0.9, 20.9)	14.4 (2.6, 51.6)	- -	5.4 (1.6, 16.6)	18.8 (9.5, 33.9)	16.0 (4.8, 42.0)	54.4 (29.6, 77.1)	- -	24.0 (14.3, 37.4)	18.2 (11.3, 27.9)
Rural	4.4 (0.6, 26.9)	38.7 (16.5, 66.8)	- -	20.9 (8.8, 41.8)	3.1 (0.4, 21.1)	100.0 -	19.8 (4.9, 54.5)	20.8 (1.6, 80.9)	12.3 (3.9, 32.2)	16.9 (8.1, 31.8)

Provider questions were administered to one staff member working in each outlet eligible for a full interview (current/recent antimalarial-stocking outlets or outlets providing malaria blood testing).

* No providers were missing information on circumstances for recommending antimalarials to clients who tested negative for malaria.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Table B14: Provider antimalarial treatment knowledge and practices, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	(95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of providers who:	Urban N=85 Rural N=168	Urban N=54 Rural N=111	Urban N=12 Rural N=4	Urban N=151 Rural N=283	Urban N=141 Rural N=41	Urban N=64 Rural N=9	Urban N=58 Rural N=140	Urban N=142 Rural N=172	Urban N=405 Rural N=362	Urban N=556 Rural N=645
Correctly state the national first-line treatment ^ψ for uncomplicated malaria										
Urban	100.0 -	74.2 (58.3, 85.5)	91.8 (72.4, 98.0)	90.0 (81.4, 94.9)	84.3 (76.7, 89.8)	69.7 (60.1, 77.9)	53.3 (43.4, 63.0)	23.0 (12.8, 37.8)	51.8 (44.3, 59.2)	63.2 (56.7, 69.2)
Rural	98.2 (95.2, 99.3)	81.7 (68.3, 90.3)	27.5 (16.2, 42.6)	88.9 (81.9, 93.4)	58.4 (38.1, 76.2)	57.9 (34.3, 78.4)	40.1 (31.5, 49.3)	20.4 (12.2, 32.1)	31.0 (23.9, 39.0)	57.1 (46.9, 66.8)
Correctly state the first-line dosing regimen for an adult										
Urban	64.9 (48.9, 78.0)	1.8 (0.4, 7.4)	64.1 (34.7, 85.8)	41.6 (30.9, 53.2)	52.4 (41.4, 63.1)	17.2 (10.0, 28.0)	19.5 (9.5, 36.0)	0.9 (0.2, 3.6)	21.1 (16.1, 27.1)	27.2 (21.3, 34.0)
Rural	71.8 (62.8, 79.3)	10.3 (4.2, 23.3)	0.0 -	39.5 (30.0, 50.0)	12.7 (5.2, 27.9)	7.4 (1.0, 39.2)	14.0 (7.4, 24.9)	4.4 (1.1, 16.0)	8.2 (4.5, 14.5)	22.4 (16.2, 30.1)
Correctly state the first-line dosing regimen for a child										
Urban	85.3 (75.6, 91.5)	58.4 (45.3, 70.5)	48.6 (31.7, 65.8)	73.1 (64.4, 80.4)	62.2 (51.4, 71.8)	49.0 (35.2, 63.0)	29.7 (20.5, 40.9)	5.3 (2.0, 13.0)	31.1 (25.7, 37.0)	43.6 (37.3, 50.2)
Rural	76.3 (66.8, 83.7)	48.9 (34.7, 63.3)	27.5 (16.2, 42.6)	61.7 (52.1, 70.5)	34.8 (20.8, 52.1)	7.4 (1.0, 39.2)	25.3 (18.7, 33.2)	9.3 (4.0, 20.1)	17.1 (12.7, 22.5)	37.3 (29.6, 45.6)
Report an ACT as the most effective antimalarial medicine for an adult										
Urban	94.0 (87.4, 97.2)	43.7 (35.7, 52.0)	64.6 (37.9, 84.5)	73.7 (63.2, 82.0)	70.4 (60.7, 78.5)	54.1 (42.5, 65.2)	33.2 (25.2, 42.3)	8.9 (3.3, 22.1)	36.0 (30.6, 41.9)	47.3 (41.3, 53.3)
Rural	85.5 (73.1, 92.7)	34.3 (20.3, 51.6)	0.0 -	58.3 (47.2, 68.6)	34.4 (19.8, 52.8)	26.9 (10.2, 54.4)	15.4 (8.2, 27.1)	10.5 (4.1, 24.5)	15.0 (9.4, 22.9)	34.5 (26.3, 43.9)
Report an ACT as the most effective antimalarial medicine for a child										
Urban	93.6 (87.8, 96.7)	92.8 (85.3, 96.7)	64.6 (29.0, 89.1)	91.5 (86.6, 94.8)	74.3 (64.3, 82.3)	76.0 (67.8, 82.6)	56.6 (48.2, 64.5)	7.0 (3.3, 14.4)	44.5 (38.5, 50.7)	58.5 (52.1, 64.7)
Rural	88.6 (75.5, 95.2)	95.4 (89.3, 98.1)	27.5 (16.2, 42.6)	91.3 (83.8, 95.5)	51.1 (28.7, 73.0)	64.3 (23.9, 91.2)	49.9 (40.7, 59.0)	20.2 (9.0, 39.1)	32.8 (24.3, 42.6)	59.2 (48.5, 69.1)

Table B14: Provider antimalarial treatment knowledge and practices, by outlet type, across urban/rural location

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	(95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Report an ACT as the antimalarial he/she most commonly recommends for adults										
Urban	91.2 (82.4, 95.8)	26.0 (15.5, 40.2)	49.1 (25.1, 73.5)	64.6 (54.4, 73.6)	64.1 (55.4, 72.0)	32.8 (24.4, 42.5)	8.3 (4.6, 14.5)	2.2 (0.7, 6.5)	23.4 (18.0, 29.8)	35.7 (29.4, 42.5)
Rural	83.8 (75.6, 89.6)	21.2 (14.0, 30.9)	0.0 -	50.8 (41.4, 60.1)	23.7 (9.3, 48.4)	5.8 (0.8, 31.2)	7.0 (3.5, 13.5)	2.0 (0.6, 7.0)	6.2 (3.3, 11.3)	26.4 (19.7, 34.3)
Report an ACT as the antimalarial he/she most commonly recommends for children										
Urban	91.8 (84.7, 95.8)	78.4 (60.3, 89.6)	59.9 (32.0, 82.6)	84.9 (77.5, 90.2)	69.0 (61.3, 75.8)	52.3 (43.9, 60.7)	27.7 (16.7, 42.2)	3.9 (1.9, 7.7)	32.2 (26.0, 39.1)	48.0 (41.1, 54.9)
Rural	88.8 (81.3, 93.6)	92.6 (86.4, 96.1)	0.0 -	89.6 (84.5, 93.1)	32.6 (16.5, 54.3)	5.8 (0.8, 31.2)	21.2 (14.1, 30.6)	7.4 (2.8, 18.2)	14.5 (9.3, 21.8)	48.4 (37.2, 59.8)

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was Madagascar's first-line treatment for uncomplicated malaria.

Numbers of providers (N) in this table are the total number of providers eligible for table indicators. The number of providers with missing information include 2 providers who were missing information on the national first-line treatment, the first-line dosing regimen for adults and children, the most effective antimalarial medicine for adults and children, and on the most often recommended antimalarial for adults and children.

Source: ACTwatch Outlet Survey, Madagascar, 2015.

Results Section C: Core Indicators across Survey Round: 2010, 2011, 2013, 2015

Table C1: Availability of antimalarials, among all screened outlets, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	2010 N=531 2011 N=642 2013 N=626 2015 N=260	2010 N=226 2011 N=802 2013 N=817 2015 N=1,378	2010 N=7 2011 N=38 2013 N=10 2015 N=20	2010 N=764 2011 N=1,482 2013 N=1,453 2015 N=1,658	2010 N=87 2011 N=84 2013 N=135 2015 N=330	2010 N=69 2011 N=82 2013 N=83 2015 N=73	2010 N=263 2011 N=393 2013 N=474 2015 N=224	2010 N=5,586 2011 N=8,005 2013 N=7,967 2015 N=11,196	2010 N=0 2011 N=0 2013 N=37 2015 N=n/a	2010 N=6,005 2011 N=8,564 2013 N=8,696 2015 N=11,823	2010 N=6,769 2011 N=10,046 2013 N=10,149 2015 N=13,481
Any antimalarial at the time of survey visit											
2010	96.8 (94.6, 98.2)	26.8 (10.1, 54.3)	80.6 (43.0, 95.8)	40.4 (22.3, 61.5)	87.6 (77.2, 93.7)	99.6 (97.7, 99.9)	97.4 (93.3, 99.0)	31.4 (24.6, 39.0)	- -	33.9 (27.3, 41.1)	34.9 (28.8, 41.5)
2011	96.8 (92.9, 98.6)	11.4 (6.0, 20.6)	81.7 (59.4, 93.2)	20.6 (13.6, 29.9)	70.4 (52.7, 83.6)	93.3 (74.7, 98.5)	96.1 (93.1, 97.8)	20.2 (17.2, 23.5)	- -	22.3 (19.2, 25.6)	21.9 (18.9, 25.2)
2013	93.4 (89.6, 95.8)	41.2 (30.9, 52.3)	95.5 (82.0, 99.0)	43.7 (33.6, 54.3)	67.5 (58.5, 75.4)	99.6 (97.6, 99.9)	92.0 (88.6, 94.4)	3.7 (2.4, 5.7)	58.2 (45.4, 70.0)	5.9 (4.5, 7.7)	12.9 (10.2, 16.2)
2015	93.9 (88.5, 96.8)	8.4 (4.4, 15.4)	68.1 (53.2, 80.0)	19.2 (14.0, 25.8)	62.8 (50.5, 73.7)	99.4 (97.4, 99.9)	77.8 (59.8, 89.2)	5.0 (3.2, 7.6)	- -	8.5 (6.5, 11.2)	11.0 (8.9, 13.7)
Any ACT											
2010	81.1 (75.2, 85.9)	26.7 (10.1, 54.3)	38.6 (14.4, 70.0)	37.3 (20.2, 58.2)	39.5 (19.2, 64.3)	70.2 (61.4, 77.7)	54.5 (48.9, 59.9)	0.8 (0.3, 1.9)	- -	2.8 (1.9, 4.2)	8.2 (5.3, 12.6)
2011	90.8 (87.2, 93.5)	10.5 (5.3, 19.8)	58.8 (36.4, 78.1)	18.9 (12.3, 27.9)	25.4 (10.8, 48.8)	92.5 (75.0, 98.1)	54.0 (44.4, 63.4)	0.5 (0.3, 0.9)	- -	2.1 (1.5, 2.8)	6.1 (4.6, 8.2)
2013	87.9 (83.2, 91.4)	40.9 (30.4, 52.3)	84.5 (46.7, 97.1)	43.1 (32.9, 54.0)	43.1 (33.4, 53.3)	98.6 (94.2, 99.7)	61.4 (54.4, 68.0)	0.4 (0.2, 0.8)	17.6 (5.1, 45.9)	1.7 (1.4, 2.2)	9.4 (7.1, 12.4)
2015	79.1 (69.2, 86.4)	7.7 (3.9, 14.3)	9.3 (1.7, 38.3)	16.4 (11.8, 22.5)	15.4 (8.9, 25.4)	96.2 (89.9, 98.6)	13.1 (8.4, 19.9)	0.1 (0.0, 0.4)		1.0 (0.7, 1.3)	4.6 (3.5, 6.0)
Artesunate Amodiaquine (ASAQ)											
2010	81.1 (75.2, 85.9)	26.7 (10.1, 54.3)	38.6 (14.4, 70.0)	37.3 (20.2, 58.2)	37.7 (17.8, 62.9)	45.1 (30.2, 60.9)	54.2 (48.6, 59.7)	0.8 (0.3, 1.9)	- -	2.7 (1.8, 4.0)	8.1 (5.2, 12.4)
2011	90.8 (87.2, 93.5)	10.5 (5.3, 19.8)	56.1 (33.6, 76.4)	18.8 (12.2, 27.8)	24.4 (10.1, 48.2)	87.5 (74.5, 94.3)	47.5 (38.0, 57.2)	0.4 (0.2, 0.8)	- -	1.8 (1.3, 2.4)	6.0 (4.4, 8.0)
2013	87.8 (83.1, 91.3)	40.9 (30.4, 52.3)	84.5 (46.7, 97.1)	43.1 (32.9, 54.0)	34.4 (25.6, 44.4)	93.6 (83.6, 97.7)	54.8 (46.9, 62.5)	0.3 (0.1, 0.7)	17.6 (5.1, 45.9)	1.5 (1.2, 1.9)	9.2 (6.9, 12.2)
2015	79.1 (69.1, 86.4)	7.7 (3.9, 14.3)	9.3 (1.7, 38.3)	16.4 (11.8, 22.5)	13.8 (7.8, 23.4)	70.6 (54.4, 82.9)	10.8 (7.0, 16.2)	0.1 (0.0, 0.4)	- -	0.8 (0.6, 1.2)	4.5 (3.4, 5.9)
Artemether Lumefantrine (AL)											

Table C1: Availability of antimalarials, among all screened outlets, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
2010	0.0 -	0.0 -	0.0 -	0.0 -	2.7 (1.3, 5.6)	68.6 (60.1, 76.1)	4.1 (1.8, 9.1)	0.0 -	- -	0.5 (0.3, 1.0)	0.4 (0.2, 0.9)
2011	0.8 (0.3, 2.0)	0.0 -	5.7 (2.0, 14.8)	0.1 (0.1, 0.3)	4.0 (1.5, 10.4)	82.7 (64.2, 92.8)	18.8 (13.8, 25.1)	0.1 (0.0, 0.6)	- -	0.8 (0.6, 1.2)	0.7 (0.4, 1.0)
2013	1.1 (0.5, 2.5)	0.1 (0.0, 0.4)	51.4 (13.5, 87.7)	0.4 (0.1, 1.3)	14.4 (6.8, 27.9)	90.1 (77.9, 95.9)	16.9 (12.7, 22.2)	0.1 (0.0, 0.3)	0.0 -	0.5 (0.3, 0.7)	0.5 (0.3, 0.7)
2015	0.5 (0.1, 2.7)	0.0 -	0.0 -	0.1 (0.0, 0.3)	2.2 (0.5, 8.2)	89.7 (81.8, 94.4)	2.7 (1.0, 6.9)	0.0 -	- -	0.2 (0.1, 0.4)	0.2 (0.1, 0.3)
Quality-assured ACT (QA ACT)											
2010	80.4 (74.5, 85.2)	26.7 (10.1, 54.3)	38.6 (14.4, 70.0)	37.1 (20.1, 58.1)	39.1 (18.9, 63.8)	51.2 (32.9, 69.2)	54.5 (48.9, 59.9)	0.8 (0.3, 1.9)	- -	2.7 (1.8, 4.1)	8.1 (5.2, 12.5)
2011	89.7 (85.6, 92.7)	10.5 (5.3, 19.8)	58.8 (36.4, 78.1)	18.7 (12.2, 27.7)	25.1 (10.6, 48.6)	92.5 (75.0, 98.1)	53.9 (44.2, 63.3)	0.5 (0.3, 0.9)	- -	2.0 (1.5, 2.8)	6.1 (4.5, 8.1)
2013	87.5 (82.8, 91.0)	40.3 (29.8, 51.8)	84.5 (46.7, 97.1)	42.5 (32.3, 53.5)	41.2 (31.5, 51.7)	98.6 (94.2, 99.7)	61.4 (54.4, 68.0)	0.3 (0.1, 0.7)	17.6 (5.1, 45.9)	1.7 (1.3, 2.1)	9.3 (7.0, 12.2)
2015	78.4 (68.6, 85.8)	7.4 (3.9, 13.8)	9.3 (1.7, 38.3)	16.2 (11.6, 22.1)	15.4 (8.9, 25.4)	96.2 (89.9, 98.6)	13.1 (8.4, 19.9)	0.1 (0.0, 0.4)	- -	1.0 (0.7, 1.3)	4.5 (3.4, 5.9)
QA ACT with the “green leaf” logo											
2010	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2011	70.0 (62.2, 76.8)	1.2 (0.3, 4.7)	30.1 (16.0, 49.4)	8.2 (5.2, 12.7)	11.8 (5.1, 25.0)	89.6 (76.7, 95.7)	49.2 (39.4, 59.0)	0.2 (0.1, 0.6)	- -	1.6 (1.2, 2.1)	3.2 (2.4, 4.2)
2013	72.3 (61.5, 80.9)	15.0 (10.1, 21.7)	84.5 (46.7, 97.1)	17.7 (12.6, 24.4)	40.6 (30.9, 51.0)	93.5 (83.7, 97.6)	60.1 (52.8, 67.0)	0.2 (0.1, 0.5)	9.1 (2.2, 30.7)	1.5 (1.2, 1.8)	4.5 (3.4, 5.9)
2015	39.5 (29.6, 50.3)	2.1 (0.7, 6.1)	3.4 (0.6, 17.7)	6.7 (4.4, 10.1)	10.6 (5.3, 20.1)	59.5 (42.8, 74.2)	8.2 (3.9, 16.3)	0.0 (0.0, 0.2)	- -	0.6 (0.4, 0.9)	2.0 (1.4, 2.8)
QA ACT without the “green leaf” logo											
2010	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2011	66.6 (59.9, 72.6)	9.5 (4.6, 18.6)	42.0 (16.5, 72.6)	15.3 (9.7, 23.5)	14.7 (3.4, 46.2)	77.4 (60.6, 88.4)	11.1 (7.8, 15.7)	0.3 (0.1, 0.6)	- -	0.9 (0.6, 1.3)	4.4 (3.0, 6.4)

Table C1: Availability of antimalarials, among all screened outlets, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
2013	46.7 (37.2, 56.4)	29.0 (20.4, 39.4)	13.2 (1.5, 59.8)	29.7 (21.4, 39.4)	5.5 (2.2, 12.7)	78.5 (57.8, 90.7)	4.7 (3.1, 7.3)	0.1 (0.0, 0.5)	8.5 (1.0, 45.9)	0.3 (0.2, 0.7)	5.8 (4.0, 8.3)
2015	74.6 (64.8, 82.4)	5.0 (2.5, 10.1)	8.9 (1.6, 37.3)	13.6 (9.9, 18.5)	9.4 (4.7, 18.1)	92.7 (85.8, 96.4)	5.5 (3.4, 8.9)	0.1 (0.0, 0.3)	- -	0.5 (0.4, 0.8)	3.6 (2.7, 4.8)
Non-quality assured ACT (non-QA ACT)											
2010	26.3 (19.0, 35.3)	0.8 (0.1, 6.4)	17.0 (4.5, 46.7)	5.7 (2.7, 11.9)	2.6 (0.9, 7.7)	50.7 (36.5, 64.7)	0.2 (0.0, 1.2)	0.0 -	- -	0.3 (0.1, 0.9)	1.2 (0.7, 1.9)
2011	12.0 (8.3, 17.1)	0.4 (0.1, 1.6)	14.7 (4.3, 39.6)	1.7 (1.0, 3.0)	1.4 (0.4, 4.7)	36.9 (19.6, 58.5)	2.1 (1.0, 4.2)	0.0 -	- -	0.2 (0.1, 0.5)	0.6 (0.4, 0.8)
2013	5.5 (3.6, 8.5)	2.1 (0.8, 5.6)	0.0 -	2.2 (0.9, 5.4)	8.8 (3.5, 20.6)	22.1 (10.8, 39.8)	4.3 (2.5, 7.1)	0.1 (0.0, 0.4)	0.0 -	0.2 (0.1, 0.4)	0.6 (0.3, 1.2)
2015	0.7 (0.1, 3.8)	0.2 (0.0, 1.4)	0.0 -	0.3 (0.1, 1.1)	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.1 (0.0, 0.3)
Any non-artemisinin therapy											
2010	73.8 (65.8, 80.5)	0.4 (0.1, 2.2)	80.6 (43.0, 95.8)	14.7 (8.3, 24.6)	85.1 (74.2, 91.9)	99.6 (97.7, 99.9)	96.4 (92.5, 98.3)	31.2 (24.5, 38.8)	- -	33.7 (27.1, 40.9)	30.7 (25.0, 37.1)
2011	84.2 (78.4, 88.6)	1.1 (0.4, 2.5)	50.0 (28.3, 71.7)	9.6 (6.4, 14.2)	68.8 (51.0, 82.3)	93.3 (74.7, 98.5)	94.6 (91.1, 96.8)	20.0 (17.0, 23.4)	- -	22.1 (19.1, 25.5)	19.1 (16.2, 22.3)
2013	51.9 (45.2, 58.5)	0.7 (0.2, 2.0)	93.8 (76.8, 98.6)	3.4 (2.5, 4.6)	58.3 (46.8, 68.9)	98.7 (93.1, 99.8)	87.6 (83.8, 90.6)	3.5 (2.2, 5.4)	49.7 (34.8, 64.7)	5.4 (4.1, 7.2)	5.1 (3.9, 6.6)
2015	71.1 (62.0, 78.8)	0.7 (0.3, 1.9)	65.7 (54.2, 75.6)	9.8 (7.4, 12.8)	61.5 (49.2, 72.5)	99.4 (97.4, 99.9)	77.8 (59.8, 89.2)	4.9 (3.2, 7.5)	- -	8.4 (6.4, 11.0)	8.7 (7.0, 10.9)
Sulfadoxine Pyrimethamine											
2010	45.5 (39.3, 51.9)	0.0 (0.0, 0.2)	61.4 (29.3, 86.0)	8.9 (5.1, 15.2)	42.6 (21.7, 66.6)	93.4 (80.9, 97.9)	73.8 (66.4, 80.0)	0.5 (0.2, 1.0)	- -	3.1 (2.1, 4.5)	4.0 (3.0, 5.4)
2011	63.7 (56.2, 70.6)	0.1 (0.0, 1.1)	24.1 (9.5, 49.0)	6.5 (4.3, 9.7)	32.1 (15.8, 54.3)	85.7 (68.3, 94.3)	65.2 (59.2, 70.7)	0.6 (0.3, 1.1)	- -	2.4 (1.8, 3.2)	3.4 (2.7, 4.3)
2013	5.1 (2.8, 9.2)	0.2 (0.0, 1.2)	18.2 (3.8, 55.7)	0.5 (0.2, 1.0)	23.6 (13.7, 37.6)	90.2 (73.2, 96.9)	73.5 (68.5, 78.0)	0.3 (0.1, 0.6)	33.9 (12.8, 64.2)	1.6 (1.2, 2.2)	1.4 (1.1, 1.8)

Table C1: Availability of antimalarials, among all screened outlets, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
2015	43.4 (32.9, 54.5)	0.2 (0.0, 1.4)	10.0 (1.8, 39.5)	5.6 (3.9, 7.9)	35.9 (26.1, 46.9)	95.6 (90.5, 98.0)	55.6 (38.8, 71.2)	0.5 (0.3, 1.0)	- -	3.1 (2.4, 4.0)	3.7 (2.9, 4.6)
Chloroquine											
2010	2.0 (0.8, 4.6)	0.3 (0.0, 2.3)	0.0 -	0.7 (0.2, 1.8)	34.3 (14.9, 60.9)	54.5 (33.8, 73.7)	84.9 (80.0, 88.8)	31.0 (24.3, 38.5)	- -	32.3 (25.9, 39.6)	27.4 (21.9, 33.7)
2011	2.1 (1.3, 3.5)	0.7 (0.3, 2.1)	11.9 (2.5, 41.8)	1.0 (0.5, 2.1)	13.8 (3.2, 43.4)	61.9 (46.3, 75.4)	78.4 (71.1, 84.2)	20.0 (17.0, 23.4)	- -	21.2 (18.2, 24.5)	16.3 (13.7, 19.3)
2013	0.5 (0.2, 1.6)	0.2 (0.0, 1.6)	4.4 (0.6, 25.7)	0.3 (0.1, 1.4)	9.1 (3.9, 19.9)	0.0 -	20.0 (14.9, 26.4)	3.3 (2.0, 5.2)	31.7 (13.4, 58.2)	3.7 (2.4, 5.6)	3.1 (2.0, 4.7)
2015	0.0 -	0.4 (0.1, 1.3)	24.9 (12.3, 44.0)	0.5 (0.2, 1.3)	11.2 (5.2, 22.4)	0.0 -	29.6 (22.7, 37.4)	4.7 (3.0, 7.3)	- -	5.6 (3.8, 8.2)	4.4 (2.9, 6.5)
Oral Quinine											
2010	48.2 (40.2, 56.3)	0.0 -	80.6 (43.0, 95.8)	9.4 (5.5, 15.8)	81.9 (69.2, 90.1)	96.3 (89.0, 98.8)	76.3 (63.6, 85.6)	0.2 (0.1, 0.9)	- -	3.4 (2.3, 5.1)	4.4 (3.1, 6.2)
2011	20.4 (16.1, 25.5)	0.0 -	20.9 (8.0, 44.5)	2.2 (1.4, 3.4)	2.9 (0.6, 12.7)	6.9 (2.1, 20.5)	6.5 (3.7, 11.4)	0.0 -	- -	0.2 (0.1, 0.3)	0.7 (0.5, 0.9)
2013	16.8 (11.4, 24.0)	0.0 -	1.6 (0.2, 10.6)	0.7 (0.4, 1.1)	6.7 (2.4, 17.4)	43.7 (30.2, 58.2)	6.4 (3.8, 10.6)	0.0 -	0.0 -	0.2 (0.1, 0.3)	0.3 (0.2, 0.4)
2015	11.7 (7.1, 18.7)	0.0 -	2.4 (0.3, 14.9)	1.5 (0.9, 2.3)	8.8 (4.5, 16.5)	34.7 (24.0, 47.3)	6.6 (3.0, 14.1)	0.0 -	- -	0.4 (0.3, 0.7)	0.7 (0.5, 0.9)
Oral artemisinin monotherapy											
2010	0.0 -	0.0 -	0.0 -	0.0 -	0.8 (0.2, 3.1)	0.8 (0.1, 4.3)	0.6 (0.1, 2.5)	0.0 -	- -	0.0 (0.0, 0.1)	0.0 (0.0, 0.1)
2011	0.0 -	0.0 -	0.0 -	0.0 -	0.4 (0.1, 1.9)	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
2013	0.2 (0.0, 1.0)	0.0 -	0.0 -	0.0 (0.0, 0.1)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 (0.0, 0.1)
2015	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
Non-oral artemisinin monotherapy											
2010	0.0 -	0.0 -	0.0 -	0.0 -	0.2 (0.0, 0.9)	20.8 (11.3, 35.1)	0.4 (0.0, 2.9)	0.0 -	- -	0.1 (0.0, 0.5)	0.1 (0.0, 0.4)

Table C1: Availability of antimalarials, among all screened outlets, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
2011	0.3 (0.0, 1.9)	0.0 -	0.0 -	0.0 (0.0, 0.2)	0.4 (0.1, 1.9)	8.5 (2.7, 24.0)	0.0 -	0.0 -	- -	0.0 (0.0, 0.2)	0.0 (0.0, 0.1)
2013	0.0 -	0.0 -	0.0 -	0.0 -	0.2 (0.0, 1.0)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 (0.0, 0.1)	0.0 -
2015	12.7 (7.5, 20.8)	0.0 -	1.0 (0.1, 7.9)	1.6 (0.9, 2.7)	0.1 (0.0, 0.4)	1.8 (0.6, 5.2)	0.0 -	0.0 -	- -	0.0 -	0.4 (0.2, 0.7)
Any treatment for severe malaria											
2010	43.2 (35.2, 51.5)	0.0 -	80.6 (43.0, 95.8)	8.4 (4.9, 14.3)	80.9 (67.9, 89.5)	96.0 (88.5, 98.7)	75.5 (62.5, 85.0)	0.1 (0.0, 0.4)	- -	3.2 (2.1, 4.9)	4.1 (2.8, 5.9)
2011	54.0 (46.0, 61.8)	0.2 (0.0, 1.3)	27.0 (10.7, 53.1)	5.6 (3.7, 8.5)	65.7 (47.3, 80.4)	80.3 (66.6, 89.3)	75.5 (68.5, 81.4)	0.0 -	- -	2.2 (1.7, 2.9)	3.1 (2.5, 3.8)
2013	46.7 (39.6, 54.0)	0.3 (0.0, 1.9)	89.5 (67.8, 97.2)	2.7 (2.0, 3.7)	57.5 (46.0, 68.2)	86.3 (74.9, 93.0)	59.1 (50.8, 66.9)	0.1 (0.0, 0.3)	6.8 (1.1, 32.7)	1.5 (1.2, 1.9)	1.7 (1.4, 2.2)
2015	50.8 (40.5, 61.1)	0.2 (0.1, 0.8)	61.8 (53.7, 69.4)	6.8 (5.0, 9.1)	50.2 (37.2, 63.2)	76.5 (61.3, 87.0)	53.9 (37.6, 69.3)	0.1 (0.0, 0.4)	- -	2.9 (2.3, 3.7)	3.8 (3.1, 4.7)
Artesunate IV/IM											
2010	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
2011	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
2013	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
2015	12.7 (7.4, 20.8)	0.0 -	1.0 (0.1, 7.9)	1.6 (0.9, 2.7)	0.1 (0.0, 0.4)	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.4 (0.2, 0.6)

* The denominator includes outlets that met screening criteria for a full interview but did not complete the interview (were not interviewed or completed a partial interview).

Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.

Table C2: Availability of antimalarials, among outlets stocking at least one antimalarial, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets* stocking:	2010 N=514 2011 N=612 2013 N=585 2015 N=244	2010 N=40 2011 N=80 2013 N=294 2015 N=92	2010 N=6 2011 N=30 2013 N=8 2015 N=16	2010 N=560 2011 N=722 2013 N=998 2015 N=352	2010 N=69 2011 N=43 2013 N=85 2015 N=167	2010 N=66 2011 N=77 2013 N=82 2015 N=72	2010 N=256 2011 N=375 2013 N=432 2015 N=189	2010 N=1,463 2011 N=1,143 2013 N=254 2015 N=260	2010 N=0 2011 N=0 2013 N=16 2015 N=n/a	2010 N=1,854 2011 N=1,638 2013 N=869 2015 N=688	2010 N=2,414 2011 N=2,360 2013 N=1,756 2015 N=1,040
Any ACT											
2010	81.9 (64.3, 92.0)	99.8 (99.2, 100.0)	47.8 (18.2, 79.1)	91.7 (78.2, 97.1)	45.1 (21.3, 71.4)	73.0 (56.6, 84.8)	58.7 (39.8, 75.4)	2.6 (1.0, 6.4)	- -	7.5 (4.3, 12.8)	22.7 (13.5, 35.6)
2011	93.8 (91.1, 95.8)	92.0 (79.0, 97.2)	71.9 (41.4, 90.3)	91.9 (86.3, 95.4)	36.1 (16.0, 62.5)	99.1 (95.2, 99.9)	56.2 (46.1, 65.9)	2.4 (1.3, 4.3)	- -	9.2 (7.0, 12.1)	28.1 (21.6, 35.8)
2013	94.1 (90.0, 96.6)	99.3 (94.7, 99.9)	88.5 (43.6, 98.7)	98.7 (96.3, 99.5)	63.8 (49.5, 76.0)	99.0 (93.3, 99.9)	66.8 (59.1, 73.7)	10.0 (5.2, 18.6)	30.3 (9.2, 65.1)	29.4 (22.7, 37.2)	72.9 (64.0, 80.3)
2015	84.2 (73.9, 91.0)	91.1 (79.9, 96.4)	13.6 (2.8, 46.7)	85.5 (78.2, 90.6)	24.5 (13.5, 40.3)	96.7 (90.0, 99.0)	16.9 (11.6, 23.8)	2.7 (1.0, 7.0)	- -	11.2 (8.0, 15.4)	41.5 (32.5, 51.0)
Artesunate Amodiaquine (ASAQ)											
2010	81.9 (64.3, 92.0)	99.8 (99.2, 100.0)	47.8 (18.2, 79.1)	91.7 (78.2, 97.1)	43.0 (19.7, 69.9)	45.5 (31.3, 60.4)	58.7 (39.8, 75.4)	2.6 (1.0, 6.4)	- -	7.3 (4.1, 12.6)	22.5 (13.3, 35.5)
2011	93.8 (91.1, 95.8)	92.0 (79.0, 97.2)	68.7 (38.9, 88.3)	91.8 (86.1, 95.3)	34.7 (15.1, 61.5)	93.7 (87.5, 97.0)	49.4 (39.5, 59.5)	1.9 (1.0, 3.8)	- -	8.2 (6.1, 10.9)	27.3 (20.7, 35.0)
2013	94.0 (89.9, 96.6)	99.3 (94.7, 99.9)	88.5 (43.6, 98.7)	98.7 (96.3, 99.5)	50.9 (37.7, 64.0)	94.0 (83.8, 97.9)	59.6 (51.3, 67.4)	8.0 (3.6, 16.9)	30.3 (9.2, 65.1)	25.1 (18.9, 32.5)	71.3 (62.3, 78.9)
2015	84.2 (73.9, 91.0)	91.1 (79.9, 96.4)	13.6 (2.8, 46.7)	85.4 (78.2, 90.6)	22.0 (12.0, 36.9)	71.0 (54.7, 83.3)	13.9 (9.6, 19.7)	2.7 (1.0, 7.0)	- -	9.6 (7.0, 13.1)	40.5 (31.8, 49.9)
Artemether Lumefantrine (AL)											
2010	0.0 -	0.0 -	0.0 -	0.0 -	3.1 (1.5, 5.9)	70.5 (54.3, 82.8)	4.3 (1.6, 11.0)	0.0 -	- -	0.8 (0.5, 1.2)	0.7 (0.4, 1.0)
2011	0.8 (0.3, 2.1)	0.0 -	6.9 (2.4, 18.1)	0.7 (0.3, 1.4)	5.7 (1.9, 16.0)	88.7 (73.9, 95.6)	19.6 (14.4, 26.1)	0.4 (0.1, 2.7)	- -	3.7 (2.5, 5.4)	3.0 (2.0, 4.4)
2013	1.2 (0.5, 2.7)	0.1 (0.0, 1.0)	53.8 (14.1, 89.3)	0.9 (0.3, 2.7)	21.3 (9.9, 39.8)	90.5 (78.1, 96.2)	18.4 (13.7, 24.2)	2.1 (0.5, 8.0)	0.0 -	8.6 (5.6, 12.9)	3.8 (2.6, 5.4)
2015	0.5 (0.1, 2.8)	0.0 -	0.0 -	0.3 (0.1, 1.8)	3.4 (0.8, 13.1)	90.2 (82.4, 94.8)	3.5 (1.4, 8.3)	0.0 -	- -	2.8 (1.5, 5.4)	1.8 (1.0, 3.2)
Quality-assured ACT (QA ACT)											
2010	81.9 (64.3, 92.0)	99.8 (99.2, 100.0)	47.8 (18.2, 79.1)	91.7 (78.2, 97.1)	44.6 (20.9, 71.0)	73.0 (56.6, 84.8)	58.7 (39.8, 75.4)	2.6 (1.0, 6.4)	- -	7.5 (4.3, 12.8)	22.7 (13.5, 35.6)

Table C2: Availability of antimalarials, among outlets stocking at least one antimalarial, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
2011	92.7 (89.1, 95.2)	92.0 (79.0, 97.2)	71.9 (41.4, 90.3)	91.4 (85.4, 95.1)	35.7 (15.7, 62.2)	99.1 (95.2, 99.9)	56.1 (46.0, 65.7)	2.4 (1.3, 4.3)	- (-)	9.2 (6.9, 12.1)	28.0 (21.4, 35.6)
2013	93.7 (89.5, 96.3)	97.9 (92.4, 99.4)	88.5 (43.6, 98.7)	97.4 (93.3, 99.0)	61.1 (46.3, 74.0)	99.0 (93.3, 99.9)	66.8 (59.1, 73.7)	8.7 (4.0, 17.9)	30.3 (9.2, 65.1)	28.2 (21.3, 36.2)	71.6 (62.7, 79.1)
2015	83.6 (73.4, 90.4)	88.6 (75.2, 95.2)	13.6 (2.8, 46.7)	84.1 (76.9, 89.3)	24.5 (13.5, 40.3)	96.7 (90.0, 99.0)	16.9 (11.6, 23.8)	2.7 (1.0, 7.0)	- (-)	11.2 (8.0, 15.4)	40.9 (32.1, 50.3)
QA ACT with the "green leaf" logo											
2010	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
2011	72.4 (64.5, 79.1)	10.8 (2.7, 34.5)	36.9 (15.4, 65.2)	40.0 (27.5, 54.0)	16.7 (7.5, 33.3)	96.0 (91.5, 98.2)	51.2 (41.0, 61.2)	1.1 (0.4, 2.8)	- (-)	7.2 (5.3, 9.6)	14.6 (11.3, 18.7)
2013	77.4 (67.4, 85.0)	36.3 (26.0, 48.1)	88.5 (43.6, 98.7)	40.6 (30.5, 51.6)	60.0 (45.4, 73.1)	93.9 (83.7, 97.9)	65.3 (57.3, 72.6)	6.2 (3.1, 12.3)	15.7 (3.8, 46.5)	25.2 (19.3, 32.2)	34.9 (28.2, 42.2)
2015	42.0 (31.8, 53.0)	25.0 (9.1, 52.7)	5.0 (1.0, 22.1)	34.8 (23.8, 47.7)	16.9 (8.2, 31.7)	59.9 (43.0, 74.6)	10.5 (5.7, 18.7)	0.5 (0.1, 3.2)	- (-)	6.6 (4.0, 10.5)	18.1 (12.4, 25.6)
QA ACT without the "green leaf" logo											
2010	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
2011	68.8 (62.3, 74.7)	82.8 (60.3, 93.9)	51.4 (22.7, 79.1)	75.0 (64.1, 83.5)	20.9 (4.7, 58.6)	82.9 (68.8, 91.4)	11.6 (8.1, 16.3)	1.3 (0.5, 3.1)	- (-)	4.0 (2.8, 5.9)	20.2 (14.2, 27.9)
2013	50.0 (39.4, 60.6)	70.4 (58.7, 79.9)	13.9 (1.6, 61.7)	67.9 (57.2, 77.0)	8.1 (3.1, 19.7)	78.8 (57.9, 91.0)	5.2 (3.4, 7.8)	2.4 (0.4, 12.4)	14.6 (1.8, 62.0)	5.7 (2.9, 11.1)	44.8 (35.4, 54.5)
2015	79.5 (69.2, 87.0)	60.0 (43.0, 74.9)	13.1 (2.6, 45.4)	70.7 (61.3, 78.7)	15.0 (7.1, 28.7)	93.3 (86.4, 96.8)	7.1 (4.1, 12.2)	1.7 (0.5, 6.0)	- (-)	6.4 (4.1, 9.9)	32.6 (25.1, 41.2)
Non-quality assured ACT (non-QA ACT)											
2010	20.3 (10.9, 34.9)	2.9 (0.3, 24.0)	21.0 (5.5, 55.0)	10.8 (4.7, 22.9)	3.0 (1.0, 8.8)	26.9 (17.4, 39.2)	1.3 (0.2, 9.6)	0.0 (-)	- (-)	0.3 (0.2, 0.7)	2.2 (1.1, 4.4)
2011	12.4 (8.5, 17.8)	3.9 (1.0, 13.8)	18.0 (4.1, 52.7)	8.4 (4.9, 14.0)	1.9 (0.5, 7.0)	39.6 (22.5, 59.7)	2.2 (1.1, 4.3)	0.0 (-)	- (-)	0.9 (0.4, 2.2)	2.6 (1.8, 3.9)
2013	5.9	5.0	0.0	5.1	13.0	22.2	4.6	1.4	0.0	3.8	4.6

Table C2: Availability of antimalarials, among outlets stocking at least one antimalarial, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
	(3.8, 9.2)	(1.9, 12.7)	-	(2.1, 11.6)	(5.3, 28.8)	(10.9, 39.9)	(2.8, 7.7)	(0.2, 8.7)	-	(2.0, 7.2)	(2.4, 8.5)
2015	0.8 (0.2, 4.0)	2.6 (0.5, 11.9)	0.0 -	1.5 (0.4, 5.1)	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.6 (0.2, 2.2)
Any non-artemisinin therapy											
2010	93.2 (85.1, 97.1)	1.4 (0.2, 10.5)	100.0 -	42.9 (24.4, 63.5)	97.2 (91.2, 99.1)	100.0 -	99.7 (98.8, 99.9)	99.4 (98.2, 99.8)	- -	99.4 (98.4, 99.8)	89.2 (77.2, 95.3)
2011	87.0 (81.8, 90.9)	9.3 (3.5, 22.4)	61.1 (27.8, 86.6)	47.2 (32.5, 62.3)	97.7 (92.8, 99.3)	100.0 -	98.5 (96.7, 99.3)	99.5 (98.5, 99.8)	- -	99.4 (98.6, 99.7)	87.5 (79.3, 92.7)
2013	55.6 (48.7, 62.3)	1.7 (0.5, 5.1)	98.3 (88.5, 99.8)	7.7 (5.4, 10.9)	86.3 (71.1, 94.1)	99.2 (95.3, 99.9)	95.2 (93.0, 96.8)	93.5 (86.0, 97.2)	85.4 (38.0, 98.2)	92.2 (87.0, 95.4)	39.1 (30.2, 48.8)
2015	75.8 (66.2, 83.3)	8.9 (3.6, 20.1)	96.5 (81.3, 99.4)	50.7 (39.2, 62.2)	97.8 (95.8, 98.9)	100.0 -	100.0 -	97.8 (94.1, 99.2)	- -	98.5 (96.7, 99.3)	79.0 (70.4, 85.6)
Sulfadoxine Pyrimethamine											
2010	61.2 (43.1, 76.7)	0.1 (0.0, 0.8)	76.2 (35.3, 94.9)	27.7 (14.7, 46.1)	48.6 (23.8, 74.1)	85.6 (67.4, 94.4)	83.9 (55.6, 95.6)	1.5 (0.7, 3.3)	- -	8.2 (5.0, 13.0)	11.7 (9.0, 15.0)
2011	65.9 (59.0, 72.2)	1.3 (0.2, 8.9)	29.4 (11.8, 56.6)	31.9 (22.0, 43.7)	45.6 (24.2, 68.8)	91.8 (79.3, 97.1)	67.8 (62.1, 73.0)	3.0 (1.5, 5.8)	- -	10.8 (8.0, 14.5)	15.6 (12.3, 19.5)
2013	5.5 (3.0, 9.8)	0.4 (0.1, 2.8)	19.1 (3.8, 58.3)	1.1 (0.5, 2.4)	34.9 (20.8, 52.4)	90.6 (73.2, 97.1)	79.9 (74.8, 84.2)	8.0 (3.5, 17.2)	58.2 (19.1, 89.1)	27.8 (19.1, 38.6)	11.0 (8.2, 14.7)
2015	46.2 (35.0, 57.7)	2.5 (0.3, 16.8)	14.7 (3.1, 48.1)	28.9 (19.5, 40.5)	57.1 (40.0, 72.6)	96.2 (90.8, 98.5)	71.5 (60.1, 80.7)	10.8 (6.2, 18.0)	- -	36.3 (28.2, 45.3)	33.3 (26.2, 41.3)
Chloroquine											
2010	0.1 (0.0, 0.7)	1.3 (0.1, 11.1)	0.0 -	0.8 (0.1, 5.1)	39.1 (16.6, 67.4)	62.6 (45.6, 76.9)	96.4 (84.2, 99.3)	98.0 (94.5, 99.3)	- -	95.9 (92.9, 97.7)	78.8 (66.9, 87.2)
2011	2.2 (1.3, 3.6)	6.5 (2.1, 18.6)	14.6 (3.1, 47.8)	4.9 (2.3, 10.1)	19.7 (5.0, 53.3)	66.4 (54.4, 76.5)	81.6 (75.1, 86.6)	99.1 (98.0, 99.6)	- -	95.2 (93.6, 96.4)	74.9 (67.5, 81.0)
2013	0.5 (0.2, 1.7)	0.6 (0.1, 3.7)	4.6 (0.6, 27.0)	0.6 (0.1, 2.9)	13.5 (5.5, 29.3)	0.0 -	21.8 (16.4, 28.3)	87.4 (76.6, 93.7)	54.5 (16.7, 87.7)	62.8 (50.1, 73.9)	23.7 (16.1, 33.5)
2015	0.0 -	5.0 (2.0, 11.6)	36.6 (20.5, 56.3)	2.6 (1.2, 5.8)	17.8 (8.9, 32.5)	0.0 -	38.0 (29.0, 47.9)	93.8 (87.8, 97.0)	- -	65.6 (55.2, 74.7)	39.9 (30.7, 49.9)
Oral Quinine											

Table C2: Availability of antimalarials, among outlets stocking at least one antimalarial, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
2010	63.4 (41.2, 81.1)	0.0 -	100.0 -	28.7 (17.9, 42.6)	93.4 (86.3, 97.0)	83.1 (67.4, 92.1)	61.4 (36.2, 81.6)	1.5 (0.4, 5.7)	- -	8.2 (4.6, 14.1)	11.9 (8.1, 17.0)
2011	21.1 (16.7, 26.3)	0.0 -	25.5 (7.9, 57.9)	10.7 (7.3, 15.4)	4.2 (0.9, 17.8)	7.4 (2.2, 22.0)	6.8 (3.8, 11.8)	0.0 (0.0, 0.1)	- -	0.8 (0.5, 1.3)	3.0 (2.3, 3.9)
2013	18.0 (12.3, 25.5)	0.0 -	1.7 (0.2, 11.5)	1.6 (1.0, 2.5)	9.9 (3.6, 24.5)	43.9 (30.4, 58.4)	7.0 (4.2, 11.5)	0.1 (0.0, 0.8)	0.0 -	3.3 (2.0, 5.4)	2.2 (1.6, 3.2)
2015	12.5 (7.6, 19.9)	0.1 (0.0, 0.5)	3.5 (0.6, 18.7)	7.6 (4.7, 12.1)	13.9 (6.9, 26.0)	34.9 (24.2, 47.5)	8.5 (4.3, 16.3)	0.0 -	- -	4.9 (3.2, 7.5)	6.0 (4.2, 8.5)
Oral artemisinin monotherapy											
2010	0.0 -	0.0 -	0.0 -	0.0 -	0.9 (0.2, 3.6)	2.2 (0.4, 10.2)	7.1 (0.9, 38.6)	0.0 -	- -	0.5 (0.1, 2.7)	0.4 (0.1, 2.2)
2011	0.0 -	0.0 -	0.0 -	0.0 -	0.5 (0.1, 2.8)	0.0 -	0.0 -	0.0 -	- -	0.0 (0.0, 0.1)	0.0 -
2013	0.2 (0.0, 1.1)	0.0 -	0.0 -	0.0 (0.0, 0.1)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 (0.0, 0.1)
2015	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
Non-oral artemisinin monotherapy											
2010	0.0 -	0.0 -	0.0 -	0.0 -	0.2 (0.0, 1.1)	11.7 (5.8, 22.2)	6.9 (0.8, 39.3)	0.0 -	- -	0.5 (0.1, 2.6)	0.4 (0.1, 2.1)
2011	0.3 (0.0, 1.9)	0.0 -	0.0 -	0.1 (0.0, 0.9)	0.5 (0.1, 2.8)	9.1 (3.0, 24.5)	0.0 -	0.0 -	- -	0.2 (0.0, 0.9)	0.2 (0.0, 0.7)
2013	0.0 -	0.0 -	0.0 -	0.0 -	0.2 (0.0, 1.5)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 (0.0, 0.2)	0.0 (0.0, 0.1)
2015	13.6 (8.0, 22.1)	0.0 -	1.5 (0.2, 10.2)	8.2 (4.5, 14.2)	0.2 (0.1, 0.7)	1.8 (0.6, 5.2)	0.0 -	0.0 -	- -	0.1 (0.0, 0.1)	3.4 (1.8, 6.1)
Any treatment for severe malaria											
2010	47.5 (25.9, 70.1)	0.0 -	100.0 -	21.6 (15.1, 29.8)	92.3 (84.4, 96.4)	83.5 (67.8, 92.4)	59.3 (34.0, 80.4)	0.3 (0.1, 1.3)	- -	7.0 (4.2, 11.4)	9.6 (6.2, 14.6)
2011	55.8 (47.3, 64.0)	1.5 (0.2, 11.3)	33.0 (13.4, 61.1)	27.6 (18.8, 38.5)	93.4 (84.8, 97.3)	86.1 (76.8, 92.1)	78.6 (71.8, 84.2)	0.0 (0.0, 0.2)	- -	10.1 (7.8, 13.0)	14.1 (11.4, 17.2)
2013	50.0 (42.6, 57.4)	0.7 (0.1, 5.3)	93.7 (73.2, 98.8)	6.3 (4.3, 9.0)	85.1 (70.0, 93.3)	86.7 (75.0, 93.3)	64.2 (56.2, 71.5)	2.1 (0.5, 8.9)	11.6 (1.8, 48.4)	25.8 (19.1, 33.9)	13.5 (10.3, 17.5)

Table C2: Availability of antimalarials, among outlets stocking at least one antimalarial, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
2015	54.1 (43.4, 64.5)	2.6 (0.6, 10.8)	90.8 (66.9, 98.0)	35.2 (26.6, 44.9)	79.9 (65.0, 89.5)	77.0 (61.5, 87.5)	69.3 (57.2, 79.2)	2.3 (0.8, 6.0)	- -	33.8 (26.3, 42.2)	34.4 (27.8, 41.6)
Injectable AS											
2010	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
2011	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
2013	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	- -	0.0 -	0.0 -
2015	13.5 (7.9, 22.0)	0.0 -	1.5 (0.2, 10.2)	8.1 (4.5, 14.2)	0.2 (0.1, 0.7)	0.0 -	0.0 -	0.0 -	- -	0.0 (0.0, 0.1)	3.3 (1.8, 6.0)

*Antimalarial-stocking outlets have at least one antimalarial in stock on the day of the survey, verified by presence of at least one antimalarial recorded in the antimalarial audit sheet. The denominator includes outlets that met screening criteria for a full interview but did not complete the interview (was not interviewed or completed a partial interview).

Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.

Table C4: Antimalarial market composition, across survey round

Outlet type, among outlets with at least 1 antimalarial in stock on the day of the survey:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not-For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private
	%	%	%	%	%	%	%	%	%	%
2010, N=1,733 outlets	8.1 (6.6, 9.9)	9.9 (4.0, 22.6)	0.0 (0.0, 0.1)	18.0 (10.6, 28.9)	2.4 (1.4, 4.2)	0.5 (0.4, 0.8)	4.7 (2.8, 7.8)	74.3 (62.7, 83.3)	- -	82.0 (71.1, 89.4)
2011, N=1,486 outlets	8.8 (7.0, 11.0)	11.8 (6.5, 20.4)	1.0 (0.6, 1.9)	21.6 (15.0, 30.1)	1.9 (1.1, 3.4)	0.7 (0.4, 1.1)	5.5 (3.8, 8.0)	70.3 (62.5, 77.1)	- -	78.4 (69.9, 85.0)
2013, N=842 outlets	10.3 (8.2, 12.8)	51.7 (42.8, 60.6)	0.7 (0.3, 1.9)	62.7 (53.5, 71.1)	5.1 (3.3, 7.7)	0.6 (0.2, 1.4)	8.2 (6.0, 11.3)	20.9 (14.1, 29.9)	2.5 (1.1, 5.7)	37.3 (28.9, 46.5)
2015, N=809 outlets	16.6 (11.2, 23.8)	18.8 (10.9, 30.3)	1.0 (0.3, 3.6)	36.3 (25.8, 48.3)	9.7 (6.2, 14.9)	0.6 (0.3, 1.2)	13.7 (8.7, 20.8)	39.6 (30.3, 49.8)	- -	63.7 (51.7, 74.2)

* Excluding booster sample outlets. Outlets with at least one antimalarial in stock on the day of the survey, verified by presence of at least one antimalarial recorded in the antimalarial audit sheet.

Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.

Table C5: Price of tablet formulation antimalarials, by outlet type, across survey round

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private
Median price of a tablet AETD*:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
Any ACT						
2010	\$0.00 [0.00-0.09] ⁽⁸⁹⁾	\$8.33 [1.53-12.13] ⁽¹⁵⁵⁾	\$0.14 [0.09-0.56] ⁽¹⁵¹⁾	\$0.14 [0.09-0.28] ⁽¹⁵⁾	- -	\$0.19 [0.09-3.24] ⁽⁴¹⁰⁾
2011	\$0.44 [0.35-0.88] ⁽⁴⁶⁾	\$0.88 [0.44-8.44] ⁽⁵¹⁴⁾	\$0.66 [0.44-1.41] ⁽⁵⁷¹⁾	\$0.53 [0.35-0.88] ⁽¹³⁾	- -	\$0.71 [0.40-1.77] ^(1,144)
2013	\$0.39 [0.00-0.95] ⁽¹⁶⁴⁾	\$0.47 [0.32-1.26] ⁽⁵⁰¹⁾	\$0.63 [0.39-1.11] ⁽⁷⁹¹⁾	\$0.95 [0.59-1.58] ⁽²⁴⁾	\$0.95 [0.95-1.58] ⁽³⁾	\$0.55 [0.36-1.11] ^(1,483)
2015	\$0.19 [0.00-1.39] ⁽¹⁷⁸⁾	\$5.41 [0.83-9.56] ⁽²⁶⁶⁾	\$0.83 [0.55-1.94] ⁽⁹⁴⁾	\$0.83 [0.83-0.97] ⁽⁴⁾		\$0.97 [0.42-2.22] ⁽⁵⁴²⁾
Artesunate amodiaquine (ASAQ) Ψ						
2010	\$0.09 [0.00-0.09] ⁽⁷⁹⁾	\$7.68 [0.19-32.58] ⁽⁷⁴⁾	\$0.09 [0.09-0.56] ⁽¹⁴⁰⁾	\$0.14 [0.09-0.28] ⁽¹⁵⁾	- -	\$0.14 [0.09-0.56] ⁽³⁰⁸⁾
2011	\$0.44 [0.35-0.88] ⁽³⁷⁾	\$0.71 [0.35-4.95] ⁽³⁰⁸⁾	\$0.62 [0.35-1.41] ⁽⁴⁵³⁾	\$0.53 [0.35-0.62] ⁽¹²⁾	- -	\$0.53 [0.35-1.24] ⁽⁸¹⁰⁾
2013	\$0.39 [0.00-0.95] ⁽¹¹⁷⁾	\$0.39 [0.32-0.95] ⁽²⁹³⁾	\$0.63 [0.39-1.26] ⁽⁶⁷⁴⁾	\$0.79 [0.59-1.90] ⁽²²⁾	\$0.95 [0.95-1.58] ⁽³⁾	\$0.59 [0.32-1.26] ^(1,109)
2015	\$0.00 [0.00-1.39] ⁽¹⁶²⁾	\$0.83 [0.55-1.11] ⁽¹²⁸⁾	\$0.83 [0.55-1.66] ⁽⁷⁸⁾	\$0.83 [0.83-0.97] ⁽⁴⁾		\$0.83 [0.31-1.39] ⁽³⁷²⁾
Artemether lumefantrine (AL)						
2010	\$0.00 [0.00-0.00] ⁽⁸⁾	\$9.49 [4.72-11.11] ⁽⁷⁵⁾	\$9.72 [6.48-11.11] ⁽¹¹⁾	- -	- -	\$9.25 [4.72-11.11] ⁽⁹⁴⁾
2011	\$2.12 [0.80-8.83] ⁽⁸⁾	\$1.33 [0.44-8.92] ⁽¹⁸⁹⁾	\$0.88 [0.44-1.59] ⁽¹¹⁶⁾	\$1.06 ⁽¹⁾	- -	\$1.06 [0.44-8.48] ⁽³¹⁴⁾
2013	\$0.53 [0.39-0.79] ⁽⁴⁴⁾	\$0.55 [0.39-7.94] ⁽²⁰⁴⁾	\$0.47 [0.39-0.79] ⁽¹¹⁷⁾	\$0.95 [0.47-0.95] ⁽²⁾	- -	\$0.53 [0.39-0.95] ⁽³⁶⁷⁾
2015	\$3.47 [3.47-8.32] ⁽¹⁶⁾	\$9.56 [8.80-10.12] ⁽¹³⁸⁾	\$3.47 [0.55-9.98] ⁽¹⁶⁾	- -		\$9.15 [3.47-9.98] ⁽¹⁷⁰⁾
Quality-assured ACT (QA ACT)						

Table C5: Price of tablet formulation antimalarials, by outlet type, across survey round

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private
Median price of a tablet AETD*:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
2010	\$0.09 [0.00-0.09] ⁽⁸¹⁾	\$9.49 [1.53-19.80] ⁽¹³⁴⁾	\$0.14 [0.09-0.56] ⁽¹⁵⁰⁾	\$0.14 [0.09-0.28] ⁽¹⁵⁾	- -	\$0.14 [0.09-1.53] ⁽³⁸⁰⁾
2011	\$0.44 [0.35-0.88] ⁽⁴⁵⁾	\$0.71 [0.41-8.17] ⁽⁴⁷⁰⁾	\$0.66 [0.41-1.41] ⁽⁵⁶³⁾	\$0.53 [0.35-0.88] ⁽¹³⁾	- -	\$0.62 [0.35-1.41] ^(1,091)
2013	\$0.42 [0.00-0.95] ⁽¹⁵¹⁾	\$0.47 [0.32-1.26] ⁽⁴⁷⁹⁾	\$0.63 [0.39-1.18] ⁽⁷⁶⁸⁾	\$0.79 [0.55-1.90] ⁽²³⁾	\$0.95 [0.95-1.58] ⁽³⁾	\$0.59 [0.36-1.26] ^(1,424)
2015	\$0.19 [0.00-1.39] ⁽¹⁷⁸⁾	\$5.41 [0.83-9.56] ⁽²⁶⁶⁾	\$0.83 [0.55-1.94] ⁽⁹⁴⁾	\$0.83 [0.83-0.97] ⁽⁴⁾		\$0.97 [0.42-2.22] ⁽⁵⁴²⁾
QA ACT with the “green leaf” logo						
2010	- -	- -	- -	- -	- -	- -
2011	\$0.88 [0.44-1.77] ⁽²⁹⁾	\$0.47 [0.35-0.88] ⁽³²⁹⁾	\$0.62 [0.41-1.06] ⁽⁵¹⁶⁾	\$0.62 [0.35-1.06] ⁽⁶⁾	- -	\$0.53 [0.35-1.06] ⁽⁸⁸⁰⁾
2013	\$0.47 [0.20-0.95] ⁽¹³³⁾	\$0.39 [0.32-0.79] ⁽³⁶⁰⁾	\$0.63 [0.39-1.11] ⁽⁷³⁹⁾	\$0.71 [0.47-0.95] ⁽¹⁷⁾	\$0.95 [0.63-0.95] ⁽²⁾	\$0.49 [0.36-0.95] ^(1,251)
2015	\$1.39 [0.00-1.94] ⁽⁵⁷⁾	\$0.90 [0.55-1.39] ⁽⁹⁴⁾	\$0.83 [0.42-1.66] ⁽⁶⁶⁾	\$0.69 ⁽¹⁾		\$0.83 [0.42-1.66] ⁽²¹⁸⁾
QA ACT without the “green leaf” logo						
2010	- -	- -	- -	- -	- -	- -
2011	\$0.35 [0.00-0.35] ⁽¹⁶⁾	\$9.50 [8.30-15.55] ⁽¹⁴¹⁾	\$8.04 [0.35-10.60] ⁽⁴⁷⁾	\$0.53 [0.53-0.53] ⁽⁷⁾	- -	\$8.30 [0.53-10.60] ⁽²¹¹⁾
2013	\$0.00 [0.00-0.79] ⁽¹⁸⁾	\$8.21 [7.74-9.48] ⁽¹¹⁹⁾	\$0.79 [0.32-1.58] ⁽²⁹⁾	\$1.90 [1.26-2.21] ⁽⁶⁾	\$1.58 ⁽¹⁾	\$1.58 [0.79-7.11] ⁽¹⁷³⁾
2015	\$0.00 [0.00-1.39] ⁽¹¹²⁾	\$9.32 [8.42-9.98] ⁽¹⁷²⁾	\$1.39 [0.69-3.47] ⁽²⁸⁾	\$0.83 [0.83-0.97] ⁽²⁾		\$1.39 [0.69-8.80] ⁽³¹⁴⁾
Non-quality assured ACT (non-QA ACT)						

Table C5: Price of tablet formulation antimalarials, by outlet type, across survey round

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private
Median price of a tablet AETD*:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
2010	\$0.00 [0.00-0.00] ⁽⁸⁾	\$4.72 [4.72-4.72] ⁽²¹⁾	\$4.44 (1)	- -	- -	\$4.72 [4.44-4.72] ⁽³⁰⁾
2011	\$3.53 (1)	\$9.28 [7.73-10.07] ⁽⁴⁴⁾	\$1.77 [0.88-10.60] ⁽⁸⁾	- -	- -	\$8.66 [7.20-10.07] ⁽⁵³⁾
2013	\$0.39 [0.00-0.53] ⁽¹³⁾	\$0.39 [0.32-0.79] ⁽²²⁾	\$0.47 [0.32-0.79] ⁽²³⁾	\$0.95 (1)	- -	\$0.53 [0.24-0.95] ⁽⁵⁹⁾
2015	- -	- -	- -	- -	- -	- -
Sulfadoxine Pyrimethamine						
2010	\$0.28 [0.28-0.37] ⁽³⁸⁾	\$0.32 [0.32-1.20] ⁽¹⁶⁶⁾	\$0.37 [0.28-0.56] ⁽²⁵⁸⁾	\$0.37 [0.32-0.46] ⁽¹⁵⁾	- -	\$0.37 [0.28-0.46] ⁽⁴⁷⁷⁾
2011	\$0.40 [0.35-0.44] ⁽¹⁶⁾	\$0.44 [0.31-2.16] ⁽¹⁵²⁾	\$0.35 [0.27-0.44] ⁽²⁸⁴⁾	\$0.44 [0.40-0.44] ⁽²²⁾	- -	\$0.40 [0.31-0.44] ⁽⁴⁷⁴⁾
2013	\$0.30 [0.24-0.39] ⁽³³⁾	\$0.47 [0.32-1.42] ⁽¹⁹³⁾	\$0.32 [0.28-0.39] ⁽⁴⁰¹⁾	\$0.36 [0.32-0.39] ⁽¹³⁾	\$0.39 [0.24-0.39] ⁽⁷⁾	\$0.36 [0.28-0.39] ⁽⁶⁴⁷⁾
2015	\$0.35 [0.35-0.42] ⁽⁸⁵⁾	\$0.62 [0.35-0.73] ⁽¹⁴⁸⁾	\$0.35 [0.35-0.42] ⁽¹⁹⁹⁾	\$0.52 [0.42-0.52] ⁽³²⁾		\$0.35 [0.35-0.52] ⁽⁴⁶⁴⁾
Chloroquine						
2010	\$0.35 [0.35-0.35] ⁽²²⁾	\$0.35 [0.21-0.97] ⁽⁵⁴⁾	\$0.28 [0.21-0.35] ⁽²⁶²⁾	\$0.35 [0.35-0.35] ^(1,509)	- -	\$0.35 [0.35-0.35] ^(1,847)
2011	\$0.33 [0.20-0.33] ⁽⁷⁾	\$0.93 [0.80-0.99] ⁽⁵²⁾	\$0.33 [0.20-0.33] ⁽³³⁸⁾	\$0.33 [0.33-0.33] ^(1,152)	- -	\$0.33 [0.33-0.33] ^(1,549)
2013	\$0.59 [0.30-0.59] ⁽⁵⁾	- -	\$0.36 [0.30-0.59] ⁽¹⁰¹⁾	\$0.59 [0.30-0.59] ⁽²³⁵⁾	\$0.30 [0.30-0.59] ⁽¹¹⁾	\$0.59 [0.30-0.59] ⁽³⁵²⁾
2015	\$0.52 [0.52-0.78] ⁽⁷⁾	- -	\$0.52 [0.52-0.52] ⁽⁵⁷⁾	\$0.52 [0.52-0.69] ⁽²³⁴⁾		\$0.52 [0.52-0.52] ⁽²⁹⁸⁾
Oral Quinine						
2010	\$2.37 [0.00-4.86] ⁽¹¹⁾	\$28.24 [5.05-37.31] ⁽¹⁷⁾	\$5.25 [5.25-7.77] ⁽¹⁹⁾	\$2.92 [2.92-2.92] ⁽⁷⁾	- -	\$2.92 [2.92-5.83] ⁽⁵⁴⁾

Table C5: Price of tablet formulation antimalarials, by outlet type, across survey round

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private
Median price of a tablet AETD*:	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
2011	\$5.57 (1)	\$4.64 [4.64-4.82] ⁽⁶⁾	\$5.57 [3.71-7.42] ⁽²⁴⁾	\$0.93 (1)	- -	\$5.57 [3.71-7.42] ⁽³²⁾
2013	\$4.97 [4.97-8.29] ⁽⁸⁾	\$6.96 [4.97-8.29] ⁽³²⁾	\$6.63 [4.97-8.29] ⁽³²⁾	\$4.97 (1)	- -	\$6.63 [4.97-8.29] ⁽⁷³⁾
2015	\$5.09 [4.37-10.19] ⁽¹⁵⁾	\$5.82 [5.82-23.67] ⁽²⁸⁾	\$8.73 [7.28-10.19] ⁽²¹⁾	- -		\$7.28 [5.82-10.19] ⁽⁶⁴⁾
<p>* AETD - adult equivalent treatment dose - is or the number of milligrams required to treat a 60kg adult (see Annex 11). Information provided by the respondent about price for a specific amount of antimalarial drug (e.g. price per tablet or price per specific package size) was converted to the price per AETD.</p> <p>Figures in this table are derived using audited products with price information.</p> <p>Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.</p>						

Table C6: Availability of malaria blood testing among antimalarial-stocking outlets*, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public/Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of outlets** stocking	2010 N=522 2011 N=639 2013 N=604 2015 N=253	2010 N=51 2011 N=101 2013 N=334 2015 N=165	2010 N=6 2011 N=30 2013 N=9 2015 N=16	2010 N=579 2011 N=770 2013 N=947 2015 N=434	2010 N=76 2011 N=49 2013 N=94 2015 N=182	2010 N=67 2011 N=78 2013 N=82 2015 N=73	2010 N=261 2011 N=387 2013 N=447 2015 N=198	2010 N=1,633 2011 N=1,519 2013 N=316 2015 N=315	2010 N=0 2011 N=0 2013 N=19 2015 N=n/a	2010 N=2,037 2011 N=2,033 2013 N=958 2015 N=769	2010 N=2,616 2011 N=2,803 2013 N=1,905 2015 N=1,202
Any malaria blood testing											
2010	88.5 (82.3, 92.7)	12.6 (2.3, 47.0)	31.9 (10.9, 64.3)	43.3 (20.0, 69.9)	14.4 (7.9, 24.8)	0.5 (0.1, 1.9)	0.3 (0.0, 1.5)	0 -	- -	0.4 (0.3, 0.7)	8.3 (5.9, 11.6)
2011	92.3 (88.9, 94.7)	54.1 (39.9, 67.6)	72.7 (41.7, 90.9)	70.5 (59.2, 79.7)	9.2 (4.1, 19.4)	6.4 (3.3, 12.3)	1.5 (0.6, 3.4)	0.0 -	- -	0.4 (0.2, 0.7)	15.5 (11.8, 20.2)
2013	90.1 (87.0, 92.6)	88.8 (82.6, 92.9)	83.6 (40.5, 97.5)	88.8 (83.3, 92.7)	47.5 (33.5, 62.0)	3.5 (1.4, 8.5)	2.3 (1.0, 5.0)	0.5 (0.1, 3.8)	0.0 -	7.1 (4.2, 11.7)	57.0 (47.1, 66.3)
2015	74.9 (64.9, 82.8)	72.8 (59.3, 83.1)	12.3 (2.6, 41.9)	72.9 (64.7, 79.7)	45.0 (29.1, 61.9)	24.0 (12.4, 41.3)	11.9 (5.9, 22.3)	0.1 (0.0, 0.4)	- -	9.9 (7.1, 13.6)	37.7 (29.9, 46.2)
	2010 N=522 2011 N=637 2013 N=604 2015 N=253	2010 N=51 2011 N=101 2013 N=334 2015 N=165	2010 N=6 2011 N=30 2013 N=9 2015 N=16	2010 N=579 2011 N=768 2013 N=947 2015 N=434	2010 N=76 2011 N=49 2013 N=94 2015 N=182	2010 N=67 2011 N=77 2013 N=82 2015 N=73	2010 N=261 2011 N=387 2013 N=447 2015 N=198	2010 N=1,633 2011 N=1,518 2013 N=316 2015 N=315	2010 N=0 2011 N=2,799 2013 N=19 2015 N=n/a	2010 N=2,037 2011 N=2,031 2013 N=958 2015 N=769	2010 N=2,616 2011 N=2,799 2013 N=1,905 2015 N=1,202
Microscopic blood tests											
2010	3.7 (2.1, 6.3)	0 -	4.7 (0.9, 21.5)	1.5 (0.7, 3.4)	4.2 (2.1, 8.3)	0.3 (0.0, 1.6)	0 -	0 -	- -	0.1 (0.0, 0.2)	0.4 (0.2, 0.6)
2011	5.0 (3.8, 6.5)	4.3 (0.8, 19.7)	14.0 (6.5, 27.5)	5.0 (2.3, 10.4)	3.5 (1.5, 8.3)	0.0 -	0.0 -	0.0 -	- -	0.1 (0.0, 0.2)	1.1 (0.5, 2.7)
2013	10.0 (7.6, 13.0)	0.0 -	46.6 (10.4, 86.8)	1.3 (0.7, 2.6)	9.7 (4.4, 20.3)	0.0 -	0.8 (0.1, 5.5)	0.0 -	0.0 -	1.4 (0.6, 3.4)	1.4 (0.8, 2.3)
2015	3.5 (2.2, 5.5)	0.0 -	5.1 (0.9, 23.3)	1.8 (1.0, 3.0)	3.1 (1.6, 5.7)	0.0 -	0.0 -	0.0 -	- -	0.4 (0.2, 0.8)	1.0 (0.6, 1.6)
	2010 N=522 2011 N=637 2013 N=604 2015 N=253	2010 N=51 2011 N=101 2013 N=334 2015 N=165	2010 N=6 2011 N=29 2013 N=9 2015 N=16	2010 N=579 2011 N=767 2013 N=947 2015 N=434	2010 N=76 2011 N=49 2013 N=94 2015 N=182	2010 N=67 2011 N=78 2013 N=82 2015 N=73	2010 N=261 2011 N=387 2013 N=447 2015 N=198	2010 N=1,633 2011 N=1,514 2013 N=316 2015 N=314	2010 N=0 2011 N=2,795 2013 N=19 2015 N=n/a	2010 N=2,037 2011 N=2,028 2013 N=958 2015 N=768	2010 N=2,616 2011 N=2,795 2013 N=1,905 2015 N=1,201
Rapid diagnostic tests (RDTs)											
2010	87.7 (81.5, 92.0)	12.5 (2.3, 47.0)	31.9 (10.9, 64.3)	43 (19.9, 69.5)	12.4 (6.4, 22.6)	0.5 (0.1, 1.9)	0.3 (0.0, 1.5)	0 -	- -	0.4 (0.2, 0.6)	8.2 (5.8, 11.5)
2011	91.8 (88.6, 94.2)	54.1 (39.9, 67.6)	71.5 (40.4, 90.3)	70.3 (59.1, 79.5)	8.5 (3.8, 17.8)	6.4 (3.2, 12.2)	1.5 (0.6, 3.4)	0.0 -	- -	0.4 (0.2, 0.7)	15.4 (11.7, 20.1)

Table C6: Availability of malaria blood testing among antimalarial-stocking outlets*, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public/Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
2013	88.0 (84.4, 90.8)	88.8 (82.6, 92.9)	83.6 (40.5, 97.5)	88.7 (83.1, 92.6)	45.9 (32.9, 59.5)	3.5 (1.4, 8.5)	1.5 (0.8, 3.0)	0.5 (0.1, 3.8)	0.0 -	6.7 (4.0, 11.1)	56.8 (46.9, 66.1)
2015	73.8 (63.8, 81.8)	72.8 (59.3, 83.1)	12.3 (2.6, 41.9)	72.4 (64.3, 79.2)	43.8 (28.0, 60.9)	24.0 (12.4, 41.3)	11.9 (5.9, 22.3)	0.1 (0.0, 0.4)	- -	9.7 (7.0, 13.3)	37.4 (29.6, 45.9)

* Blood testing availability is reported among outlets that either had antimalarials in stock on the day of the survey or reportedly stocked antimalarials in the previous 3 months.

** Results in this table are derived using responses captured among outlets with blood testing information.

Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.

Table C8: Price of malaria blood testing for adults, by outlet type, across survey round

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private
Total median price to consumers:*	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
Microscopy						
2010	\$2.32 [0.83-2.78] ⁽⁸⁾	\$0.00 [0.00-0.00] ⁽²⁾	- -	- -	- -	\$0.93 [0.83-2.78] ⁽¹⁰⁾
Microscopy for adults						
2011	\$1.55 [0.88-1.55] ⁽⁵⁾	- -	- -	- -	- -	\$1.55 [0.88-1.55] ⁽⁵⁾
2013	\$1.78 [0.00-3.55] ⁽¹⁷⁾	- -	- -	- -	- -	\$1.78 [0.00-3.55] ⁽¹⁷⁾
2015	\$1.73 [1.04-2.77] ⁽²⁷⁾	- -	- -	- -		\$1.73 [1.04-2.77] ⁽²⁷⁾
Microscopy for children under 5						
2011	\$1.55 [0.88-1.55] ⁽⁵⁾	- -	- -	- -	- -	\$1.55 [0.88-1.55] ⁽⁵⁾
2013	\$1.78 [0.00-3.36] ⁽¹⁷⁾	- -	- -	- -	- -	\$1.78 [0.00-3.36] ⁽¹⁷⁾
2015	\$1.73 [1.04-2.77] ⁽²⁷⁾	- -	- -	- -		\$1.73 [1.04-2.77] ⁽²⁷⁾
Malaria RDT						
2010	\$0.00 [0.00-0.00] ⁽²⁶⁾	\$0.00 [0.00-0.56] ⁽³⁾	- -	- -	- -	\$0.00 [0.00-0.00] ⁽²⁹⁾
Malaria RDT for adults						
2011	\$0.00 [0.00-0.00] ⁽¹³⁾	\$3.22 [0.22-3.31] ⁽⁴⁾	\$0.00 [0.00-0.18] ⁽⁶⁾	- -	- -	\$0.00 [0.00-0.88] ⁽²³⁾
2013	\$0.39 [0.00-1.97] ⁽⁶³⁾	\$2.80 [0.59-3.75] ⁽⁸⁾	\$0.32 [0.04-0.39] ⁽⁷⁾	\$0.00 [0.00-0.00] ⁽²⁾	- -	\$0.39 [0.00-1.97] ⁽⁸⁰⁾
2015	\$0.00 [0.00-0.35] ⁽¹¹²⁾	\$0.35 [0.35-0.35] ⁽¹¹⁾	\$0.35 [0.35-0.35] ⁽²⁰⁾	\$0.00 ⁽¹⁾		\$0.17 [0.00-0.35] ⁽¹⁴⁴⁾
Malaria RDT for children under r						
2011	\$0.00 [0.00-0.00] ⁽¹³⁾	\$3.22 [0.22-3.31] ⁽⁴⁾	\$0.00 [0.00-0.13] ⁽⁶⁾	- -	- -	\$0.00 [0.00-0.88] ⁽²³⁾

Table C8: Price of malaria blood testing for adults, by outlet type, across survey round

	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private
Total median price to consumers:*	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)	Median [IQR] (N of Antimalarials)
2013	\$0.39 [0.00-1.97] ⁽⁶³⁾	\$2.80 [0.59-3.75] ⁽⁸⁾	\$0.32 [0.04-0.39] ⁽⁷⁾	\$0.00 [0.00-0.00] ⁽³⁾	- -	\$0.39 [0.00-1.58] ⁽⁸¹⁾
2015	\$0.00 [0.00-0.35] ⁽¹¹²⁾	\$0.35 [0.35-0.35] ⁽¹¹⁾	\$0.35 [0.35-0.35] ⁽²⁰⁾	\$0.00 ⁽¹⁾	- -	\$0.17 [0.00-0.35] ⁽¹⁴⁴⁾

* Total price to the consumer including consultation and/or service fees.

Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.

Table C9: Antimalarial market share, across survey round

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/distributed:	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public/Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	TOTAL Private	ANTI-MALARIAL TOTAL*
	%	%	%	%	%	%	%	%	%	%	%
2010											
1. Any ACT	4.8	3.2	0.0	8.0	0.5	0.8	3.5	1.0	0.0	5.9	14.0
Quality-assured ACT (QA ACT)	4.0	2.5	0.0	6.5	0.5	0.7	3.5	1.0	0.0	5.7	12.3
QA ACT with the "green leaf" logo	-	-	-	-	-	-	-	-	-	-	-
QA ACT without the "green leaf" logo	-	-	-	-	-	-	-	-	-	-	-
Non-quality assured ACT	0.8	0.7	0.0	1.5	0.0	0.2	0.0	0.0	0.0	0.2	1.7
2. Any non-artemisinin therapy	9.9	0.0	0.0	10.0	3.7	7.2	36.7	28.6	0.0	76.1	86.0
Sulfadoxine Pyrimethamine	9.4	0.0	0.0	9.4	1.4	5.7	10.9	0.2	0.0	18.2	27.6
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTLET TYPE TOTAL**	14.7	3.2	0.0	18.0	4.2	8.0	40.2	29.6	0.0	82.0	100.0
2011											
1. Any ACT	3.4	0.8	1.0	5.3	1.9	5.7	6.5	0.1	0.0	14.1	19.4
Quality-assured ACT (QA ACT)	3.2	0.8	1.0	5.0	1.9	5.6	6.5	0.1	0.0	14.1	19.0
QA ACT with the "green leaf" logo	2.5	0.0	0.4	2.9	1.8	5.2	6.4	0.1	0.0	13.5	16.4
QA ACT without the "green leaf" logo	0.7	0.8	0.6	2.0	0.1	0.4	0.1	0.0	0.0	0.6	2.6
Non-quality assured ACT	0.2	0.1	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.1	0.4
2. Any non-artemisinin therapy	21.8	0.3	0.5	22.6	1.6	2.8	21.8	31.7	0.0	58.0	80.6
Sulfadoxine Pyrimethamine	21.2	0.0	0.4	21.6	0.6	2.1	6.7	1.2	0.0	10.6	32.2
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTLET TYPE TOTAL**	27.4	1.3	1.7	30.3	3.9	9.3	30.8	25.9	0.0	69.7	100.0
2013											
1. Any ACT	9.6	7.3	0.1	17.1	5.9	5.2	12.2	3.5	0.4	27.2	44.3
Quality-assured ACT (QA ACT)	9.6	7.2	0.1	17.0	5.6	5.1	12.2	3.5	0.4	26.8	43.8
QA ACT with the "green leaf" logo	6.1	2.4	0.1	8.6	5.4	4.1	11.3	3.5	0.1	24.3	32.9
QA ACT without the "green leaf" logo	3.5	4.9	0.1	8.4	0.2	1.0	0.9	0.1	0.2	2.5	10.9
Non-quality assured ACT	0.0	0.1	0.0	0.1	0.3	0.1	0.0	0.0	0.0	0.4	0.5
2. Any non-artemisinin therapy	0.9	0.1	0.5	1.5	4.6	8.7	21.9	10.5	8.5	54.2	55.7
Sulfadoxine Pyrimethamine	0.1	0.0	0.5	0.6	3.6	8.5	16.6	3.7	1.8	34.1	34.7
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTLET TYPE TOTAL**	10.5	7.4	0.7	18.6	10.6	13.8	34.1	14.0	8.9	81.4	100.0

Table C9: Antimalarial market share, across survey round

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/distributed:	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public/Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	TOTAL Private	ANTI-MALARIAL TOTAL*
	%	%	%	%	%	%	%	%	%	%	%
2015											
1. Any ACT	11.2	1.3	0.1	12.5	0.5	1.2	1.6	0.1	-	3.4	15.9
Quality-assured ACT (QA ACT)	11.2	1.3	0.1	12.5	0.5	1.2	1.6	0.1	-	3.4	15.9
QA ACT with the "green leaf" logo	4.5	0.5	0.0	5.0	0.2	0.3	0.7	0.1	-	1.3	6.3
QA ACT without the "green leaf" logo	6.7	0.7	0.1	7.5	0.3	0.9	1.0	0.0	-	2.1	9.6
Non-quality assured ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
2. Any non-artemisinin therapy	21.9	1.0	0.4	23.3	10.7	5.5	31.7	12.9	-	60.8	84.1
Sulfadoxine Pyrimethamine	20.5	0.7	0.2	21.4	7.5	5.3	13.8	1.6	-	28.2	49.6
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
OUTLET TYPE TOTAL **	33.1	2.2	0.5	35.8	11.2	6.7	33.3	13.0	-	64.2	100.0

* Row sum – market share for the specified antimalarial medicine.

** Column sum (within each survey round) – market share for the specified outlet type.

Categories 1 through 4 sum to 100% in the far-right column – antimalarial total column (within survey round).

Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.

Table C10: Antimalarial market share, across outlet type, across survey round

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/distributed:	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	TOTAL Private
	%	%	%	%	%	%	%	%	%	%
2010										
1. Any ACT	32.6	99.9	15.8	44.7	12.4	10.4	8.8	3.4	0.0	7.2
Quality-assured ACT (QA ACT)	27.4	77.3	15.8	36.4	12.1	8.1	8.8	3.4	0.0	7.0
QA ACT with the "green leaf" logo	-	-	-	-	-	-	-	-	-	-
QA ACT without the "green leaf" logo	-	-	-	-	-	-	-	-	-	-
Non-quality assured ACT	5.2	22.6	0.0	8.3	0.3	2.2	0.0	0.0	0.0	0.2
2. Any non-artemisinin therapy	67.4	0.1	84.2	55.3	87.6	89.6	91.2	96.6	0.0	92.8
Sulfadoxine Pyrimethamine	63.8	0.0	53.2	52.3	33.6	70.6	27.0	0.8	0.0	22.2
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2011										
1. Any ACT	13.6	72.4	66.3	18.9	53.9	66.6	23.0	0.2	0.0	19.6
Quality-assured ACT (QA ACT)	12.7	65.2	66.3	17.8	53.9	65.9	23.0	0.2	0.0	19.5
QA ACT with the "green leaf" logo	10.1	1.1	25.8	10.5	51.7	60.6	22.7	0.2	0.0	18.7
QA ACT without the "green leaf" logo	2.6	64.1	40.5	7.2	2.2	5.3	0.3	0.0	0.0	0.9
Non-quality assured ACT	0.9	7.2	0.0	1.1	0.0	0.7	0.0	0.0	0.0	0.1
2. Any non-artemisinin therapy	86.4	27.6	33.7	81.1	46.1	33.4	77.0	99.8	0.0	80.4
Sulfadoxine Pyrimethamine	83.9	0.0	27.8	77.3	18.4	24.8	23.8	3.6	0.0	14.8
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2013										
1. Any ACT	91.8	98.6	21.3	91.8	56.2	37.3	35.9	25.1	4.1	33.4
Quality-assured ACT (QA ACT)	91.8	97.4	21.3	91.4	53.1	36.6	35.9	25.1	4.1	32.9
QA ACT with the "green leaf" logo	58.3	31.8	13.3	46.1	51.0	29.3	33.1	24.7	1.3	29.9
QA ACT without the "green leaf" logo	33.4	65.6	7.9	45.3	2.1	7.3	2.8	0.4	2.8	3.0
Non-quality assured ACT	0.0	1.2	0.0	0.5	3.0	0.7	0.0	0.0	0.0	0.5
2. Any non-artemisinin therapy	8.2	1.4	78.7	8.2	43.8	62.7	64.1	74.9	95.9	66.6
Sulfadoxine Pyrimethamine	0.9	0.0	69.3	3.1	34.1	61.2	48.5	26.3	20.7	41.9
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C10: Antimalarial market share, across outlet type, across survey round

AETDs sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/distributed:	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	TOTAL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	TOTAL Private
	%	%	%	%	%	%	%	%	%	%
2015										
1. Any ACT	33.7	57.0	19.4	35.0	4.7	17.2	4.9	0.7	-	5.3
Quality-assured ACT (QA ACT)	33.7	57.0	19.4	35.0	4.7	17.2	4.9	0.7	-	5.3
QA ACT with the "green leaf" logo	13.5	23.9	0.0	14.0	2.2	4.2	2.0	0.4	-	1.9
QA ACT without the "green leaf" logo	20.1	33.1	19.4	20.9	2.3	13.0	2.9	0.2	-	3.3
Non-quality assured ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
2. Any non-artemisinin therapy	66.2	43.0	80.6	65.0	95.3	82.8	95.1	99.3	-	94.7
Sulfadoxine Pyrimethamine	62.0	30.8	42.5	59.8	67.1	79.0	41.5	12.3		44.0
3. Oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
4. Non-oral artemisinin monotherapy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0

Categories 1 through 4 sum to 100% within each column (within each survey round).

Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.

Table C14: Provider antimalarial treatment knowledge and practices, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not for-profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	(95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of providers who:	2010 N=522 2011 N=639 2013 N=604 2015 N=253	2010 N=51 2011 N=101 2013 N=334 2015 N=165	2010 N=6 2011 N=31 2013 N=9 2015 N=16	2010 N=579 2011 N=771 2013 N=947 2015 N=434	2010 N=76 2011 N=49 2013 N=82 2015 N=182	2010 N=67 2011 N=73 2013 N=447 2015 N=73	2010 N=261 2011 N=387 2013 N=447 2015 N=198	2010 N=1,633 2011 N=1,526 2013 N=317 2015 N=314	2010 N=0 2011 N=0 2013 N=19 2015 N=n/a	2010 N=2,037 2011 N=2,035 2013 N=959 2015 N=767	2010 N=2,616 2011 N=2,806 2013 N=1,906 2015 N=1,201
Correctly state the national first-line treatment ^ψ for uncomplicated malaria											
2010	81.7 (76.2, 86.1)	64.8 (43.1, 81.8)	89.1 (59.1, 97.9)	71.7 (59.8, 81.2)	86.1 (66.4, 95.1)	59.2 (51.0, 66.8)	45.4 (36.6, 54.6)	7.3 (4.2, 12.4)	- -	12.4 (8.7, 17.3)	23.3 (15.4, 33.7)
2011	86.3 (80.4, 90.6)	69.6 (55.9, 80.5)	75.5 (45.7, 91.8)	76.7 (67.8, 83.8)	74.9 (42.7, 92.3)	75.3 (65.5, 83.1)	54.2 (47.4, 60.9)	13.6 (9.6, 19.0)	- -	18.5 (14.4, 23.3)	30.9 (25.2, 37.2)
2013	94.9 (92.1, 96.7)	85.5 (79.6, 89.8)	61.2 (14.5, 93.6)	86.0 (80.7, 90.0)	64.4 (47.4, 78.4)	80.5 (65.5, 89.9)	59.4 (53.2, 65.4)	9.8 (5.5, 16.9)	29.5 (9.0, 63.9)	25.6 (19.5, 32.9)	62.5 (54.1, 70.1)
2015	98.3 (95.5, 99.4)	81.5 (68.6, 89.8)	39.5 (25.9, 55.1)	88.9 (82.3, 93.3)	62.8 (45.2, 77.6)	65.7 (54.6, 75.4)	41.1 (32.9, 49.8)	20.5 (12.7, 31.5)	- -	32.8 (25.9, 40.4)	57.6 (47.9, 66.6)
Correctly state the first-line dosing regimen for a 2-year-old child											
2013	76.9 (71.2, 81.7)	55.3 (47.1, 63.2)	61.2 (14.5, 93.6)	57.1 (49.3, 64.6)	50.6 (33.9, 67.2)	66.7 (50.0, 80.0)	38.3 (32.6, 44.3)	5.5 (2.6, 11.3)	25.6 (6.6, 62.8)	17.7 (12.5, 24.6)	41.8 (34.2, 49.7)
2015	76.8 (67.9, 83.8)	49.2 (35.5, 63.1)	31.5 (22.6, 41.9)	62.2 (53.0, 70.6)	39.5 (26.4, 54.3)	35.0 (21.8, 50.9)	25.6 (19.4, 33.0)	9.1 (4.0, 19.1)	- -	18.3 (14.1, 23.4)	37.7 (30.5, 45.5)
Report an ACT as the most effective antimalarial medicine											
2010	62.5 (55.8, 68.8)	86.6 (67.1, 95.3)	38.5 (13.7, 71.1)	76.7 (60.8, 87.6)	24.5 (9.1, 91.1)	74.4 (45.4, 91.1)	23.6 (19.8, 28.1)	3.9 (2.2, 6.8)	- -	6.6 (4.3, 10.1)	19.6 (11.5, 31.3)
ACT most effective for adults											
2011	84.2 (79.1, 88.2)	15.9 (6.7, 33.3)	69 (40.4, 87.9)	46 (33.8, 58.8)	24.9 (13.6, 41.2)	68.7 (58.5, 77.4)	36.7 (29.2, 44.8)	4.6 (2.1, 10.0)	- -	8 (5.2, 12.3)	16.2 (12.2, 21.1)
2013	87.3 (83.1, 90.6)	18.7 (13.2, 25.9)	94.2 (68.0, 99.2)	25.2 (19.6, 31.7)	49.0 (35.3, 62.8)	71.6 (57.6, 82.3)	35.0 (27.4, 43.4)	3.7 (1.8, 7.2)	4.5 (1.0, 17.8)	14.7 (10.9, 19.4)	21.1 (17.3, 25.5)

Table C14: Provider antimalarial treatment knowledge and practices, by outlet type, across survey round

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not for-profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	Itinerant Drug Vendor	ALL Private	ALL Outlets
	% (95% CI)	% (95% CI)	(95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Proportion of providers who:	2010 N=522 2011 N=639 2013 N=604 2015 N=253	2010 N=51 2011 N=101 2013 N=334 2015 N=165	2010 N=6 2011 N=31 2013 N=9 2015 N=16	2010 N=579 2011 N=771 2013 N=947 2015 N=434	2010 N=76 2011 N=49 2013 N=82 2015 N=182	2010 N=67 2011 N=73 2013 N=447 2015 N=73	2010 N=261 2011 N=387 2013 N=447 2015 N=198	2010 N=1,633 2011 N=1,526 2013 N=317 2015 N=314	2010 N=0 2011 N=0 2013 N=19 2015 N=n/a	2010 N=2,037 2011 N=2,035 2013 N=959 2015 N=767	2010 N=2,616 2011 N=2,806 2013 N=1,906 2015 N=1,201
2015	85.9 (74.3, 92.8)	34.6 (21.0, 51.3)	12.1 (2.4, 43.1)	59.0 (48.3, 68.9)	40.6 (27.0, 55.7)	44.9 (34.8, 55.4)	16.8 (9.6, 27.7)	10.4 (4.2, 23.4)	- -	16.8 (11.4, 24.1)	35.4 (27.5, 44.2)
ACT most effective for children											
2011	88.3 (84.8, 91.2)	90.6 (80.9, 95.7)	78.2 (50.5, 92.7)	89.2 (83.8, 92.9)	52 (31.0, 72.4)	85.9 (79.1, 90.8)	53.4 (47.2, 59.4)	5.9 (3.4, 10.2)	- -	11.2 (8.3, 14.8)	27.8 (21.5, 35.2)
2013	91.9 (87.1, 95.1)	88.6 (83.0, 92.5)	55.4 (13.7, 90.7)	88.5 (82.8, 92.4)	63.4 (49.8, 75.1)	85.0 (73.5, 92.1)	62.4 (53.0, 71.0)	13.5 (6.1, 27.5)	34.8 (13.5, 64.7)	28.7 (21.3, 37.5)	65.2 (57.6, 72.1)
2015	88.9 (76.6, 95.1)	95.3 (89.5, 98.0)	34.5 (23.5, 47.3)	91.3 (84.2, 95.3)	55.0 (35.2, 73.4)	72.1 (56.9, 83.5)	50.4 (41.9, 58.9)	19.4 (8.9, 37.4)	- -	33.8 (25.8, 42.8)	59.2 (49.3, 68.4)
^Ψ At the time of the 2010, 2011 2013, and 2015 ACTwatch outlet surveys, artesunate amodiaquine was Madagascar's first-line treatment for uncomplicated malaria. Numbers of providers (N) in this table are the total number of providers eligible for table indicators.											
Source: ACTwatch Outlet Survey, Madagascar, 2010, 2011, 2013, 2015.											

Annex 1: ACTwatch Background

ACTwatch is a multi-country research project implemented by PSI (www.psi.org). Standardized tools and approaches are employed to provide comparable data across countries and over time. Project countries include: Benin, Cambodia, the Democratic Republic of Congo, Kenya, Laos, Madagascar, Myanmar, Nigeria, Tanzania (currently mainland only, previous work in Zanzibar), Thailand, Uganda, Vietnam, Zambia. 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 DFID.

ACTwatch is designed to provide timely, relevant, and high-quality antimalarial market evidence.² The goal of providing this market evidence is to inform and monitor national and global policy, strategy, and funding decisions for improving malaria case management. ACTwatch is monitoring antimalarial markets in the context of policy shifts and investments in the scale-up of first-line ACT and blood testing using RDTs. This has included adaptation of project methods for the evaluation of the Affordable Medicines Facility-malaria (AMFm) pilot.³ Project scale-up in the Greater Mekong sub-Region (GMS) in 2015 was designed to deliver key indicators for informing and monitoring strategies and policies for malaria elimination. The project implements a set of research tools designed to:

- 1) **Provide a picture of the total market for malaria case management** including: all providers carrying antimalarials and RDTs and providing case management services; the relative antimalarial market share for each provider type; the antimalarial supply chain; and price markups within the supply chain for antimalarials and RDTs.
- 2) **Monitor the readiness of market components for appropriate malaria case management**, including availability of antimalarials and malaria blood testing; consumer price of antimalarial treatment and malaria blood testing; and provider qualifications, training and knowledge.
- 3) **Monitor the performance of market components for appropriate malaria case management**, including the relative market share for quality-assured ACT relative to other antimalarial medicines; the demand for appropriate malaria case management captured through consumer knowledge, attitudes, and fever treatment-seeking behavior; and the quality of provider service delivery measured against national policies, guidelines, and minimum standards.

ACTwatch research tools for malaria market monitoring include:

1. Outlet surveys

Outlet surveys entail collecting quantitative data from all outlets and providers with the potential to sell or distribute antimalarials and/or provide malaria blood testing. These include health facilities, community health workers, pharmacies, drug stores, retail outlets, market stalls, and mobile providers. A screening process identifies outlets that provide antimalarials and/or malaria blood testing. Among these eligible outlets, service providers are interviewed and all antimalarials and RDTs are audited. The audit collects information about each antimalarial and RDT in stock (e.g. brand name, drug active ingredients and strengths, manufacturer, etc.) and retailer reports on consumer price and sale/distribution volumes for each product. A representative sample of outlets is identified within target study domains such that findings from the outlet survey provide estimates of antimalarial and RDT availability, price, and relative market share across the entire market as well as within key market channels.⁴

² Shewchuk T, O'Connell KA, Goodman C, Hanson K, Chapman S, Chavasse D. 2011. The ACTwatch project: methods to describe anti-malarial markets in seven countries. *Malaria Journal*, 10: 325.

³ AMFm Independent Evaluation Team. 2012. *Independent evaluation of Phase 1 of the Affordable Medicines Facility – malaria (AMFm), multi-country independent evaluation report: final report*. Calverton, MD and London: ICF International and London School of Hygiene and Tropical Medicine.

⁴ O'Connell KA, Poyer S, Solomon T, et al. 2013. Methods for implementing a medicine outlet survey: lessons from the anti-malarial market. *Malaria Journal*, 12: 52.

From 2008 through 2014, ACTwatch conducted 35 national outlet surveys across the 10 project countries.⁵ Reports are available at www.actwatch.info, and peer-reviewed publications have appeared in *Malaria Journal* and *The Lancet*.^{6,7}

2. Supply chain studies

Supply chain studies employ quantitative and qualitative research methods to effectively map the antimalarial supply chain in a given country. The supply chain is mapped from the antimalarial outlets (service delivery points) identified during an outlet survey to national importers and distributors with identification of all mid-level distributors in between. Retail prices are documented along the supply chain to facilitate calculation of commodity mark-ups. From 2008 through 2012, ACTwatch conducted eight national supply chain studies. Reports are available at www.actwatch.info, and a peer-reviewed publication has appeared in *PLoS One*.⁸

2015 outlet surveys in the Greater Mekong sub-Region include a component to collect additional information about the supply chain for oral artemisinin monotherapy (oral AMT, e.g. artesunate tablets). Oral AMT identified during the outlet surveys was further investigated and research teams identified and visited named suppliers to collect further information about the supply chain.

3. Population-based surveys

Population-based surveys are conducted among consumers to document fever treatment-seeking behavior. A representative sample of the target population (caregivers of children and/or adults according to burden and risk) is identified, and a screening tool is used to identify individuals who have recently experienced fever. The surveys investigate the extent to which health care was sought, as well as common sources of care received. Respondent reports of malaria blood testing and antimalarials acquired are documented and summarized. The survey includes measures of demographic and other individual, household/family, and community characteristics that can be used to develop consumer profiles as well as monitor equity in access to malaria case management. From 2008 through 2012, ACTwatch conducted 14 household surveys focused on fever treatment-seeking behavior. Reports are available at www.actwatch.info, and a peer-reviewed publication has appeared in *Malaria Journal*.⁹

4. Fever case management quality of care

Fever case management quality of care is monitored using a set of research tools designed to measure aspects of the interaction between providers and clients. ACTwatch launched fever case management quality of care studies in 2015 in a subset of project countries. The following research tools were integrated into the outlet surveys in Cambodia and Uganda and were implemented among private-sector outlets providing malaria testing and treatment:

- Exit interviews conducted with target consumers immediately after receiving fever case management services in the private sector. A structured interview documented client reports about key aspects of service delivery, including malaria blood testing, test results, medicines recommended/prescribed and obtained, counseling, and costs of services and commodities received. Exit interviews were also used to measure client recall and comprehension of provider counseling, including instructions for completing prescribed drug regimens, as well as client satisfaction with services provided.

⁵ Surveys in the DRC (2) and Myanmar (3) were sub-national.

⁶ O'Connell K, Gatakaa H, Poyer S, et al. 2011. Got ACTs? Availability, price, market share and provider knowledge of anti-malarial medicines in public and private sector outlets in six malaria-endemic countries. *Malaria Journal*, 10: 326.

⁷ Tougher S, the ACTwatch Group, Ye Y, et al. 2013. Effect of the Affordable Medicines Facility-malaria (AMFm) on the availability, price, and market share of quality-assured artemisinin-based combination therapies in seven countries: a before-and-after analysis of outlet survey data. *Lancet*, 380: 1916-26.

⁸ Palafox B, Patouillard E, Tougher S, et al. 2014. Understanding private sector antimalarial distribution chains: a cross-sectional mixed methods study in six malaria-endemic countries. *PLoS One*, 9(4).

⁹ Littrell M, Gatakaa H, Evance I, et al. (2011). Monitoring fever treatment behavior and equitable access to effective medicines in the context of initiatives to improve ACT access: baseline results and implications for programming in six African countries. *Malaria Journal*, 10: 327.

- A consultation observation checklist was used to document aspects of the provider-client interaction in the private sector. A trained observer completed the checklist designed to document provider compliance with standard practice and procedures as well as aspects of client demand for specific products or services. The observer remained silent during the consultation.

ACTwatch in Madagascar

ACTwatch baseline surveys were conducted in Madagascar in 2008-2009, including an outlet survey (2008) and a household survey (2009). Follow-up outlet surveys were conducted in 2010, 2011, 2013/2014, and 2015. A supply chain study was conducted in 2011 and a follow-up household survey was conducted in 2012. All reports are available at www.actwatch.info.

Annex 2: Country Background

Madagascar is the world's fourth largest island and is located in Southern Africa, in the Indian Ocean, east of Mozambique. In 2015, the population of Madagascar was estimated to be 24.2 million, with approximately 35% of the population residing in urban areas.¹⁰ The average population density was 42 people per square km in 2015.

From the 1970s until the mid-1990s, Gross Domestic Product (GDP) growth in Madagascar averaged only 0.5 percent while the population grew at about 2.8 percent per annum. Per capita income declined from 473 USD in 1970 to 420 USD in 2015, placing Madagascar among the world's poorest countries.¹¹ The 2015 Human Development Index ranked Madagascar 154 out of 188 countries.¹² From 2009 to 2013, Madagascar experienced a political crisis, which led to a further decline in economic growth and job losses. Official aid decreased by 30 percent and economic growth remained flat,¹³ resulting in a decline in the delivery of social services, including health care and significant cuts in public investment. Madagascar took a step toward recovery by holding presidential and parliamentary elections in the last quarter of 2013, opening the way for renewed international acceptance and revival of economic and social development.¹⁴ However, the elections were postponed, resulting in the eventual swearing in of Hery Rajaonarimampianina as president, followed by his impeachment in May of 2015. Later that year, the constitutional court threw out the impeachment, and the senate was elected in December 2015. The current prime minister, Olivier Mahafaly, was appointed in April 2016.¹⁵ With the establishment of this new government, the US government, along with donors, resumed relations with the government of Madagascar. With struggling stability, recent natural disasters (including extreme drought in the south of the country) and food shortages have reached crisis levels.

Administratively, Madagascar is divided into six provinces. In turn, each province is subdivided into regions, each region into districts, and each district into communes. Communes are further divided into *fokontany*, the smallest administrative unit. A commune is comprised of six to 20 *fokontany*. In total, there are 22 regions, 119 districts, 1,579 communes, and 17,500 *fokontany*.¹⁶

Healthcare system

The healthcare system has four distinct functional levels: central, regional, district, and community. The public sector is considered a major source of health care in Madagascar, especially in rural areas, where it accounts for more than 70% of primary contacts. In urban areas, it is estimated that fewer than 40% of primary contacts occur in public health facilities.¹⁷ The public sector includes:^{18,19}

- 20 university teaching hospitals, up from six in 2012
- 16 regional referral hospitals that serve as tertiary care health facilities

¹⁰ UN Population (2015). World Population 2015. Accessed July 30, 2016, https://esa.un.org/unpd/wpp/Publications/Files/World_Population_2015_Wallchart.pdf

¹¹ World Bank (2015a). World Bank Data Catalogue. Accessed July 30, 2016, http://data.worldbank.org/country/madagascar#cp_wdi

¹² United Nations Development Program (2014). Human Development Report 2014. Accessed July 30, 2016, <http://hdr.undp.org/sites/default/files/ranking.pdf>

¹³ World Bank (2013b). Madagascar, measure the impact of the political crises. Accessed July 17, 2013, <http://www.worldbank.org/en/news/feature/2013/06/05/madagascar-measuring-the-impact-of-the-political-crisis>

¹⁴ African Economic Outlook (2014). Madagascar country notes. Accessed Jan 8, 2015, <http://www.africaneconomicoutlook.org/en/countries/southern-africa/madagascar/>

¹⁵ USAID. Madagascar: Back on the Path to Democracy (2016). Retrieved July 30, 2016, <https://www.usaid.gov/madagascar/back-on-the-path-to-democracy>

¹⁶ President's Malaria Initiative (2016) Malaria Operational Plan, Madagascar, 2016. Accessed July 30, 2016, <https://www.pmi.gov/docs/default-source/default-document-library/malaria-operational-plans/fy16/fy-2016-madagascar-malaria-operational-plan.pdf?sfvrsn=5>

¹⁷ President's Malaria Initiative (2011). Country Profile, President's Malaria Initiative Madagascar. Accessed March 11, 2011, http://www.fightingmalaria.gov/countries/profiles/madagascar_profile.pdf

¹⁸ Madagascar Ministry of Health (2012). Annuaire des Statistiques du Secteur Sante 2012.

¹⁹ Madagascar Ministry of Health (2014). Annuaire des Statistiques du Secteur Sante 2014.

- 55 first-referral and 32 second-referral hospitals serving as secondary care for primary health centers, down from 150 in 2012
- > 2,586 public primary health centers, or centre de santé de base (CSB)
 - 1,634, CSB Level II staffed with at least one doctor, up from 1614 in 2014
 - 952 CSB Level I, staffed by a nurse, paramedic or nurse's aide, up from 895 in 2012

At the community level, over 34,000 community health workers are trained in malaria case management, including provision of ACTs and malaria RDTs.

In the public sector, the central medical store, Centrale d'Achats de Médicaments Essentiels et Générique, otherwise called SALAMA, is the primary wholesaler importing and distributing drugs and medical equipment. Public health facilities are either provided with drugs directly through SALAMA or through district public-sector pharmacies (which receive medicines directly from SALAMA). Public health facilities are supplied twice in a year, with the exception of facilities that are not accessible during the rainy season. Antimalarials are a notable exception to this system of procurement, as only quinine is available through SALAMA. ACTs are not distributed through SALAMA and are instead procured and managed by the Principal Recipient of the GFATM after which they are delivered to health facilities via the National Malaria Service. Efforts are underway, as a result of the revised 2013-2017 National Strategic Plan, to reduce stock outs in public health facilities for ACTs and SP by targeting the SALAMA procurement process, as well as reducing the mark-up rate for malaria commodities distributed through the public sector.¹⁹

In 2008, an evaluation of the national pharmaceutical management capacity identified several challenges: (1) lack of trained pharmacists in public pharmacies, (2) weak institutional capacity, (3) insufficient pharmaceutical policies and guidelines, (4) low capacity and inadequate human resources for pharmaceutical management in the health care system, (5) multiple vertical health programs lacking integration and coordination, and (6) logistics and distribution challenges at the peripheral level.²⁰ These constraints still remain. The continued expansion of the CHW cadre is a partial but significant response to improving access to services and care seeking behaviors.

The private sector

Madagascar also has a strong private sector, which forms an integral part of the health system. There are 44 hospitals, 724 private or religiously affiliated health centers, and more than 1,500 doctors. There is also a private pharmaceutical sector with a network of 22 pharmaceutical wholesalers, 200 pharmacies, and more than 1,000 rural drug stores (depot de médicament). The private sector also includes providers that have little or no qualifications (and are not authorized to dispense medicines) that work at informal outlets such as grocery stores.

The private not-for-profit health sector utilize the same system as the public sector to procure antimalarials, under a program developed by the Ministry of Health (MOH), which aims to make ACTs continuously available. In the private for-profit sector, distribution channels for ACTs are different but complementary to the public sector.

Malaria risk and burden

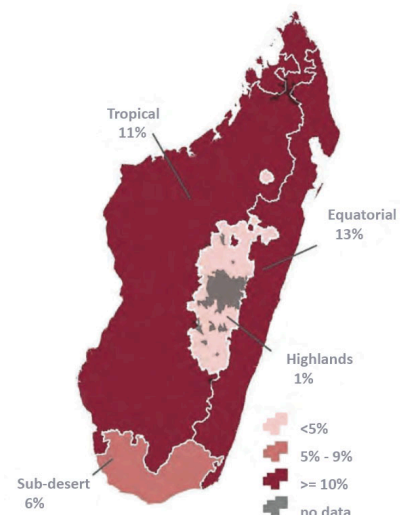
The entire population of Madagascar is considered at risk of malaria infection, with 90 percent of the country endemic for the disease. The country has been stratified into four distinct epidemiological profiles defined according to the duration and intensity of malaria transmission.¹⁹ These profiles are a reflection of the variety of climates and geography in Madagascar.

²⁰ President's Malaria Initiative (2016). Malaria operational plan, Madagascar, 2016.

1. Equatorial (east coast): perennial transmission, highest burden of malaria
2. Tropical (west coast): transmission season October to May
3. Sub-desert (south): short and episodic
4. Highlands (central): seasonal and epidemic prone, transmission season January to April

The malaria transmission period varies according to the epidemiological profile but normally starts in October and ends in May, during the hot, rainy season. Malaria prevalence varies in different regions but is lowest in the central highlands and highest in the east (Figure X1). Seventy percent of the population lives in low-transmission areas, which are prone to epidemics, and 30% live in high-risk areas.²¹

Figure X1. Map of Malaria Parasite Prevalence



Adapted from: DHS, 2013, Malaria Indicator Survey

Malaria cases and deaths have fallen between 2003 and 2013¹⁹. Hospital deaths attributed to malaria fell from 19% in 2003 to 6.5% in 2013. In 2013, malaria was the eighth leading cause of morbidity among children under five and the second leading cause of death.

The scale-up of prevention and case management interventions are changing the transmission dynamics of malaria in Madagascar. The 2013-2017 malaria national strategy was revised in 2014. The revision recategorized the country into two geographic zones, rather than the previous three, based on changes in local epidemiology, transmission dynamics, and level of coverage of malaria interventions: a high transmission area including the East Coast and the West Coast, and a low transmission area, including the South and Central regions.¹⁹ The NMCP's malaria case management guidelines and control strategies are tailored to the unique needs and challenges within each zone.

Malaria case management guidelines

Diagnosis

Parasitological diagnosis of fever is of increasing importance in Madagascar in the context of scaled prevention efforts. Training by the NMCP on the use of RDTs began in 2005, and microscopy capabilities have been strengthened through increased human resources and training in the public and private sectors. Following an RDT pilot at the end of 2009, a subsequent directive from the MOH in 2010 permitted the use of RDTs at the community-level. Between 2008 and 2011, more than 20,000 health practitioners were trained in how to use RDTs and nearly 225,000 RDT or microscopy confirmed cases were reported.²² Until recently, private facilities were the only private-sector outlet type authorized to administer RDTs. As of March 2014, pharmacies and drug shops are also permitted to sell and administer RDTs.

The national treatment guidelines recommend that all suspected cases of malaria are tested free of charge with RDTs or microscopy. Microscopic testing is to be provided at hospitals, and RDTs are provided at health centers and administered by CHWs at the community level. Where biological diagnosis is not possible, differential

²¹ The World Health Organization (2014). World Malaria Report 2013.

²² Roll Back Malaria (2013). Progress and Impact Series, focus on Madagascar.

diagnosis of other causes of fever is recommended. Under the revised strategic plan, the goal for case management is for 80% of malaria cases that present at a health facility to be correctly diagnosed and treated.

Treatment

In 2006, the NMCP adopted ASAQ as the first-line treatment for uncomplicated malaria in adults and children. This antimalarial is available free of charge in public health facilities. The second-line treatment is AL. In areas designated "pre-elimination," a single dose of primaquine (PQ) is added to the first line treatment to eliminate gametocytes. The guidelines stipulate that severe cases should be treated with artesunate injections in hospitals where patients can be monitored. Pregnant women are treated with tablet quinine in the first trimester and ACT (generic unspecified) thereafter for the treatment of uncomplicated malaria. According to national policy implemented in 2004, sulfadoxine pyrimethamine (SP) is used for intermittent preventative treatment in pregnancy (IPTp). Injectable artesunate and pre-referral rectal artesunate are planned for pre-referral treatment and symptoms of severe malaria in children.

At the community-level, antimalarials require a medical prescription and do not have over-the-counter status. In addition to the public sector, antimalarials can also be stocked by pharmacies and drug stores (dépôt de médicament) that are legally registered with government authorities as per the 1980 Malagasy public health code. These outlets are obliged to prominently display their registration certificates and numbers.

In 2006, the first-line medicine was changed from chloroquine to ASAQ due to the high rate of chloroquine treatment failure in *Plasmodium falciparum* malaria. In July of 2011, the MOH banned wholesalers from importing chloroquine. Retail distributors are also banned from selling chloroquine purchased after the importation ban. The ban of chloroquine in combination with the introduction of relatively inexpensive co-formulated ASAQ in the private sector is expected to "crowd out" less effective antimalarials and promote the uptake of ACTs for the treatment of malaria in the public and private sectors.

Financing and major initiatives to improve case management

Malaria control financing in Madagascar comes almost entirely from external sources.²³ Only 9% of the national budget was allocated to the health sector in 2011; 6% shy of the target of 15% set by the Abuja Declaration in 2001. However, direct domestic funding for malaria control increased more than 20 times between 2010-2011 compared to funding during 2003-2004.²⁴ In 2012, external malaria control funding was approximately 61 million USD after peaking at 72 million USD in 2010. External funding sources include the GFATM, US President's Malaria Initiative (PMI), Roll Back Malaria (RBM), United Nations agencies, and other bilateral agencies.

Madagascar was awarded eight GFATM malaria grants between 2003 and 2015, totalling approximately 225 million USD.²⁵ Madagascar is the first African country to obtain a GFATM grant based on its National Strategy Application (NSA). This grant amounted to 68 million USD between 2010 and 2012.

In May 2010, Madagascar signed a grant agreement with the GFATM on the AMFm. Orders for 556,000 treatments were placed by the end of 2010 and the first ACTs were delivered in October 2010. In June 2010, AMFm training-of-trainer sessions were held and from July onwards, and private practitioners were trained on malaria case management. By September 2012, Madagascar had received close to 2.5 million doses of co-paid quality-assured ACTs. Madagascar received approximately 1.7 million USD in ACT co-payment funds prior to 2013

²³ The World Health Organization (2014). World Malaria Report 2013.

²⁴ Roll Back Malaria (2013). Progress and Impact Series, focus on Madagascar.

²⁵ President's Malaria Initiative (2015). Malaria Operational Plan, Madagascar, 2015.

and was allocated 2.3 million USD for ACT subsidies through the GFATM co-payment mechanism in 2013. Madagascar received an additional 5 million USD from UNITAID between 2007 and 2009 to fund ACT procurement. In 2013, the UNITAID private-sector RDT project provided 60,000 RDTs, together with complimentary interventions with the goal of stimulating a private-sector market for malaria RDTs.

Although the Independent Evaluation of AMFm concluded that it had been highly effective at decreasing price and increasing availability of QA ACTs in most countries, the results of the program in Madagascar are less clear.²⁶ Results from Madagascar show that the AMFm success benchmarks for QA ACT availability and market share were not achieved.²⁷ Endline AMFm findings for Madagascar may be associated with the small number of ACTs delivered to Madagascar (only one treatment for every 12 people), the lack of mass media or behavior change communication campaigns, and the political instability and economic challenges in Madagascar during AMFm. Despite the challenges in Madagascar, the GFATM made a decision in November 2012 to integrate a private-sector subsidy for ACT into the core GFATM grant management and financial process. This transition to the private-sector co-payment mechanism subsidy ran from 2013-2015, with participating countries setting their own subsidy levels. Madagascar maintained the pre-transition subsidy level of 95%.

It should be noted that, while the initiation of the private-sector co-payment mechanism in Madagascar increased delivery and availability of QA ACTs from 2011 to 2013, there were delays and gaps in the implementation of the co-payment mechanism and fulfilment of orders between 2014 and 2015. Political instability and an interruption of the supply chain may have contributed to the decline in availability and distribution of QA ACT in Madagascar during this time period.

²⁶ ICF Macro, London School of Hygiene and Tropical Medicine (2012). Independent Evaluation of Phase 1 of the Affordable Medicines Facility – malaria (AMFm).

²⁷ Tougher S, ACTwatch Group, Ye Y, et al. (2012). Effect of the Affordable Medicines Facility—malaria (AMFm) on the availability, price, and market share of quality-assured artemisinin-based combination therapies in seven countries: a before-and-after analysis of outlet survey data. *The Lancet*. 380, 1916-1926.

Annex 3: Outlet Survey Methods

Design and Study Population

ACTwatch implements repeat cross-sectional outlet surveys in project countries. The study population is defined as all outlets with the potential to sell or distribute antimalarial medicines and/or provide malaria blood testing. In Madagascar, this includes the following outlet types:

Public health facilities	Government public health facilities including health centers, and national, regional, and district hospitals.
Community health worker	A network of government and non-governmental community health volunteers.
Private not-for-profit health facilities	Non-governmental (NGO) or mission/faith-based health facilities, including hospitals and clinics.
Private for profit health facilities	Private hospitals, clinics, and diagnostic laboratories.
Pharmacies	Pharmacies are licensed by the National Drug Authority (NDA) and regulated by the Pharmacists' Council. Pharmacies are owned by registered pharmacists or individuals who employ the services of a registered pharmacist. Pharmacies are authorized to sell all classes of medicines including prescription-only medicines.
Drug stores	Typically located in rural areas, drug shops are medicine sellers that are licensed by the NDA and are legally permitted to sell over-the-counter medicines including antimalarial medicines. These outlets are staffed by qualified health dispensers/practitioners.
General retailers	Grocery stores and bars with grocery stores primarily sell fast-moving consumer goods, food and provisions. Although retailers may have over-the-counter medicines including antimalarials available, national authorities do not regulate the sale of medicines by retailers.

Previous outlet surveys in Madagascar have included bars without groceries and *gargote* (stalls providing food, beverages and household goods) as eligible outlets for screening. These outlets were excluded from screening in 2015 because in 2013, nearly all approached bars without grocery and *gargote* did not have antimalarials in stock (1/1,039 *gargote* and 1/345 bars without grocery had any antimalarial in stock).

Stratification

The national Madagascar outlet survey was stratified to provide estimates for urban and rural areas. Explicit stratification by location (urban/rural) was used to ensure a sufficient sample size for urban and rural estimates.

Eligibility Criteria

The outlet survey conducted a census screening in sampled geographic areas of all outlets with the potential to sell or distribute antimalarials. This included all health facilities (public, private for-profit, private not-for-profit), community health workers, pharmacies, drug shops, and general retailers. Outlets that were excluded from screening included service providers that did not stock modern antimalarial medicine, including traditional/spiritual healers and general retail outlets. Outlets that exclusively served the military and did not serve the general public were excluded from the study.

Communes that were designated as non-malaria-endemic according to the National Malaria Control Program were excluded from the sampling frame. These included communes within central Antananarivo, Antananarivo I, Antsirabe I, and Fianarantsoa districts. Consistent with previous surveys, communes located at an altitude of 1,500 meters or higher were also excluded from the sampling frame. Finally, communes located in areas of insecurity were excluded from the sampling frame and did not have a chance of selection for the study.

Outlets were eligible for a provider interview and malaria product audit if they met at least one of three study criteria: 1) one or more antimalarials reportedly in stock the day of the survey, 2) one or more antimalarials reportedly in stock within the three months preceding the survey, and/or 3) provide malaria blood testing (microscopy or RDT). To participate in the study, the senior-most provider at the outlet had to provide informed consent.

Sample Size

The outlet survey was powered to detect a 15 to 20 percentage point change between 2013 and 2015 within each research domain (and nationally) in the indicator: *the proportion of outlets that have quality-assured ACT in stock among all outlets with antimalarials in stock at the time of the survey*. The required sample size for each research domain (urban and rural strata) was calculated in three steps: 1) determine the required number of antimalarial-stocking outlets, 2) determine the number of outlets to be enumerated to arrive at this number of antimalarial-stocking outlets, and 3) determine the number of clusters for the census to arrive at this number of outlets.

Required number of private sector antimalarial-stocking outlets

The number of antimalarial-stocking outlets required to detect a change over time in availability of ACT between survey rounds is given by:

$$n = \frac{\text{deff} \left[Z_{\alpha} \sqrt{2P(1-P)} + Z_{1-\beta} \sqrt{P_1(1-P_1) + P_2(1-P_2)} \right]^2}{(P_2 - P_1)^2}$$

where:

- n = desired sample size
- P_1 = the proportion of antimalarial-stocking outlets with QA ACT/malaria blood testing available in stock in 2013 (see table below)
- P_2 = the expected proportion of antimalarial-stocking outlets with QA ACT/malaria blood testing available in stock in 2015 (15 or 20 percentage point increase).
- P = $(P_1 + P_2)/2$
- $Z_{\alpha/2}$ = The standard normal deviate value for a α type I error (two-sided)
- $Z_{1-\beta}$ = The standard normal deviate value for a β type II error
- Deff = design effect anticipated due to the multi-stage cluster survey design. Design effects observed from the 2013 survey were used for sample size calculations.

QA ACT and malaria blood testing availability (weighted estimates), 2013 ACTwatch outlet survey		
	QA ACT availability*	Malaria blood testing availability**
Urban		
All outlets	62%	40%
Public sector	96%	94%
Public health facilities	97%	86%
Private sector	45%	15%
Pharmacies	100%	2%
Rural		
All outlets	73%	59%
Public sector	97%	89%
Public health facilities	95%	91%
Private sector	24%	6%
Pharmacies	90%	15%

* Among outlets with antimalarial(s) in stock on the day of the survey

** Among outlets with antimalarial(s) in stock on the day of the survey or within the past 3 months

Required number of antimalarial-stocking outlets

The estimated number of outlets enumerated needed for the QA ACT availability indicator was determined by the following formula for urban and rural domains separately:

$$N = n / P_{am}$$

where P_{am} is the proportion of outlets having antimalarial stocks at the time of the survey among all outlets enumerated. In this equation, the assumptions are as follows: N = desired sample size of all outlets for monitoring availability indicators, n is the number of outlets with antimalarial stocks at the time of the survey. P_{am} is the proportion of outlets having antimalarials in stock at the time of the survey among all outlets enumerated, estimated from 2013 survey data for each of the urban and rural domains. The P_{am} values documented in the 2013 outlet survey and used for 2015 sample size calculations are summarized in the table below.

Proportion of enumerated outlets with antimalarials in stock, 2013 ACTwatch outlet survey (data not weighted)		
	In stock on the day of the survey	In stock on the day of the survey or within the past 3 months
Urban		
All outlets	10%	10%
Public sector	46%	48%
Public health facilities	90%	91%
Private sector	7%	8%
Pharmacies	96%	96%
Rural		
All outlets	26%	31%
Public sector	58%	62%
Public health facilities	83%	86%
Private sector	15%	19%
Pharmacies	87%	76%

Required number of clusters (communes)

The primary sampling approach taken for ACTwatch outlet surveys entails sampling a set of administrative units (geographic clusters) with a population of approximately 10,000 to 15,000 inhabitants. Clusters were selected with cluster probability of selection proportionate to size (PPS). A census of all outlets with the potential to sell or distribute antimalarials was then conducted in sampled clusters. The most appropriate administrative unit in Madagascar matching this desired population size was commune.

The average numbers of outlets by outlet type in communes within urban and rural areas screened during the 2013 outlet survey were used to estimate the number of clusters required in 2015 to achieve the desired sample sizes. In 2013, the numbers of outlets per communes enumerated were as follows: all outlets: urban, 380.3 and rural, 110.5; public sector: urban, 19.5 and rural, 23.7; public health facilities: urban, 3.2 and rural, 1.9; private sector: urban, 360.7 and rural, 86.8; pharmacy: urban, 2.6 and rural, 0. Considering sample size requirements to detect change over time and average numbers of outlets across each outlet type, the optimal minimum number of localities required to reach desired numbers of outlets was 60 communes (25 urban, 35 rural) plus a booster sample of public health facilities, pharmacies, and drug shops within 73 booster communes (5 urban, 68 rural).

Sampling

A representative sample of communes (25 urban, 35 rural) was selected in each research domain. From a list of all communes in each domain, the required number of communes was selected with probability proportional to size (PPS).

Selection of communes with PPS was completed based on third population and housing mapping exercise. A sampling frame with population sizes was used for selecting the sample because accurate estimates on the total number of outlets per geographic/administrative unit that may be eligible for a medicine outlet survey do not exist. The major assumption in using population figures for sampling was that distribution of outlets and/or distribution of medicines moving through outlets in a given cluster was correlated with population size.

Within each commune, a census of all outlets with the potential to sell or distribute antimalarials and/or provide malaria blood testing (excluding general retail outlets) was conducted. The census approach taken within 60 communes yielded sufficient sample sizes for key outlet types. However, to achieve a sufficient sample size for estimating key indicators within public health facilities, pharmacies and drug stores, additional communes were selected within each district in which a sampled main census commune was located. The strategy for selecting booster areas was as follows: within districts that contained a sampled urban commune, up to two additional urban communes were selected with PPS from a list of all urban communes in the district. However, additional urban communes within districts containing one urban commune are uncommon in Madagascar (in other words most districts contain zero or one urban commune only). Within districts that contain a sampled rural commune, two additional rural communes were selected with PPS from a list of all rural communes in the district. At district level, a maximum of two urban communes (if one or more urban communes was selected for the main sample) and two rural communes (if one or more rural communes was selected for the main sample) were selected for the booster sample in all cases (even if a district contained more than one sampled urban or more than one sampled rural commune for the census). A list of selected communes is provided in Annex 4.

Data Collection

Interviewers, supervisors, and quality controllers received training that included an orientation to the study, questionnaire, and classroom training on completing antimalarial and RDT audits and a field exercise. Following training, data collection was implemented from October 9-December 5, 2015.

For all interviews, a structured questionnaire was administered electronically on Samsung Grand Neo phones using DroidDB (© SYWARE Inc., Cambridge, MA). The questionnaire is available in Annex 6. A series of screening questions were administered at all outlets to determine eligibility for the survey. Outlets where antimalarial medicines were reportedly sold and/or malaria blood testing was reportedly provided were invited to participate in the survey. Following informed consent procedures, an audit of all available antimalarial medicines and RDTs was conducted.

Antimalarial audit information included formulation, package size, brand name, active ingredients and strengths, manufacturer, country of manufacture, reported sale/distribution in the week preceding the survey, retail price, and wholesale price. RDT audit information included brand name, manufacturer, country of manufacture, reported sale/distribution in the week preceding the survey, retail price, and wholesale price. Detailed descriptions of antimalarials and RDTs audited are provided in Annexes 7 and 8. In addition to the product audit, a series of questions was administered to the senior-most provider regarding malaria case management knowledge and practices as well as provider training and qualifications. Geo-coordinates were collected for each outlet using the mobile phone.

Up to three visits were made to all outlets to complete the screening process, audit, and provider interview as needed (e.g. where outlets were closed or providers were not available).

Data Entry, Processing, and Analysis

Data collection was completed on Samsung Grand Neo phones using DroidDB (© SYWARE Inc., Cambridge, MA). All data cleaning and analysis was completed using Stata 13.1 (©StataCorp, College Station, TX). Sampling weights were applied to account for variations in probability of selection (see Annex 9) and standard error estimation accounted for clustering at the ward and district levels. Indicator definitions are provided in Annex 10.

Protection of Human Subjects

The 2015 outlet survey protocol received ethical approval from the Ministry of Public Health Ethics Committee (reference number 090-MSANP/CE). Provider interviews and product audits were completed only after administration of a standard informed consent form and provider consented to participate in the study. Providers had the option to end the interview at any point during the study. Standard measures were employed to maintain provider confidentiality and anonymity.

Annex 4: Sampled Sub-Counties

Table X1. Sampled Communes					
Region	District	Commune	Urban/Rural	Altitude	Population
ITASY	ARIVONIMAMO	ARIVONIMAMO I	Urban	1,398	17,683
DIANA	NOSY-BE	AMPANGORINA	Urban	26	3,938
DIANA	ANTSIRANANA I	ANTSIRANANA I	Urban	42	110,406
DIANA	AMBILOBE	AMBILOBE	Urban	42	43,545
SAVA	SAMBAVA	SAMBAVA CU	Urban	21	41,672
SAVA	ANDAPA	ANDAPA	Urban	496	21,952
ATSIMO ATSIANANA	FARAFANGANA	FARAFANGANA	Urban	5	26,557
HAUTE MATSIATRA	AMBALAVAO	AMBALAVAO	Urban	1,022	27,749
VATOVAVY FITOVINANY	MANAKARA ATSIMO	MANAKARA	Urban	6	31,604
BOENY	MAROVOAY	MAROVOAY VILLE	Urban	4	34,593
BOENY	MAHAJANGA I	MAHABIBO	Urban	16	111,830
BOENY	MAHAJANGA I	MAHAJANGA	Urban	12	99,958
SOFIA	MAMPIKONY	MAMPIKONY I	Urban	59	13,413
ALAO TRA MANGORO	AMBATONDRAZAKA	AMBATONDRAZAKA	Urban	789	64,710
ANALANJIRIFO	SAINTE MARIE	SAINTE MARIE	Urban	7	25,483
ANALANJIRIFO	FENERIVE EST	FENERIVE EST	Urban	10	42,765
ATSINANANA	VATOMANDRY	VATOMANDRY	Urban	34	11,659
ATSINANANA	TOAMASINA I	ANJOMA	Urban	16	34,614
ATSINANANA	TOAMASINA I	ANKIRIHIRY	Urban	18	90,715
ATSINANANA	TOAMASINA I	MORARANO	Urban	13	69,693
ANOSY	TAOLAGNARO	FORT-DAUPHIN	Urban	34	61,008
ATSIMO ANDREFANA	TOLIARY-I	BESAKOA	Urban	23	30,469
ATSIMO ANDREFANA	TOLIARY-I	MAHAVATSE II	Urban	8	33,003
MENABE	MORONDAVA	MORONDAVA	Urban	13	41,672
ANALAMANGA	MANJAKANDRIANA	SADABE	Rural	1,446	13,323
ANALAMANGA	ANTANANARIVO AVARADRANO	AMBOHIMANGA ROVA	Rural	1,369	16,270
ANALAMANGA	ANTANANARIVO ATSIMONDRAVO	ANDOHARANOFOTSY	Rural	1,288	49,181
ANALAMANGA	ANJOZORIBE	AMPARATANJONA	Rural	1,170	7,727
ANALAMANGA	AMBOHIDRATRIMO	AMPANGABE	Rural	1,282	10,137
ITASY	SOAVINANDRIANA	MAHAVELONA	Rural	1,040	15,149
ITASY	ARIVONIMAMO	AMBOHIMASINA	Rural	1,372	6,609
DIANA	AMBANJA	AMBALAHONKO	Rural	11	4,386
SAVA	SAMBAVA	ANTINDRA	Rural	57	16,706
SAVA	ANDAPA	AMBODIANGEZOKA	Rural	510	26,294
AMORON I MANIA	MANANDRIANA	AMBATOMARINA	Rural	1,397	12,961
AMORON I MANIA	AMBATOFINANANDRAHANA	FENOARIVO	Rural	1,407	16,271
ATSIMO ATSIANANA	MIDONGY-ATSIMO	ANKAZOVELO	Rural	593	5,623
HAUTE MATSIATRA	VOHIBATO	VOHITRAFENO	Rural	1,141	11,013
HAUTE MATSIATRA	ISANDRA	ANDOHARANOMAITSO	Rural	1,212	21,215
HAUTE MATSIATRA	AMBALAVAO	AMBINANINDOVOKA	Rural	991	8,518
VATOVAVY FITOVINANY	NOSY-VARIKA	SAHAVATO	Rural	120	26,981
VATOVAVY FITOVINANY	MANAKARA ATSIMO	VOHIMASINA SUD	Rural	9	7,490
VATOVAVY FITOVINANY	IKONGO	ANKARIMBELO	Rural	125	14,434
BETSIBOKA	TSARATANANA	SAKOAMADINIKA	Rural	706	6,760
BOENY	MAROVOAY	MAROVOAY BANLIEUE	Rural	16	10,435
SOFIA	PORT-BERGE(BORIZINY- VAOVAO)	AMBODIMAHABIBO	Rural	200	11,754
SOFIA	BEFANDRIANA NORD	MATSONDAKANA	Rural	867	42,264
SOFIA	ANALALAVA	ANTONIBE	Rural	17	19,354

ALAOTRA MANGORO	MORAMANGA	ANDAINGO	Rural	954	18,590
ALAOTRA MANGORO	AMPARAFARAVOLA	AMBOHIJANAHARY	Rural	779	26,215
ANALANJIROFO	VAVATENINA	AMBATOHARANANA	Rural	156	10,963
ANALANJIROFO	MANANARA-AVARATRA	ANTANAMBAOBE	Rural	115	9,424
ATSINANANA	TOAMASINA II	ANTETEZAMBARO	Rural	18	14,783
ATSINANANA	MAHANORO	AMBODIBONARA	Rural	72	18,326
ANDROY	TSIHOMBE	NIKOLY	Rural	162	12,857
ANDROY	AMBOVOMBE-ANDROY	IMANOMBO	Rural	283	15,889
ANOSY	TAOLAGNARO	ISAKA-IVONDRO	Rural	50	7,626
ATSIMO ANDREFANA	SAKARAH	MIARY TAHEZA	Rural	354	8,368
ATSIMO ANDREFANA	ANKAZOABO	ILEMBY	Rural	627	2,570
MENABE	MAHABO	AMPANIHY	Rural	85	16,232

Annex 5: Detailed Sample Description

Table X2: Detailed sample description								
	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Outlets
Number of outlets screened (Figure 1 Box B)	260	1378	20	330	73	224	11196	13481
Urban	88	616	14	275	64	64	8566	9687
Census	76	616	14	275	47	64	8566	9658
Booster	12	0	0	0	17	0	0	29
Rural	172	762	6	55	9	160	2630	3794
Census	52	762	6	55	2	60	2630	3567
Booster	120	0	0	0	7	100	0	227
Number of outlets eligible and interviewed (Figure 1 Box D)	244	92	16	167	72	189	260	1040
Urban	85	34	12	129	63	57	110	490
Census	74	34	12	129	46	57	110	462
Booster	11	0	0	0	17	0	0	28
Rural	159	58	4	38	9	132	150	550
Census	49	58	4	38	2	46	150	347
Booster	110	0	0	0	7	86	0	203
Number of outlets eligible but not interviewed (interview non-participation)	0	0	0	1	0	0	3	4
Urban	0	0	0	1	0	0	0	1
Census	0	0	0	1	0	0	0	1
Booster	0	0	0	0	0	0	0	0
Rural	0	0	0	0	0	0	3	3
Census	0	0	0	0	0	0	3	3
Booster	0	0	0	0	0	0	0	0
Number of interviewed outlets with at least one antimalarial in stock on the day of the survey (Figure 1, Box D1)	244	92	16	167	72	189	260	1040
Urban	85	34	12	129	63	57	110	490
Census	74	34	12	129	46	57	110	462
Booster	11	0	0	0	17	0	0	28
Rural	159	58	4	38	9	132	150	550
Census	49	58	4	38	2	46	150	347
Booster	110	0	0	0	7	86	0	203

Table X2: Detailed sample description

	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	Private For-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Outlets
Number of interviewed outlets with at least one antimalarial in stock on the day of the survey or at least one antimalarial reportedly in stock in the previous 3 months (Figure 1 sum of Box 1 and Box 2)	253	165	16	182	73	199	315	1203
Urban	85	54	12	141	64	59	143	558
Census	74	54	12	141	47	59	143	530
Booster	11	0	0	0	17	0	0	28
Rural	168	111	4	41	9	140	172	645
Census	51	111	4	41	2	50	172	431
Booster	117	0	0	0	7	90	0	214
Number of interviewed outlets that provide malaria blood testing, but do not stock antimalarial medicines (Figure 1 Box D3)	3	136	1	13	0	1	0	154
Urban	1	36	1	13	0	1	0	52
Census	0	36	1	13	0	1	0	51
Booster	1	0	0	0	0	0	0	1
Rural	2	100	0	0	0	0	0	102
Census	0	100	0	0	0	0	0	100
Booster	2	0	0	0	0	0	0	2
Proportion of eligible and interviewed antimalarial-stocking outlets with at least one provider with a health-related qualification*	100	100	81.3	99.4	94.4	23.9	6.5	62.1
Urban	100	100	100	100	93.7	25.0	6.4	69.5
Census	100	100	100	100	93.5	25.0	6.4	67.9
Booster	100	n/a	n/a	n/a	94.1	n/a	n/a	96.4
Rural	100	100	25.0	97.4	100	23.5	6.7	55.5
Census	100	100	25.0	97.4	100	19.6	6.7	47.8
Booster	100	n/a	n/a	n/a	100	25.6	n/a	68.5

* Health-related qualifications include medical doctor, pharmacist, nurse, midwife, lab/pharmacy technologist, and community health worker.

Source: ACTwatch Outlet Survey, Madagascar 2015.

Annex 6: Questionnaire

MADAGASCAR 2015

Section 1: Census Information

Interviewer completes this section for all outlets.

Outlet ID: Interviewer-District- Commune-Outlet ID [][]-[][]-[][][][]-[][][][]																						
C1. Today's date (dd/mm/yyyy)	[][]-[][]-[2]_0_1_5_]																					
C2. Interviewer's name []	C2a. Interviewer's code [][]																					
C3. District []	C3a. District code [][]																					
C4. Commune []	C4. Commune code [][][][]																					
C5. Fokontany name []																						
C6. Name of outlet <i>If no name, record "no name" or owner's name</i> []	C6a. Outlet code [][][]																					
C7. Type of Outlet <table border="0"> <tr> <td>01 National University Hospital (Centre Hospitalier Universitaire)</td> <td>11 Bar with grocery store (Epi-Bar)</td> <td rowspan="10">[][]</td> </tr> <tr> <td>02 Regional Hospital (Centre hospitalier regional)</td> <td>12 Grocery Store with gargote</td> </tr> <tr> <td>03 District Hospital (Centre hospitalier de district)</td> <td>13 NGO/Mission clinic/hospital</td> </tr> <tr> <td>04 Community health center level 1 (Without Doctor) (Centre de santé de base niveau 1)</td> <td>14 Community agent from NGO (Agent communautaire des ONG)</td> </tr> <tr> <td>05 Community health center level 2 (With Doctor) (Centre de santé de base niveau 2)</td> <td>15 Community agent from government (Agent communautaire du gouvernement ou public)</td> </tr> <tr> <td>06 Pharmacy (Pharmacie de médicament)</td> <td>16 Private diagnostic lab (<i>lab only</i>)</td> </tr> <tr> <td>07 Rural Pharmacy (depot de médicament)</td> <td>17 NGO/Mission diagnostics lab (<i>lab only</i>)</td> </tr> <tr> <td>08 Private clinic (clinic privé)</td> <td>96 Other (<i>specify</i>) []</td> </tr> <tr> <td>09 Private practice (medecin libre)</td> <td></td> </tr> <tr> <td>10 Grocery store (Epicerie)</td> <td></td> </tr> </table>		01 National University Hospital (Centre Hospitalier Universitaire)	11 Bar with grocery store (Epi-Bar)	[][]	02 Regional Hospital (Centre hospitalier regional)	12 Grocery Store with gargote	03 District Hospital (Centre hospitalier de district)	13 NGO/Mission clinic/hospital	04 Community health center level 1 (Without Doctor) (Centre de santé de base niveau 1)	14 Community agent from NGO (Agent communautaire des ONG)	05 Community health center level 2 (With Doctor) (Centre de santé de base niveau 2)	15 Community agent from government (Agent communautaire du gouvernement ou public)	06 Pharmacy (Pharmacie de médicament)	16 Private diagnostic lab (<i>lab only</i>)	07 Rural Pharmacy (depot de médicament)	17 NGO/Mission diagnostics lab (<i>lab only</i>)	08 Private clinic (clinic privé)	96 Other (<i>specify</i>) []	09 Private practice (medecin libre)		10 Grocery store (Epicerie)	
01 National University Hospital (Centre Hospitalier Universitaire)	11 Bar with grocery store (Epi-Bar)	[][]																				
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05 Community health center level 2 (With Doctor) (Centre de santé de base niveau 2)	15 Community agent from government (Agent communautaire du gouvernement ou public)																					
06 Pharmacy (Pharmacie de médicament)	16 Private diagnostic lab (<i>lab only</i>)																					
07 Rural Pharmacy (depot de médicament)	17 NGO/Mission diagnostics lab (<i>lab only</i>)																					
08 Private clinic (clinic privé)	96 Other (<i>specify</i>) []																					
09 Private practice (medecin libre)																						
10 Grocery store (Epicerie)																						
C8. Is this area part of the booster sample?	1 = Yes 0 = No []																					

Hello, my name is _____, I work on behalf of the PSI Madagascar. We are conducting a study on the availability of antimalarial medicines and diagnostic testing services. The results will be used to improve the availability of appropriate antimalarial treatment in Madagascar. I would like to ask you a few questions to see if you could be part of the survey.

Section 2: Screening & Eligibility

S1. Do you have any medicines in stock today? 1 = Yes Go to S3 0 = No	[]
S2. Are there any medicines that are out of stock today, but that you stocked in the past 3 months? 1 = Yes Go to S4 0 = No Go to S5 8 = Don't know Go to S5	[]
S3. Do you have any antimalarial medicines in stock today? 1 = Yes Provide information sheet & gain consent. Record start time in C9. Proceed to Section 3: Antimalarial Audit. 0 = No Verify with prompt card. Go to S4	[]
S4. Are there any antimalarial medicines that are out of stock today, but that you stocked in the past 3 months? 1 = Yes Provide information sheet & gain consent. Record start time in C9. Proceed to A16. 0 = No Verify with prompt card. Go to S5 8 = Don't know Verify with prompt card. Go to S5	[]
S5. Are you offering any diagnostic services or selling any diagnostic tests here today? 1 = Yes Go to S6 0 = No Verify with prompt card. Record details in C9 then complete Sec 7: ORS & Zinc then Sec X: Ending Interview	[]

S6. Are any of these services or tests for suspected malaria?		[]
1 = Yes	<i>Provide information sheet & gain consent. Record start time in C9. Proceed to Section 4: Diagnostic Audit</i>	
0 = No	<i>Verify with prompt card. Record details in C9 then complete Sec 7: ORS & Zinc and Sec X: Ending Interview</i>	

**Before proceeding to the full interview ensure you have given the respondent a study information sheet,
explained the study and obtained informed consent**

C9. Result of Visit(s)

Date (dd/mm/yy)	Visit 1 [][]-[][]-[1][5]	Visit 2 [][]-[][]-[1][5]	Visit 3 [][]-[][]-[1][5]
Time started (in 24hr clock)	[][]:[][]	[][]:[][]	[][]:[][]
Time completed (in 24hr clock)	[][]:[][]	[][]:[][]	[][]:[][]
Result	[][]	[][]	[][]
01 = Outlet eligible & survey completed go to E1 02 = Outlet ineligible: does not meet any screening criteria go to E1 03 = Interview interrupted go to C11 04 = Respondent not available/time not convenient go to C11 05 = Outlet not open at the time go to C11 06 = Outlet closed permanently go to E1 96 = Other (specify):[] 97 = Refused go to C10			
C10. If the provider refused, why? 1 = Client load Ask respondent for a time they would prefer to be interviewed and note in C11 2 = Thinks it's an inspection / nervous about license go to E1 3 = Not interested go to E1 6 = Other (specify):[] 7 = Refuses to give reason go to E1			[]
C11. Use this space to record call back details. If it is not possible to complete the interview at another time, go to E1.			
Section 7: ORS, Zinc & Amoxicillin: Read to the provider: I have just a few questions for you about availability of treatments for diarrhea and pneumonia			
ORS1. Do you have any oral rehydration salts, also known as ORS in stock today? Verify with prompt card. 1 = Yes 0 = No			[]
ORS2. Do you have any zinc tablets for treatment of diarrhea in children in stock today? Verify with prompt card. 1 = Yes 0 = No Go to AB1			[]
ORS3. Which strength of zinc tablets for treatment of diarrhea in children do you have in stock today? Read list, circle ALL that apply <div style="text-align: right;">10mg 20mg</div> Other(specify):[]			A B C
ORS4. Do you have any ORS that is packaged together with zinc treatment for diarrhea in children in stock today? Verify with prompt card 1 = Yes 0 = No			[]
AB1. Do you have any antibiotics in stock today? 1 = Yes 0 = No			[]
AB2. Do you have any amoxicillin dispersible tablets, also known as Amox DT? Show prompt card. Interviewer ask to see the product and verify that it is dispersible amoxicillin 1 = Yes 0 = No Go to C9 – Results of visit			[]
AB3. Which strength of amoxicillin dispersible tablets (Amox DT) do you have in stock today? Read list, circle ALL that apply <div style="text-align: right;">125mg 250mg</div> Other(specify):[]			A B C

Section X: Ending the interview

E1. Name of interviewee:

[_____]

5 = Not applicable, no respondent; 7 = Refused

E2. Physical address or location identifiers of outlet (not PO box)(Give detailed description that will help supervisor to find the outlet)

E3. Telephone number

[_ | _ | _ | _ | _ | _ | _ | _ | _ | _]

9999999995 = N/A: no respondent or has no telephone

9999999997 = *Refused*

E4.Latitude:

[S]-[][][][]-[][][][][][][]

E5.Longitude:

[_E_] - [_]|[_]|[_]-[_]|[_]|[_]|[_]|[_]

E7. Additional observations by interviewer (if any)

THANK THE PROVIDER AND END INTERVIEW

Section 3: Antimalarial Audit

A0. Read to the provider:

Can you please show us the full range of antimalarials that you currently have in stock? Do you currently have any of the following?

Prompt entire list using antimalarial prompt card; No response to be recorded.

- Artesunate Amodiaquine, such as Winthrop, ACTipal, Artemodi, Larimal, Coarsucam, Arsuamoon, Falcimon, Artediam
- Artemether Lumefantrine such as Coartem, Artrin, Artefan, Lumartem
- Other Artemisinin combination therapies, such as Artecom, AsunateDenk
- Artemether, such as Paluther, Artesiane
- SP, such as Paludar, Palufast, Protimax, Fansidar, Paludoxine, Combimal, Maloxine, Fastidar
- Quinine, such as Resorcine, Quinal, Quinarsol, Quingi, Quinog
- Mefloquine, such as Lariam
- Chloroquine, such as C Quine, New Quine, Palustop, Nivaquine, Neoquine, Saviquine
- Syrups or suspensions, such as Nivaquine, Halfan, Maliago
- Injectables, such as Quinine, Resorcine, Fansidar, Paluther, Artesiane

If the outlet has no antimalarials in stock cross-check screening results then proceed to question A16.

Proceed to the antimalarial audit. Different antimalarial audit sheets will be used to record the antimalarial information based on the dosage form of the medicine.

Separate the antimalarials into two piles:

- **The first pile should contain all the antimalarials in the form of tablets, suppositories, or granules. Use the Tablets, Suppositories & Granules Drug Audit Sheet to record these.**
- **The second pile should contain all the antimalarials in any form other than tablets, suppositories or granules. Use the Non-Tablet Drug Audit Sheet to record these.**

If additional audit sheets are used, add these sheets after the ones provided and staple the questionnaire again. All pages should be in order before you move onto the next outlet.

Number each drug by assigning a Product Number (starting from 1 for TSG drugs and again from 1 for NT drugs). Number each audit sheet used in the spaces provided at the bottom of the page.

ADDITIONAL NOTES ON THE SUB-OUTLET CODE

In all outlets, complete the Sub-Outlet Code (as well as the Product Number) for each drug audited. These codes are listed below.

SUB-OUTLET CODES	
X	ALL outlets that have only ONE dispensing/distribution point for medicines/diagnostics
A	Outpatient department / dispensary/Main pharmacy (if used by all patients)
B	Adult outpatient department / adult dispensary / adult clinic
C	Child outpatient department / child dispensary / child clinic
D	Antenatal / maternity clinic/MCH
E	ART / HIV/AIDS clinic
G	Private dispensing unit within a public health facility
L	Laboratory (for RDT audit)
Z	Comprehensive Clinic/Other (specify the type in the space for audit comments –TSG 15 or NT 15)

TABLET, SUPPOSITORY & GRANULE DRUG AUDIT SHEET (TSG) OUTLET ID: []-[]-[]-[]-[]-[]-[]-[]-[]-[]

Sub-outlet code [] []	[] [] [] [] [] [] [] [] [] []	1. Generic name		2. Strength		2a. Is this base strength?		3. Dosage form/formulation		4. Brand name (Include weight and age information)			
Product number [] []				[] [] [] . [] mg		[] 1 = Yes 0 = No 8 = Don't know If no, specify salt: [] [] [] [] [] []		1 = Tablet 2 = Suppository 3 = Granule [] []					
				[] [] [] . [] mg									
				[] [] [] . [] mg									
5. Manufacturer		6. Country of manufacture		7. Package size		8. Is product a fixed-dose combination (FDC)		9. Does product have the Green leaf logo?		10. Amount sold/distributed 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)		11. Stocked out at any point in the past 3 months?	
				There are a total of [] [] [] [] [] tablets/ suppositories/ granule sachets in each: 1 = Package 2 = Pot/tin		1 = Yes 0 = No 8 = Don't know		1 = Yes 0 = No 8 = Don't know		This outlet sold [] [] [] packages/ tins in the last 7 days OR This outlet sold [] [] [] tablets/ suppositories or granule sachets in the last 7 days Not applicable = 995; Refused = 997; Don't know = 998		1 = Yes 0 = No 8 = Don't know	
		[] [] []		[]		[]		[]				[]	
12. Retail selling price			13. Wholesale purchase price			14. What are the reasons for stocking this medicine [SHOW PRODUCT]?			15. Comments				
[] [] [] [] tablets, suppositories or granule sachets cost an individual customer			For the outlet's most recent wholesale purchase [] [] [] [] [] tablets, suppositories or granule sachets cost			Do not read list. Circle ALL responses given							
[] [] [] [] [] [] [] [] MGA			[] [] [] [] [] [] [] [] MGA			Free supply A							
						Profitable B							
						Recommended by the government C							
						Low price D							
						Customer demand or preference E							
						Positive brand reputation F							
						Often prescribed by doctors G							
						Most effective for treating malaria H							
						Don't know X							
Free = 000000 Refused = 999997 Don't know = 999998			Free = 000000 Refused = 999997 Don't know = 999998										

TABLET, SUPPOSITORY & GRANULE DRUG AUDIT SHEET (TSG) OUTLET ID: [][]-[][]-[][][][]-[][][][]

		Other <i>specify</i> [][][][]	Z
--	--	-----------------------------------------	---

Tablet Audit Sheet [][] of [][]

Sub-outlet code [][] Product number [][]	[][] [][] [][] [][]	1. Generic name [][][][]	2. Strength [][][][].[][]mg	2a. Is this base strength? <input type="checkbox"/> 1 = Yes <input type="checkbox"/> 0 = No <input type="checkbox"/> 8 = Don't know If no, specify salt: [][][][][][][][]	3. Dosage form/formulation 1 = Tablet 2 = Suppository 3 = Granule [][]	4. Brand name (Include weight and age information)								
		[][][][][] tablets/ suppositories/ granule sachets in each: 1 = Package 2 = Pot/tin	8. Is product a fixed-dose combination (FDC) 1 = Yes 0 = No 8 = Don't know [][]	9. Does product have the Green leaf logo? 1 = Yes 0 = No 8 = Don't know [][]	10. Amount sold/distributed 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) This outlet sold [][][][] packages/ tins in the last 7 days OR This outlet sold [][][][] tablets/ suppositories or granule sachets in the last 7 days Not applicable = 995; Refused = 997; Don't know = 998	11. Stocked out at any point in the past 3 months? 1 = Yes 0 = No 8 = Don't know [][]								
		12. Retail selling price [][][][] tablets, suppositories or granule sachets cost an individual customer [][][][][][][][] MGA	13. Wholesale purchase price For the outlet's most recent wholesale purchase [][][][][] tablets, suppositories or granule sachets cost [][][][][][][][] MGA	14. What are the reasons for stocking this medicine [SHOW PRODUCT]? Do not read list. Circle ALL responses given	15. Comments									
		Free = 000000	Free = 000000 Refused = 999997	<table border="1"> <tr> <td>Free supply</td> <td>A</td> </tr> <tr> <td>Profitable</td> <td>B</td> </tr> <tr> <td>Recommended by the government</td> <td>C</td> </tr> <tr> <td>Low price</td> <td>D</td> </tr> <tr> <td>Customer demand or preference</td> <td>E</td> </tr> <tr> <td>Positive brand reputation</td> <td>F</td> </tr> </table>		Free supply	A	Profitable	B	Recommended by the government	C	Low price	D	Customer demand or preference
Free supply	A													
Profitable	B													
Recommended by the government	C													
Low price	D													
Customer demand or preference	E													
Positive brand reputation	F													

TABLET, SUPPOSITORY & GRANULE DRUG AUDIT SHEET (TSG)OUTLET ID: [][]-[][]-[][][][]-[][][]

Refused = 999997 Don't know = 999998	Don't know = 999998	Often prescribed by doctors	G	
		Most effective for treating malaria	H	
		Don't know	X	
		Other	Z	
		specify []		

Tablet Audit Sheet [][] of [][]

NON-TABLET DRUG AUDIT SHEET (NT): SYRUP, SUSPENSION, INJECTIONS & OTHERS

OUTLET ID: [][]-[][]-[][]-[][]-[][]

Sub-outlet code [][] [][] Product number [][]	[][]	1. Generic name	2. Strength		2a. Is this base strength?	3. Dosage form/formulation	
	[][]		[][][][][]·[]mg/[][][][]·[]mL		[] 1 = Yes	1 = Syrup	
	[][]		[][][][][]·[]mg/[][][][]·[]mL		[] 0 = No	2 = Suspension	
	[][]		[][][][][]·[]mg/[][][][]·[]mL		[] 8 = Don't know	3 = Liquid injection	
	[][]		(Note: no mL recorded for powder injection)		If no, specify salt: []	4 = Powder injection	
4. Brand name (Include weight and age information)		5. Manufacturer	6. Country of manufacture	7. Package size	9. Does this product have the Green leaf logo?	10. Amount sold/ distributed in the last 7 days to individual consumers	11. Stocked out at any point in the past 3 months?
				There are a total of [][][][][]·[] mL (or mg for powder injections) in each: 1 = Bottle 2 = Ampoule/vial	1 = Yes 0 = No 8 = Don't know	This outlet sold [][][][][] bottles, ampoules or vials in the last 7 days Refused = 9997; Don't know = 9998	1 = Yes 0 = No 8 = Don't know
12. Retail selling price		13. Wholesale purchase price		14. Why are the reasons for stocking this medicine [SHOW PRODUCT]?		15. Comments	
[][][][] bottles ampoules or vials cost an individual customer [][][][][][][][] MGA		For the outlet's most recent wholesale purchase: [][][][][] bottles, ampoules or vials cost [][][][][][][][] MGA		Do not read list. Circle ALL responses given			
				Free supply A Profitable B Recommended by the government C Low price D Customer demand or preference E Positive brand reputation F Often prescribed by doctors G Most effective for treating malaria H Don't know X			
Free = 000000 Refused = 999997 Don't know = 999998		Free = 000000 Refused = 999997 Don't know = 999998					

NON-TABLET DRUG AUDIT SHEET (NT): SYRUP, SUSPENSION, INJECTIONS & OTHERS

OUTLET ID: [][]-[][]-[][][][]-[][][][]

		Other Z <i>specify</i> []	
--	--	------------------------------------------------------------------	--

Non-Tablet Audit Sheet [][] of [][]

Sub-outlet code [][] [][] Product number [][]		1. Generic name [][] [][] [][] [][]	2. Strength [][][][]·[]mg/[][][]·[]mL [][][][]·[]mg/[][][]·[]mL [][][][]·[]mg/[][][]·[]mL <i>(Note: no mL recorded for powder injection)</i>	2a. Is this base strength? [] 1 = Yes 0 = No 8 = Don't know [] <i>If no, specify salt:</i> []	3. Dosage form/formulation 1 = Syrup 2 = Suspension 3 = Liquid injection 4 = Powder injection 5 = Drops 6 = Other (<i>specify</i>) []														
4. Brand name <i>(Include weight and age information)</i>	5. Manufacturer	6. Country of manufacture [][][]	7. Package size There are a total of [][][][]·[] mL (or mg for powder injections) in each: 1 = Bottle 2 = Ampoule/vial []	9. Does this product have the Green leaf logo? 1 = Yes 0 = No 8 = Don't know []	10. Amount sold/ distributed in the last 7 days to individual consumers This outlet sold [][][][] bottles, ampoules or vials in the last 7 days <i>Refused = 9997; Don't know = 9998</i>	11. Stocked out at any point in the past 3 months? 1 = Yes 0 = No 8 = Don't know []													
12. Retail selling price [][][][] bottles ampoules or vials cost an individual customer [][][][][][][] MGA	13. Wholesale purchase price For the outlet's most recent wholesale purchase: [][][][][] bottles, ampoules or vials cost [][][][][][][] MGA		14. What are the reasons for stocking this medicine [SHOW PRODUCT]? <i>Do not read list. Circle ALL responses given</i> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:80%;">Free supply</td> <td style="width:20%; text-align: right;">A</td> </tr> <tr> <td>Profitable</td> <td style="text-align: right;">B</td> </tr> <tr> <td>Recommended by the government</td> <td style="text-align: right;">C</td> </tr> <tr> <td>Low price</td> <td style="text-align: right;">D</td> </tr> <tr> <td>Customer demand or preference</td> <td style="text-align: right;">E</td> </tr> <tr> <td>Positive brand reputation</td> <td style="text-align: right;">F</td> </tr> <tr> <td>Often prescribed by doctors</td> <td style="text-align: right;">G</td> </tr> </table>		Free supply	A	Profitable	B	Recommended by the government	C	Low price	D	Customer demand or preference	E	Positive brand reputation	F	Often prescribed by doctors	G	15. Comments
Free supply	A																		
Profitable	B																		
Recommended by the government	C																		
Low price	D																		
Customer demand or preference	E																		
Positive brand reputation	F																		
Often prescribed by doctors	G																		
Free = 000000 Refused = 999997	Free = 000000 Refused = 999997																		

Non-Tablet Drug Audit Sheet (NT): SYRUP, SUSPENSION, INJECTIONS & OTHERS

OUTLET ID: [][]-[][]-[][][][]-[][][][]

Don't know = 999998	Don't know = 999998	Most effective for treating malaria	H	
		Don't know	X	
		Other	Z	
		specify []		

Non-Tablet Audit Sheet [][] of [][]

Antimalarials recently in stock

<p>A16. Are there any antimalarial medicines that are out of stock <u>today</u>, but that you stocked in the past 3 months?</p> <p>1 = Yes <i>go to A17</i> 0 = No <i>go to Section 4: Diagnostic Audit</i> 8 = Don't know <i>go to Section 4: Diagnostic Audit</i></p>	<div style="text-align: center;">[]</div>																				
<p>A17. What are the names of the treatments that are out of stock? Will accept generic or brand names. Record one medicine per line.</p> <p>1 = Yes, <i>specify</i> 0 = No, provider can't remember</p> <table border="0" style="width: 100%;"> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> <tr><td>[]</td><td>[]</td></tr> </table>	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	<div style="text-align: center;">[]</div>
[]	[]																				
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Interviewer: Go to Section 4: Diagnostic Audit

Section 4: Diagnostic Audit

This section is about availability of malaria blood testing. Completing the questions may require speaking with more than 1 staff member at the outlet. If the respondent does not know the answer to a question in this section, ask to speak with another staff member who can provide the information.

D1. Does this outlet/facility have disposable gloves available today for staff to use when seeing customers/patients? 1 = Yes 0 = No 8 = Don't know	[]
D2. Does this outlet/facility have a sharps container, also called a sharps disposal box or safety box, available today for staff to use? 1 = Yes 0 = No 8 = Don't know	[]
D3. Is malaria microscopic testing available here today? 1 = Yes 0 = No go to D7	[]
D4. How many people were tested for malaria at this facility/outlet using microscopy within the past 7 days? 997 = Refused; 998 = Don't know	[][][]
D5. What is the <u>total cost</u> for a microscopic test for malaria for an <u>adult</u> : [][][][][] MGA Free = 00000; NA =99995; Refused = 99997; Don't know=99998	
D6. What is the <u>total cost</u> for a microscopic test for malaria for a <u>child under five</u> : [][][][][] MGA Free = 00000; NA = 99995; Refused = 99997; Don't know=99998	
D7. Malaria rapid diagnostic tests, also called RDTs, are small, individually wrapped blood tests that are able to quickly diagnose whether a person has malaria. Show RDT images in prompt card Are malaria RDTs available here today? 1 = Yes 0 = No go to D9 Don't know ask to speak with a respondent who has this information	[]
D8. Please show us the full range of RDTs that you currently have in stock. Do you currently have any of the following? Read entire list; No response to be recorded. <ul style="list-style-type: none"> • Care Start • Malaria quick Test • SD Bioline, SD Malaria Antigen, • Vision biotech • ParaCheck 	

Proceed to the RDT audit.

If additional audit sheets are used, add these sheets after the ones provided and staple the questionnaire again. All pages should be in order before you move onto the next outlet.

Number each RDT by assigning a Product Number.

Number each audit sheet used in the spaces provided at the bottom of the page.

Complete the Sub-outlet Code as well as the Product Number for each RDT audited.

Sub-outlet codes are listed on page 4.

Rapid Diagnostic Test Audit Sheet (RDT)

OUTLET ID: [][]-[][]-[][][][]-[][][][]

Sub-outlet code [][] Product number [][]	1. Brand name 	2. Antigen test <i>(circle ALL that apply)</i> <div>HRP2 A</div> <div>pLDH B</div> <div>Aldolase C</div> <div>Not indicated Z</div>	3. Parasite species <i>(circle ALL that apply)</i> <div>Pf A</div> <div>Pv B</div> <div>Po C</div> <div>pm D</div> <div>pan E</div> <div>vom/Pvom F</div> <div>Other G</div> <div>Specify []</div> <div>Not indicated Z</div>	4. Manufacturer 	5. Country of Manufacture 	5b. Product catalogue number (Look for the words: Catalogue No. ; Cat No. ; Reference No. ; Ref No. ; Product No.)	6. Lot Number (Look for the words: Lot Number. ; Lot N ; Lot; LN ; BN or Batch number.)	7. Is this a self test kit, with each test kit co-packaged with its own buffer, pipette and lancet? <div>1 = Yes</div> <div>0 = No</div> <div>8 = Don't know</div> []
13. Number of tests sold/ distributed /used in the last 7 days to individual consumers <i>(Record total # of tests)</i> This outlet sold or distributed [][][][] tests in the last 7 days <i>Refused = 9997; Don't know=9998</i>	14. Has this test been stocked out at any point in the past 3 months? <div>1 = Yes</div> <div>0 = No</div> <div>8 = Don't know</div> know []	15a. Do you or other staff use this brand of RDT to test clients here at this facility/outlet? <div>1 = Yes</div> <div>0 = No <i>go to 16a</i></div> <div>8 = Don't know <i>go to 16a</i></div> [] 15b. If yes, what is the total cost for an adult to have a test conducted with this RDT, including RDT cost and service fee? [][][][][] MGA 15c. If yes, what is the total cost for a child under the age of five to have a test conducted with this RDT, including RDT cost and service fee? [][][][][] MGA <i>Free = 00000; NA = 99995; Refused = 99997; Don't know=99998</i>	16a. Does this facility/outlet provide this brand of RDT for clients to take away for testing somewhere else? <div>1 = Yes</div> <div>0 = No <i>go to 17</i></div> <div>8 = Don't know <i>go to 17</i></div> [] 16b. If yes, what is cost of this RDT for an adult? [][][][][] MGA 16c. If yes, what is the cost of this RDT for a child under the age of five? [][][][][] MGA	17. Wholesale purchase price For the outlet's most recent wholesale purchase: [][][][][] tests cost [][][][][][][][] MGA <i>Free = 000000</i> <i>Refused = 999997</i> <i>Don't know=999998</i>	18. What are the reasons for stocking this RDT [SHOW RDT]? <i>Do not read list</i> <i>Circle ALL responses given</i> <div>Free supply</div> <div>A</div> <div>Profitable</div> <div>B</div> <div>Recommended by the government</div> <div>C</div> <div>Low price</div> <div>D</div> <div>Customer demand or preference</div> <div>E</div> <div>Positive brand reputation</div> <div>F</div> <div>Don't know</div> <div>X</div>	19. Comment 		

RAPID DIAGNOSTIC TEST AUDIT SHEET (RDT)

OUTLET ID: [][]-[][]-[][][][]-[][][][]

				Other Z <i>specify</i> []	
--	--	--	--	-------------------------------------	--

RDT Audit Sheet [][] of [][]

RDT stock outs

<p>D9. Are there any malaria RDTs that are out of stock today, but that you stocked in the past 3 months?</p> <p>1 = Yes 0 = No go to D11 8 = Don't know go to D11</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>
<p>D10. What are the brand names of the malaria RDTs that are out of stock? Record one brand per line.</p> <p>1 = Yes, <i>specify</i></p> <div style="border: 1px solid black; width: 640px; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; width: 640px; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; width: 640px; height: 20px; margin-bottom: 5px;"></div> <p>0 = No, provider can't remember</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>
<p>D11. Does this facility/outlet provide medicines or prescription for medicines?</p> <p>1 = Yes go to Section 5: Provider Module</p> <p>0 = No check that S1 is no and S2 is no (the outlet has no medicines/had no medicines recently) and that C7 is 18 or 19. Go to Section 7: ORS and ZINC and then Go to Section 6: Audit Tracking Sheet.</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>

Section 5: Provider Module

This section is for the senior-most staff member who is responsible for providing treatment, prescriptions or medicines to clients/patients.

<p>P1. Do your responsibilities at this outlet/facility include: providing prescriptions, treatment, <u>or</u> medicines to clients?</p> <p>1 = Yes No ask to speak with the senior-most person at the outlet with 1 or more of these responsibilities.</p>	<input type="checkbox"/>
P2. For how many years have you worked in this outlet/facility? If less than 1 year, enter 01	<input type="text"/>
<p>P3. What age are you today? Write age in years</p> <p>97 = Refused 98 = Don't know</p>	<input type="text"/>
<p>P4. Don't read: Is respondent male or female?</p> <p>1 = Male 2 = Female</p>	<input type="text"/>
<p>P5. What is the highest level of education you completed?</p> <p>1 = No formal education 2 = Some primary school 3 = Completed primary school 4 = Some secondary school 5 = Completed secondary school 6 = Some university/college 7 = Completed a university/college degree/diploma</p>	<input type="text"/>
<p>P6. Have you received any training in the last 12 months that included a component on malaria diagnosis, including malaria rapid diagnostic tests or microscopy? Include pre-service training and stand-alone workshops.</p> <p>1 = Yes 0 = No 8 = Don't know</p>	<input type="text"/>
<p>P7. Have you received any training in the last 12 months on the national treatment guidelines for malaria? Include pre-service training and stand-alone workshops.</p> <p>1 = Yes 0 = No 8 = Don't know</p>	<input type="text"/>
<p>P8. Do you have any of the following health qualifications? Read list. Record 1 for yes, 0 for no</p>	
I. Pharmacist (Degree in Pharmacy)	<input type="text"/>
II. Medical doctor	<input type="text"/>
III. Nurse / Infirmiere	<input type="text"/>
IV. Midwife	<input type="text"/>
V. Health Assistant	<input type="text"/>
VI. Laboratory technician/Pharmacy technician	<input type="text"/>
VII. Community Health Worker	<input type="text"/>
VIII. Dispensateur / Dispensatrice	<input type="text"/>

Record 1 for yes, 0 for no, 8 for don't know

I. Pharmacist (Degree in Pharmacy)	<input type="text"/>
II. Medical doctor	<input type="text"/>
III. Nurse / Infirmiere	<input type="text"/>
IV. Midwife	<input type="text"/>
V. Health Assistant	<input type="text"/>
VI. Laboratory technician/Pharmacy technician	<input type="text"/>
VII. Community Health Worker	<input type="text"/>
VIII. Dispensateur / Dispensatrice	<input type="text"/>

Ask the provider to show you the medicine if it is in stock to verify the name and dosage form.

Ask the provider to show you the medicine if it is in stock.

Generic or brand name		Dosage form/formulation	
[_____]		01 = Tablet	04 = Syrup
		02 = Suppository	05 = Suspension
[_____]		03 = Granule	06 = IM/IV Injection
			(liquid or powder)
Don't know = 98		[____] [____]	

Ask the provider to show you the medicine if it is in stock.

<p>Generic or brand name</p> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div>	<p>Dosage form/formulation</p> <table border="0" style="width: 100%;"> <tr> <td>01 = Tablet</td> <td>04 = Syrup</td> <td>07 = Drops</td> </tr> <tr> <td>02 = Suppository</td> <td>05 = Suspension</td> <td>95 = None specified</td> </tr> <tr> <td>03 = Granule</td> <td>06 = IM/IV Injection (liquid or powder)</td> <td>98 = Don't know</td> </tr> </table>	01 = Tablet	04 = Syrup	07 = Drops	02 = Suppository	05 = Suspension	95 = None specified	03 = Granule	06 = IM/IV Injection (liquid or powder)	98 = Don't know
01 = Tablet	04 = Syrup	07 = Drops								
02 = Suppository	05 = Suspension	95 = None specified								
03 = Granule	06 = IM/IV Injection (liquid or powder)	98 = Don't know								
<p><i>Don't know = 98</i></p>	<div style="text-align: center;">[] []</div>									

P12. What antimalarial medicine for treating uncomplicated malaria in adults do you most often recommend to customers?

Ask the provider to show you the medicine if it is in stock.

Generic or brand name [] Don't know = 98	Dosage form/formulation		
	01 = Tablet 02 = Suppository 03 = Granule	04 = Syrup 05 = Suspension 06 = IM/IV Injection (liquid or powder)	07 = Drops 95 = None specified 98 = Don't know
[] []			

P13. What antimalarial medicine for treating uncomplicated malaria in children under five do you most often recommend to customers?

Ask the provider to show you the medicine if it is in stock.

Generic or brand name [] Don't know = 98	Dosage form/formulation		
	01 = Tablet 02 = Suppository 03 = Granule	04 = Syrup 05 = Suspension 06 = IM/IV Injection (liquid or powder)	07 = Drops 95 = None specified 98 = Don't know
[] []			

P14. In your opinion, for treating severe malaria in children under five, what is the most effective antimalarial medicine?

Ask the provider to show you the medicine if it is in stock.

Generic or brand name [] Don't know = 98	Dosage form/formulation		
	01 = Tablet 02 = Suppository 03 = Granule	04 = Syrup 05 = Suspension 06 = IM/IV Injection (liquid or powder)	07 = Drops 95 = None specified 98 = Don't know
[] []			

P15. What antimalarial medicine for treating severe malaria in children under five do you most often recommend to customers?

Ask the provider to show you the medicine if it is in stock.

Generic or brand name [] Don't know = 98	Dosage form/formulation		
	01 = Tablet 02 = Suppository 03 = Granule	04 = Syrup 05 = Suspension 06 = IM/IV Injection (liquid or powder)	07 = Drops 95 = None specified 98 = Don't know
[] []			

P16. Please name the first line medicine recommended by the government to treat uncomplicated malaria.

Do not read list. Only one response allowed.

- 01 = Artesunate Amodiaquine (Winthrop, ACTipal, Artemodi, Larimal, Coarsucam, Arsuamoon, Falcimon)..... **Go to P17**
- 02 = ACT..... **Go to P17**
- 03 = ACTm..... **Go to P17**
- 04 = Artemether Lumefantrine (Artefan 20/120, Coartem 20/120, Lumartem)
- 05 = Amodiaquine
- 06 = Artemether (Paluther, Artesiane)
- 07 = Artemisinin
- 08 = Artesunate (*Artesun, Larinate, Plasmotrim*)
- 09 = Chloroquine (C Quine, New Quine, Palustop, Nivaquine, Neoquine, Saviquine)
- 10 = Dihydroartemisinin Piperazine
- 11 = Halofantrine
- 12 = Mefloquine (Lariam)
- 13 = Quinine (Resorcine, Quinal, Quinarsol, Quingi, Quinog)
- 14 = Sulfadoxine Pyrimethamine (Paludar, Palufast, Protimax, Fansidar)
- 96 = Other *specify*: []
- 98 = Don't know

Go to P19

[]

P17. Please explain the government recommended treatment regimen for this drug for an adult (60kg)

What is the dosage formulation?

- | | | |
|------------------|------------------------|---------------------|
| 01 = Tablet | 04 = Syrup | 07 = Drop |
| 02 = Suppository | 05 = Suspension | 95 = None specified |
| 03 = Granule | 06 = Injection (IV/IM) | 96 = Not applicable |
| | | 98 = Don't know |

[]

If provider responded not tablet then skip to p18

Read the following 3 questions to the provider

- I. How many tablets should they take at a time?
- II. How many times per day?
- III. Over how many days?

[]

[]

[]

If respondent has the medicine available use the package to complete the table below.

If the medicine is not available ask respondent to identify from prompt card.

If identification not possible, ask respondent to recall medicine details.

Don't know = 98

	Generic name	Strength in mg	Brand name
[]		[]	
[]		[]	
[]		[]	
[]		[]	
		Don't know=999.8	

Manufacturer	Is this drug a fixed-dose combination 1 = Yes 0 = No 8 = Don't know	
Don't know = 98	<div></div>	

P18. Please explain the government recommended treatment regimen for this drug for a 2-year old child (10kg) **Read the following 3 questions to the provider**

What is the dosage formulation?

01 = Tablet	04 = Syrup	07 = Drop
02 = Suppository	05 = Suspension	95 = None specified
03 = Granule	06 = Injection (IV/IM)	96 = Not applicable
		98 = Don't know

[][]

If provider responded not tablet then skip to p19

Read the following 3 questions to the provider

- How many tablets should they take at a time?
- How many times per day?
- Over how many days?

[][].[][]

[][]

[][]

If respondent has the medicine available use the package to complete the table below.

If the medicine is not available ask respondent to identify from prompt card.

If identification not possible, ask respondent to recall medicine details.

Don't know = 98

Generic name	Strength in mg	Brand name
[][] _____	[][][].[][]mg	
[][] _____	[][][].[][]mg	
[][] _____	[][][].[][]mg	
[][] _____	[][][].[][]mg	
[][]	Don't know=999.8	
Manufacturer	Is this drug a fixed-dose combination 1 = Yes 0 = No 8 = Don't know	
Don't know = 98	[]	

P19. Please name the medicine recommended by the government to treat severe malaria.

Do not read list. Only one response allowed.

- | | |
|------------------------------------------------------------------------|--------------------|
| 01 = Artesunate (Artesun, Larinate, Plasmotrim) | Go to P20 |
| 02 = Artemether (Paluther, Artesiane)..... | Go to P20 |
| 03 = Quinine (Resorcine, Quinal, Quinarsol) | Go to P20 |
| 04 = ACT/ACTm | } Go to P21 |
| 05= Artemether Lumefantrine (Coartem, Artrin, Artefan, Lumartem) | |
| 06 = Artesunate Amodiaquine (Winthrop, ACTipal, Artemodi, Larimal) | |
| 07 = Dihydroartemisinin Piperazine (Duo-cotecxin, P-alaxin) | |
| 08 = Chloroquine (C Quine, New Quine) | |
| 09 = Sulfadoxine Pyrimethamine (Paludar, Palufast, Protimax, Fansidar) | |
| 96 = Other (specify): [_____] | |
| 98 = Don't know | |

[][]

P20. What is the drug formulation for the recommended medicine by the government to treat severe malaria? **Do not read dosage form options**

01 = Tablet	04 = Syrup	07 = Drops
02 = Suppository	05 = Suspension	95 = None specified
03 = Granule	06 = IM/IV Injection (Liquid or powder)	98 = Don't know

[][]

<p>P21. Malaria rapid diagnostic tests, also called RDTs, are small, individually wrapped blood tests that are able to quickly diagnose whether a person has malaria. Show RDT images in prompt card</p> <p>Have you ever seen or heard of malaria RDTs?</p> <p>1 = Yes Go to P22 0 = No Go to P29 8 = Don't know Go to P29</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>																
<p>P22. Have you ever tested a client for malaria using an RDT?</p> <p>1 = Yes 0 = No 8 = Don't know</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>																
<p>P23. Would you ever recommend a patient/customer take an antimalarial if a blood test using a rapid diagnostic test produced a negative test result for malaria?</p> <p>Read list. Record only one response.</p> <p>1 = Yes, Sometimes 2 = Yes, Always 3 = No, Never go to P29 8 = Don't know go to P29</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>																
<p>P24. Under what circumstances would you recommend a patient/customer take an antimalarial following a negative RDT test for malaria?</p> <p>Do not read list. Prompt "anything else" until the respondent is finished.</p> <p>Circle ALL responses given</p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: right; width: 80%;">When they have signs/symptoms of malaria</td> <td style="width: 20%; text-align: center;">A</td> </tr> <tr> <td style="text-align: right;">When they ask for antimalarial treatment</td> <td style="text-align: center;">B</td> </tr> <tr> <td style="text-align: right;">When they are a child</td> <td style="text-align: center;">C</td> </tr> <tr> <td style="text-align: right;">When they are an adult</td> <td style="text-align: center;">D</td> </tr> <tr> <td style="text-align: right;">When they are a pregnant woman</td> <td style="text-align: center;">E</td> </tr> <tr> <td style="text-align: right;">When I do not trust/believe the test</td> <td style="text-align: center;">F</td> </tr> <tr> <td style="text-align: right;">When I know the patient/customer</td> <td style="text-align: center;">G</td> </tr> <tr> <td style="text-align: right;">Other (specify) [_____]</td> <td style="text-align: center;">X</td> </tr> </table>		When they have signs/symptoms of malaria	A	When they ask for antimalarial treatment	B	When they are a child	C	When they are an adult	D	When they are a pregnant woman	E	When I do not trust/believe the test	F	When I know the patient/customer	G	Other (specify) [_____]	X
When they have signs/symptoms of malaria	A																
When they ask for antimalarial treatment	B																
When they are a child	C																
When they are an adult	D																
When they are a pregnant woman	E																
When I do not trust/believe the test	F																
When I know the patient/customer	G																
Other (specify) [_____]	X																

<p>P29. What are the danger signs of <u>severe</u> illness in a child under 5? Do not read list. Prompt “anything else” until the respondent is finished. Circle ALL responses given</p>	
Unable to drink /unable to breastfeed	A
Vomits everything	B
Convulsions	C
Lethargic or unconscious	D
Don't know	Z
Other (specify) [_____]	X
<p>P30. What would you do if a 2-year old child was brought to this outlet with the danger signs of <u>severe</u> illness? Do not read list. Only one response allowed.</p> <p>01 = Seek advice/help from someone in this facility 02 = Treat the child in this facility 03 = Refer to a health facility (clinic, hospital) with or without treating here 04 = Refer to a non-health facility outlet (not a clinic or hospital) with or without treating here 05 = Send them away/home without medicine 06 = Send them away/home with medicine 96 = Other (specify): [_____] 98 = Don't know</p>	

Complete the audit sheet tracker on the next page then follow the instructions for ending the interview.

Section 6: Audit Tracking Sheet

<p>T1. Were there any antimalarial TABLETS/SUPPOSITORIES/GRANULES <u>in stock</u> at this outlet?</p> <p>1 = Yes 0 = No go to T4 8 = Don't know go to T4</p>	<input type="text"/>
<p>T2. Total number of TABLET/SUPPOSITORY/GRANULE <u>audit sheets</u> completed</p>	<input type="text"/>
<p>T3. Did you complete audit sheet information for <u>all available</u> TABLETS/SUPPOSITORIES/GRANULES?</p> <p>1 = Yes, audit complete 0 = No, audit not complete</p>	<input type="text"/>
<p>T4. Were there any antimalarial NON TABLETS (Syrups, suspensions, Injectables) <u>in stock</u> at this outlet?</p> <p>1 = Yes 0 = No go to T7 8 = Don't know go to T7</p>	<input type="text"/>
<p>T5. Total number of NON-TABLET <u>audit sheets</u> completed</p>	<input type="text"/>
<p>T6. Did you complete audit sheet information for <u>all available</u> NON-TABLETS?</p> <p>1 = Yes, audit complete 0 = No, audit not complete</p>	<input type="text"/>
<p>T7. Were there any RDTs <u>in stock</u> at this outlet?</p> <p>1 = Yes 0 = No go to T10 8 = Don't know go to T10</p>	<input type="text"/>
<p>T8. Total number of RDT <u>audit sheets</u> completed</p>	<input type="text"/>
<p>T9. Did you complete audit sheet information for <u>all available</u> RDT?</p> <p>1 = Yes, audit complete 0 = No, audit not complete</p>	<input type="text"/>
<p>T10. COMMENTS: Reason for incomplete audit sheets (if response is no to T3, T6, or T9):</p>	

Be sure to complete Section 7: ORS, Zinc & Amoxicillin, then to C9 and record the final status of the interview and time completed and proceed to Section X: Ending the Interview.

Annex 7: Antimalarial Reference

Table X3: Number of antimalarials audited								
	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	Private for-Profit Facility	Pharmacy	Drug Store	General retailer	ALL Outlets
Urban	404	60	53	354	476	204	117	1668
Census	347	60	53	354	337	204	117	1472
Booster	57	0	0	0	139	0	0	196
Rural	716	83	9	92	57	376	169	1502
Census	225	83	9	92	12	106	169	696
Booster	491	0	0	0	45	270	0	806
TOTAL	1120	143	62	446	533	580	286	3170
Source: ACTwatch Outlet Survey, Madagascar, 2015.								

Table X4: Quality-assured (QA ACT) and Non-quality assured ACTs**Quality-assured ACT (QA ACT)**

QA ACTs are ACTs that comply with the GFATM's Quality Assurance Policy. A QA ACT is any ACT that appeared on the GFATM's indicative list of antimalarials meeting the GFATM's quality assurance policy prior to data collection, or that previously had C-status in an earlier GFATM quality assurance policy and was used in a program supplying subsidized ACTs. QA ACTs also include ACTs that have been granted regulatory approval by the European Medicines Agency (EMA) – specifically Eurartesim® and Pyramax®.

Artesunate Amodiaquine Tablets	Artemether Lumefantrine Tablets
Actipal 2-11 months [^]	Artefan Dispersible 20/120 5-14kg [^]
Actipal 1-5 years [^]	Artefan Dispersible 20/120 15-24kg [#]
Apmo Infant 2-11 months ^{^#}	Artefan 20/120 25-34kg ^{^#}
Apmo Toddler 1-5 years ^{^#}	Artefan 20/120 35kg+ Adults ^{^#}
Apmo Child 6-13 years ^{^#}	Coartem 20/120 Dispersible 5-15kg [#]
Artesun-Plus Infant 2-11 months ^{^#}	Coartem 20/120 Dispersible 15-25kg ^{^#}
Artesun-Plus Toddler 1-5 years [^]	Coartem 20/120 (24 tablets) [#]
Artesun-Plus Child 6-13 years [^]	
Artesun-Plus Adult +14 years [^]	
Artesunate + Amodiaquine 2-11 months (IPCA Laboratories LTD) ^{^#}	
Artesunate + Amodiaquine 1-5 years (IPCA Laboratories LTD) ^{^#}	
Artesunate + Amodiaquine 6-13 years (IPCA Laboratories LTD) ^{^#}	
Artesunate + Amodiaquine 14+ years (IPCA Laboratories LTD) ^{^#}	
Winthrop Infant 2-11 months ^{^#}	
Winthrop Toddler 1-5 years ^{^#}	
Winthrop Adult +14 years ^{^#}	
Winthrop Child 6-13 years ^{^#}	

Non-quality assured ACT

ACTs that do not meet the definition of being quality-assured.

Artemisinin Napthoquine Tablets	
Arco 125mg/50mg [^]	

* <http://www.theglobalfund.org/en/procurement/quality/pharmaceutical>

[^] Product audited in the public sector

[#] Product audited in the private sector

Table X5: Nationally Registered ACTs

ACT registered with Country's national drug regulatory authority and permitted for sale or distribution in country.

Artesunate Amodiaquine Tablets	Artemether Lumefantrine Tablets
Actipal 2-11 months [^]	Artefan Dispersible 20/120 5-14kg [^]
Actipal 1-5 years [^]	Artefan Dispersible 20/120 15-24kg [#]
Apmo Infant 2-11 months ^{^#}	Artefan 20/120 25-34kg ^{^#}
Apmo Toddler 1-5 years ^{^#}	Artefan 20/120 35kg+ Adults ^{^#}
Apmo Child 6-13 years ^{^#}	Coartem 20/120 Dispersible 5-15kg [#]
Artesun-Plus Infant 2-11 months ^{^#}	Coartem 20/120 Dispersible 15-25kg ^{^#}
Artesun-Plus Toddler 1-5 years [^]	Coartem 20/120 (24 tablets) [#]
Artesun-Plus Child 6-13 years [^]	
Artesun-Plus Adult +14 years [^]	
Artesunate + Amodiaquine 2-11 months (IPCA Laboratories LTD) ^{^#}	
Artesunate + Amodiaquine 1-5 years (IPCA Laboratories LTD) ^{^#}	
Artesunate + Amodiaquine 6-13 years (IPCA Laboratories LTD) ^{^#}	
Artesunate + Amodiaquine 14+ years (IPCA Laboratories LTD) ^{^#}	
Winthrop Infant 2-11 months ^{^#}	
Winthrop Toddler 1-5 years ^{^#}	
Winthrop Adult +14 years ^{^#}	
Winthrop Child 6-13 years ^{^#}	
[^] Product audited in the public sector [#] Product audited in the private sector	

Table X6: Severe Malaria Treatment

WHO recommends intravenous or intramuscular artesunate as first-line treatment in the management of severe *falciparum* malaria. If artesunate is not available, artemether in preference to quinine should be used for treating severe malaria cases. Rectal artesunate is suitable for pre-referral treatment in children under 6 years of age.²⁸

Quinine Liquid Injection (manufacturer)	Artesunate Powder Injection (manufacturer)
Quinimax 250mg/2ml (Sanofi Aventis) [#]	Artesun 60mg (Guilin Pharmaceutical Co. Ltd) ^{^#}
Quinine Dihydrochloride (Deska Pharma Ltd.) [#]	
Quinine Dihydrochloride (CSPC Ouyi Pharmaceuticals Co Ltd) ^{^#}	Artemether Liquid Injection (manufacturer)
SQuine (Savvy Care & Cosmetics Pvt Ltd) ^{^#}	Paluther [#]
SQuine Plus (Savvy Care & Cosmetics Pvt Ltd) ^{^#}	

* *Guidelines for the treatment of malaria, 3rd edition*. WHO. Geneva: 2015.

[^] Product audited in the public sector

[#] Product audited in the private sector

Annex 8: RDT Reference

Table X7: Number of RDTs audited								
	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	Private for-Profit Facility	Pharmacy	Drug Store	General Retailer	ALL Outlets
Urban	78	84	11	107	21	20	1	322
Census	67	84	11	107	9	20	1	299
Booster	11	0	0	0	12	0	0	23
Rural	146	194	0	17	1	19	0	377
Census	43	194	0	17	0	4	0	258
Booster	103	0	0	0	1	15	0	119
TOTAL	224	278	11	124	22	39	1	699
Source: ACTwatch Outlet Survey, Madagascar, 2015.								

Table X8: RDT Brand Names and Manufacturers*

Brand Name	Manufacturer
Care Start [^] #	Access Bio Inc.
First Response [^] #	Premier Medical Corporation Ltd
ICT Malaria Diagnostic#	ICT Diagnostics
Malaria Quick Test [^] #	Cypress Diagnostics
Malaria Self Test#	ICT Diagnostics
Maleriscan#	Bhat Bio-Tech India Ltd
Meriscreen#	Meril Diagnostics Pvt. Ltd
Onsite Rapid Test [^] #	CTK Biotech Inc.
SD Bioline [^] #	Standard Diagnostics Inc.
Vision#	Vision Biotech
* 699 RDTs were audited and brand name and manufacturer were available for all products. [^] Product audited in the public sector [#] Product audited in the private sector	

Annex 9. Sampling Weights

Sampling weights were applied for analysis of the Madagascar 2015 outlet survey data to account for variations in probability of selection as a result of the sampling design:

- 1) **Stratification:** Disproportionate allocation stratification was used to ensure adequate sample size within the urban and rural domains to allow for domain-specific estimates. The research domains were based on national designation of urban and rural communes. A representative sample was selected within each domain.
- 2) **One-stage cluster sampling:** Communes were selected from sampling frames within each domain with probability proportional to size. Within each commune, a census of all outlets with the potential to sell or distribute antimalarials and/or provide malaria blood testing was conducted.
- 3) **Booster sample – public health facilities (PHFs), pharmacies and drug stores:** Additional communes were sampled as booster communes for public health facilities, pharmacies, and drug stores. The strategy for selecting booster areas was as follows: within districts that contained a sampled urban commune, up to two additional urban communes were selected with PPS from a list of all urban communes in the district. However, additional urban communes within districts containing one urban commune are uncommon in Madagascar (in other words most districts contain zero or only one urban commune). Within districts that contain a sampled rural commune, two additional rural communes were selected with PPS from a list of all rural communes in the district. At district level, a maximum of two urban communes (if one or more urban communes was selected for the main sample) and two rural communes (if one or more rural communes was selected for the main sample) were selected for the booster sample in all cases (even if a district contained more than one sampled urban or more than one sampled rural commune for the census).

The sampling weights applied during analysis are the inverse of the probability of selection:

$$W_i = \frac{1}{a \times \frac{M_\alpha}{\sum M_\alpha}}$$

Where:

- M_α = estimated cluster (population size)
- $\sum M_\alpha$ = sum of estimated cluster sizes (population size) in the entire stratum
- a = number of clusters selected within the stratum

Sampling weights are calculated at the cluster level and are applied to all outlets within a given cluster, irrespective of outlet type.

Market share was calculated using the full census data at the commune level and additional booster communes were not included. Main commune sampling weights were created using the sampling weight formula (W_i), where:

- M_α = estimated commune population size
- $\sum M_\alpha$ = sum of estimated commune population size in the entire stratum
- a = number of communes selected within the stratum

The commune sampling weights were applied to all other indicators in the report for all outlet types with the exception of booster public health facilities, pharmacies, and drug stores. Weights for additional clusters sampled for these outlet types were calculated as follows:

$$W_i = \frac{1}{a \times \frac{D_\alpha}{\sum D_\alpha} \times b \times \frac{M_\alpha}{\sum M_\alpha}}$$

Where:

1st Stage of selection:

- D_α = estimated district population size
- $\sum D_\alpha$ = sum of estimated district population sizes
- a = number of districts selected

2nd Stage of selection:

- M_α = estimated commune population size
- $\sum M_\alpha$ = sum of estimated commune population sizes in the stratum (urban/rural)
- b = number of communes selected within the district

The population estimates used to select sub-counties with PPS and to create sampling weights were obtained from the third population and housing census mapping exercise. A sampling frame with population sizes was used for selecting the sample because accurate estimates on the total number of outlets per geographic/administrative unit that may be eligible for a medicine outlet survey do not exist. The major assumption in using population figures for sampling and weighting is that distribution of outlets and/or distribution of medicines moving through outlets in a given cluster is correlated with population size.

Annex 10: Indicator Definitions

Table 1: Availability of antimalarials, among all screened outlets

Table 1 reports the proportion of all outlets enumerated that had any antimalarial in stock at the time of the survey visit. Antimalarial availability is reported among all outlets as well as among individual outlet types, all public outlets, and all private outlets. Availability is reported for any antimalarial as well as specific types of antimalarial medicines.

Numerator	Number of outlets with any antimalarial in stock at the time of the survey visit, as confirmed by presence of at least one antimalarial (defined as a medicine with antimalarial ingredients) recorded in the antimalarial audit section.
Denominator	Number of outlets screened.
Calculation	Numerator divided by denominator.
Handling missing values	All screened outlets will contribute to the denominator. This includes outlets that were eligible for interview (including antimalarial audit) but 1) were not interviewed or 2) the interview was partially completed.
Notes and considerations	Given partial or non-completion of interviews among eligible outlets and the inclusion of these outlets in the denominator, these availability indicators can be considered conservative estimates of antimalarial availability.

Table 2: Availability of antimalarials, among outlets stocking at least one antimalarial

Table 2 reports the proportion of antimalarial-stocking outlets with a specific antimalarial in stock at the time of the survey visit. Antimalarial availability is reported among all outlets as well as among individual outlet types, all public outlets, and all private outlets. Availability is reported for any antimalarial as well as specific types of antimalarial medicines.

Numerator	Number of outlets with any antimalarial in stock at the time of the survey visit, as confirmed by presence of at least one antimalarial (defined as a medicine with antimalarial ingredients) recorded in the antimalarial audit section.
Denominator	Number of outlets with at least one antimalarial audited.
Calculation	Numerator divided by denominator.
Handling missing values	All outlets with at least one antimalarial recorded in the antimalarial audit sheet will contribute to the denominator. This includes outlets where the interview was not fully completed (partial interview).
Notes and considerations	Given partial completion of interviews among antimalarial-stocking outlets and the inclusion of these outlets in the denominator, these availability indicators can be considered conservative estimates of antimalarial availability.

Table 3: Types of quality-assured and non-quality assured ACTs

Table 3 reports the types of quality-assured (QA) and non-quality assured (non-QA) ACTs audited in the public and private sector, including generic name and formulation.

Numerator	By sector, the number of QA and non-QA ACTs audited within each generic and formulation category (e.g. number of QA artemether lumefantrine tablets audited in the public sector).
Denominator	By sector, total number of QA and non-QA ACTs audited.
Calculation	Numerator divided by the denominator within QA and non-QA ACTs for each sector.
Handling missing values	By definition, the generic name of all ACTs is known. ACTs with missing formulation information are excluded.
Notes and considerations	

Table 4: Antimalarial market composition

Table 3 reports the distribution of outlet types among outlets with at least one antimalarial in stock on the day of the survey.

Numerator	By outlet type, the number of outlets with any antimalarial in stock at the time of the survey visit, as confirmed by presence of at least one antimalarial (defined as a medicine with antimalarial ingredients) recorded in the antimalarial audit section.
Denominator	Total number of outlets with any antimalarial in stock at the time of the survey visit, as confirmed by presence of at least one antimalarial (defined as a medicine with antimalarial ingredients) recorded in the antimalarial audit section.
Calculation	Numerator for each outlet type divided by the denominator.
Handling missing values	All outlets with at least one antimalarial recorded in the antimalarial audit sheet will contribute to the indicator. This includes outlets where the interview was not fully completed (partial interview).
Notes and considerations	Market composition is calculated among outlets located within the representative sample of clusters and excludes the booster sample.

Table 5: Price of antimalarials

Table 5a provides the median price of an adult equivalent treatment dose (AETD, see Annex 11) for select tablet formulation types of antimalarials across outlet types. The inter-quartile range (IQR) is provided as a measure of dispersion.

Calculation	Median antimalarial AETD (see Annex 11) price in US dollars with inter-quartile range (25 th and 75 th percentiles).
Handling missing values	Antimalarials with missing price information are excluded from the median price calculation.
Notes and considerations	Price in US dollars is calculated based on exchange rates available from www.oanda.com using the historical exchange rates tool. The average exchange rate over the entire data collection period is used for converting local currency captured during data collection to US dollars.

A. Table 5b also provides the median price of two pre-packaged QA ACT therapies: pediatric appropriate for a 10kg child (2 years of age), and adult appropriate for a 60kg adult. The inter-quartile range (IQR) is provided as a measure of dispersion.

Calculation	Median pre-packaged therapy price in US dollars with inter-quartile range (25 th and 75 th percentiles).
Handling missing values	Antimalarials with missing price information are excluded from the median price calculation.
Notes and considerations	Price in US dollars is calculated based on exchange rates available from www.oanda.com using the historical exchange rates tool. The average exchange rate over the entire data collection period is used for converting local currency captured during data collection to US dollars.

Table 6: Availability of malaria blood testing among antimalarial-stocking outlets

Table 6 reports the proportion of antimalarial-stocking outlets that had malaria blood testing available. Testing availability is reported among all outlets as well as among individual outlet types, all public outlets, and all private outlets. Availability is reported for any blood test as well as specific test types: microscopy and rapid diagnostic test (RDT) including quality-assured RDTs. Quality-assured RDTs are RDTs that comply with the Global Fund to Fight AIDS, Tuberculosis and Malaria's Quality Assurance Policy.

Numerator	Number of outlets with malaria blood testing available (any, microscopy, RDT, QA RDT).
Denominator	Number of outlets with any antimalarial in stock at the time of the survey visit or reportedly stocked any antimalarial in the previous three months.
Calculation	Numerator divided by denominator.
Handling missing values	<ul style="list-style-type: none"> Antimalarial-stocking outlets with missing information about both availability of microscopy and availability of RDTs are excluded from malaria testing indicators. The number of such outlets is provided in a footnote. Outlets with partial information about availability of blood testing (information about microscopy or RDTs) are included in the denominator of the indicator "any blood testing available." The number of such outlets is provided in a footnote. Indicators for RDT and microscopy availability exclude outlets with missing availability information respectively (i.e. outlets missing information about microscopy availability are excluded from the microscopy indicator).
Notes and considerations	Survey inclusion criteria extended to outlets providing blood testing but not stocking antimalarials ("diagnosis/testing-only outlets"). These outlets are excluded from this availability table.

Table 6: Malaria blood testing market composition

Table 6 reports the distribution of outlet types among outlets with malaria blood testing available on the day of the survey.

Numerator	By outlet type, the number of outlets with malaria blood testing available at the time of the survey visit, as confirmed by presence of at least one RDT recorded in the RDT audit section and/or reported availability of malaria microscopy services.
Denominator	Total number of outlets with malaria blood testing available at the time of the survey visit, as confirmed by presence of at least one RDT recorded in the RDT audit section and/or reported availability of malaria microscopy services.
Calculation	Numerator for each outlet type divided by the denominator.
Handling missing values	All outlets with non-missing values for the RDT audit or malaria microscopy availability questions are included in the indicators. This includes outlets where the interview was not fully completed (partial interview).
Notes and considerations	Market composition is calculated among outlets located within the representative sample of clusters, and excludes the booster sample.

Table 7: Malaria blood testing market composition

Table 7 reports the distribution of outlet types among outlets with malaria blood testing (microscopy or RDT) available on the day of the survey.

Numerator	By outlet type, the number of outlets with malaria blood testing (microscopy or RDT) available at the time of the survey visit, as confirmed by presence of at least one RDT recorded in the RDT audit section or microscopy available indicated in the diagnostics section.
Denominator	Total number of outlets with malaria blood testing available at the time of the survey visit, as confirmed by presence of at least one RDT recorded in the RDT audit section or microscopy available indicated in the diagnostics section.
Calculation	Numerator for each outlet type divided by the denominator.
Handling missing values	All outlets with at least one RDT recorded in the RDT audit sheet or microscopy available recorded in the diagnostics section will contribute to the indicator. This includes outlets where the interview was not fully completed (partial interview).
Notes and considerations	Market composition is calculated among outlets located within the representative sample of clusters and excludes the booster sample.

Table 8: Price of malaria blood testing

- A. Table 8 reports the median price of blood testing to consumers including any consultation or service fees. The inter-quartile range (IQR) is provided as a measure of dispersion.

Calculation	Median total blood test price in US dollars with inter-quartile range (25 th and 75 th percentiles).
Handling missing values	Microscopy-stocking outlets that are missing information about price of microscopy are excluded from this indicator. Audited RDTs with missing information about price of testing are excluded from this indicator.
Notes and considerations	Price in US dollars is calculated based on exchange rates available from www.oanda.com using the historical exchange rates tool. The average exchange rate over the entire data collection period is used for converting local currency captured during data collection to US dollars.

Table 9: Antimalarial market share

Antimalarial market share is the amount of adult equivalent treatment doses (AETD) reportedly sold or distributed in the previous week by outlet type and antimalarial type as a percentage of all AETDs sold/distributed in the previous week. Expressed as a percentage, market share is the amount of a specific antimalarial sold/distributed by a specific outlet type relative to the entire antimalarial market (all antimalarial types sold/distributed by all outlet types). Totals are reported per antimalarial medicine type and per outlet type. Across antimalarial medicine types and outlet types, percentages in the entire table sum to 100% (the total market).

Numerator	Number of AETDs sold/distributed for a specific antimalarial drug category and outlet type.
Denominator	Total number of AETDs sold/distributed.
Calculation	Numerator divided by denominator.
Handling missing values	AETDs sold/distributed are calculated among audited medicines with complete and consistent information. Antimalarials with incomplete or inconsistent information among key variables that define AETD sold/distributed (active ingredients, strength, formulation, package size, amount sold/distributed) are excluded from the calculation.
Notes and considerations	See Annex 11 for a description of AETD calculation.

Table 10: Antimalarial market share across outlet type

Antimalarial market share across outlet type is the amount of adult equivalent treatment doses (AETD) reportedly sold or distributed in the previous week by antimalarial type within each outlet type as a percentage of all AETDs sold/distributed in the previous week within the specified outlet type. Expressed as a percentage, outlet-type market share is the amount of a specific antimalarial sold/distributed relative to the entire antimalarial market segment for the specified outlet type (all antimalarial types sold/distributed by the specific outlet type). Totals are reported per antimalarial medicine type for each outlet type. Across antimalarial medicine types within each outlet type, percentages sum to 100%.

Numerator	Number of AETDs sold/distributed for a specific antimalarial drug category within the specified outlet type.
Denominator	Total number of AETDs sold/distributed within the specific outlet type.
Calculation	Numerator divided by denominator.
Handling missing values	AETDs sold/distributed are calculated among audited medicines with complete and consistent information. Antimalarials with incomplete or inconsistent information among key variables that define AETD sold/distributed (active ingredients, strength, formulation, package size, amount sold/distributed) are excluded from the calculation.

Notes and considerations	See Annex 11 for a description of AETD calculation.
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Table 11: Malaria blood testing market share

Malaria blood testing market share is the number of malaria blood tests reportedly sold or distributed in the previous week by outlet type and malaria blood test type (RDT, microscopy) as a percentage of all malaria blood tests sold/distributed in the previous week. Expressed as a percentage, market share is the number of a specific malaria blood test type by a specific outlet type relative to the entire malaria blood testing market (all malaria blood tests sold/distributed by all outlet types). Totals are reported per test type and per outlet type. Across malaria blood test types and outlet types, percentages in the entire table sum to 100% (the total market).

Numerator	Number of malaria blood tests sold/distributed for a specific blood test type (RDT, microscopy) and outlet type.
Denominator	Total number of malaria blood tests sold/distributed.
Calculation	Numerator divided by denominator.
Handling missing values	Malaria blood tests sold/distributed are calculated among audited RDTs and microscopy services with complete and consistent information. RDTs and microscopy services with incomplete or inconsistent information about the amount sold/distributed) are excluded from the calculation.
Notes and considerations	Records and/or recall of testing with microscopy versus malaria RDT may differ within a given outlet, introducing an unquantifiable bias in estimating total tests performed.

Table 12: Malaria blood testing market share across outlet type

Malaria blood testing market share across outlet type is the number of malaria blood tests reportedly sold or distributed in the previous week by blood test type within each outlet type as a percentage of all blood tests sold/distributed in the previous week within the specified outlet type. Expressed as a percentage, outlet-type market share is the amount of a specific malaria blood test sold/distributed relative to the entire blood testing market segment for the specified outlet type (all malaria tests sold/distributed by the specific outlet type). Totals are reported per test type for each outlet type. Across malaria blood test types within each outlet type, percentages sum to 100%.

The market share for each RDT manufacturer is also reported across outlet type. Within each outlet type, the number of RDTs for a specific manufacturer sold/distributed relative to all RDTs distributed within that outlet type is reported as a percentage. Totals for RDT market share across all manufacturers sums to 100% within each outlet type.

Numerator	Number of malaria blood tests sold/distributed for a specific blood test type (RDT, microscopy), or number of malaria RDTs sold/distributed for a specific manufacturer, within the specified outlet type.
Denominator	Total number of malaria blood tests/RDTs sold/distributed within the specific outlet type.
Calculation	Numerator divided by denominator.
Handling missing values	Malaria blood tests sold/distributed are calculated among audited RDTs and microscopy services with complete and consistent information. RDTs and microscopy services with incomplete or inconsistent information about the amount sold/distributed) are excluded from the calculation.
Notes and considerations	Records and/or recall of testing with microscopy versus malaria RDT may differ within a given outlet, introducing an unquantifiable bias in estimating total tests performed.

Table 13: Provider case management knowledge and practices

Table 13 reports key indicators of provider case management knowledge and practices. These include referral practices for severe malaria and self-reported practices for managing clients who test negative for malaria.

Numerator	<p>A. Referral: respondents who indicated that they would refer to a health facility (response option #3). Note this numerator excludes providers located in a public or private health facility.</p> <p>B. Recommends antimalarials to test-negative clients: respondents who indicated “yes, always,” or “yes sometimes.”</p> <p>C. Circumstances for recommending an antimalarial: individual indicators for the most common responses provided to this open-ended question. Note this numerator excludes providers who did not respond to the previous question about recommending antimalarials to test-negative clients with “yes always” or “yes sometimes.”</p>
Denominator	<p>A. Referral: respondents who provided a response to this question, including “don’t know.” Note this denominator excludes providers located in a public or private health facility.</p> <p>B. Recommends antimalarials to test-negative clients: respondents who provided a response to this question, including “don’t know.”</p> <p>C. Circumstances for recommending an antimalarial: respondents who provided at least one response to this question, including “don’t know” (i.e. at least one variable in this series is non-missing). Note this denominator excludes providers who did not respond to the previous question about recommending antimalarials to test-negative clients with “yes always” or “yes sometimes.”</p>
Calculation	Numerator divided by denominator.
Handling missing values	<p>A. Providers missing a response to this question will be excluded from the indicator.</p> <p>B. Providers missing a response to this question will be excluded from the indicator.</p> <p>C. This indicator is assessed using an open-ended multiple response option question. Providers with at least one non-missing response in the variable series for this question will be included in the indicator. Among these sets of responses, missing will be treated as not mentioned.</p>
Notes and considerations	In some cases, multiple providers were interviewed at one outlet. A provider with responsibilities related to diagnosis may have responded to questions about malaria diagnosis and diagnostics (indicators B and C in Table 9), while a different provider responsible for prescribing and/or dispensing medicines may have responded to questions about danger signs of severe illness and referral for severe malaria (indicator A in Table 8). In all cases, the questions assessing provider knowledge and practices were administered only one time per outlet. As such, indicators are tabulated at the outlet level.

Table 14: Provider antimalarial treatment knowledge and practices

Table 14 reports key indicators of provider antimalarial treatment knowledge and practices. These include knowledge of the first-line treatment, knowledge of the first-line treatment dosing regimen for adults and children, citing ACT as most effective to treat malaria in adults and children, and citing ACT as most commonly recommended by the provider to manage malaria in adults and children.

Numerator	<p>A. State first-line: providers who responded to p17 with a generic or brand name consistent with a national first-line treatment, or responded to p17 with “ACT,” or “ACTm” and in p18 provided a generic or brand name consistent with a national first-line treatment. In other words, providers must specifically name the first-line treatment using generic or brand name language in either p17 or p18.</p> <p>B. First-line regimen, adult: providers who correctly stated the first-line generic ingredients and strengths in p18, and correctly stated the number of days, times per day, and tablets per dose to be taken.</p> <p>C. ACT most effective, adult & child: Any response for this open-ended question whereby: 1) one medicine or a set of medicines to be used in combination is mentioned only i.e. multiple antimalarial medicines mentioned will be counted as incorrect; and 2) the combination of medicines is an ACT – defined either by using a brand name, generic name, “ACT,” or “ACTm.” If the provider mentions a correct ACT response and also mentioned an anti-pyretic (e.g. paracetamol), this response will be counted as correct. However, if the provider mentions a correct ACT response and also mentioned other drugs – such as an antibiotic – this answer will be counted as incorrect.</p> <p>D. ACT most often recommended, adult & child: Any response for this open-ended question whereby: 1) one medicine or a set of medicines to be used in combination is mentioned, i.e. multiple antimalarial medicines mentioned will be counted as incorrect; and 2) the combination of medicines is an ACT – defined either by using a brand name, generic name, “ACT,” or “ACTm.” If the provider mentions a correct ACT response and also mentioned an anti-pyretic (e.g. paracetamol), this response will be counted as correct. However, if the provider mentions a correct ACT response and also mentioned other drugs – such as an antibiotic – this answer will be counted as incorrect.</p>
Denominator	<p>A. State first-line: All providers who responded to p17 – please name the first-line medicine.</p> <p>B. First-line regimen, adult: All providers who responded to p17 (starting the series on first-line knowledge).</p> <p>C. ACT most effective, adult & child: All providers who responded to p13/14, including providers who responded with “don’t know,” who provided names of non-antimalarial medicines, and who responded with more than one antimalarial medicine not intended to be used as combination therapy.</p> <p>D. ACT most often recommended, adult & child: All providers who responded to p13/14, including providers who responded with “don’t know,” who provided names of non-antimalarial medicines, and who responded with more than one antimalarial medicine not intended to be used as combination therapy.</p>
Calculation	Numerator divided by denominator.
Handling missing values	<p>A. Providers missing a response to this question will be excluded from this indicator.</p> <p>B. Providers with partial information for the regimen questions will be included in the denominator (i.e. missing treated as not mentioned).</p> <p>C. Providers missing a response to this question will be excluded from the indicator.</p> <p>D. Providers missing a response to this question will be excluded from the indicator.</p>

Annex 11. Adult Equivalent Treatment Dose (AETD)

Definition

Antimalarial medicines are manufactured using a variety of active pharmaceutical ingredients, dosage forms, strengths, and package sizes. ACTwatch uses the adult equivalent treatment dose (AETD) as a standard unit for price and sale/distribution analyses. One AETD is defined as the number of milligrams (mg) of an antimalarial drug required to treat an adult weighing 60 kilograms (kg). For each antimalarial generic, the AETD is defined as the number of mg recommended in treatment guidelines for uncomplicated malaria in areas of low drug resistance issued by the WHO. Where WHO treatment guidelines do not cover a specific generic, the AETD is defined based on peer-reviewed research or the product manufacturer's recommended treatment course for a 60kg adult. Table X9 lists AETD definitions used in this report.

While it is recognized that the use of AETDs may over-simplify and ignore many of the complexities of medicine consumption and use, this analytical approach was selected because it standardizes medication dosing across drug types and across countries (which may sometimes vary), thus permitting comparisons on both prices and volumes calculated on the basis of an AETD.

Additional considerations:

- Where combination therapies consist of two or more active antimalarial ingredients packaged together (co-formulated or co-blistered), the strength of only one principal ingredient issued. The artemisinin derivative is used as the principal ingredient for ACT AETD calculations.
- Co-blistered combinations are generally assumed to be 1:1 ratio of tablets unless otherwise documented during fieldwork or through manufacturer websites.
- Sulfamethoxypyrazine pyrimethamine is assumed to have the same full-course adult treatment dose as sulfadoxine pyrimethamine.

Calculation

Information collected on drug strength and unit size as listed on the product packaging was used to calculate the total amount of each active ingredient found in the package. The number of AETDs in a unit was calculated.²⁹ The number of AETDs in a monotherapy is calculated by dividing the total amount of active ingredient contained in the unit by the AETD (i.e. the total number of mg required to treat a 60kg adult). The number of AETDs for a combination therapy was calculated by dividing the total amount of the active ingredient that was used as the basis for the AETD by the AETD.

²⁹ The unit is dependent on the drug dosage form. The unit for antimalarials in tablet, suppository, or granule form is the package. The unit for injectable antimalarials is the ampoule. The unit for syrup and suspension antimalarials is the bottle.

Table X9: Adult Equivalent Treatment Dose Definitions

Antimalarial Generic [Ingredient used for AETD mg dose value]	Dose used for calculating 1 AETD (mg required to treat a 60kg adult)	Source
Arteether / Artemotil	1050mg	WHO Use of Antimalarials, 2001
Artemether	960mg	WHO Use of Antimalarials, 2001
Artemether-Lumefantrine [Artemether]	480mg	WHO Guidelines for the treatment of malaria 3 rd edition, 2015
Artemisinin-Naphthoquine [Artemisinin]	2400mg	WHO Use of Antimalarials, 2001
Artesunate	960mg	WHO Use of Antimalarials, 2001
Artesunate-Amodiaquine [Artesunate]	600mg	WHO Guidelines for the treatment of malaria 3 rd edition, 2015
Atovaquone-Proguanil [Atovaquone]	3000mg	WHO Guidelines for the treatment of malaria 3 rd edition, 2015
Chloroquine	1500mg	WHO Guidelines for the treatment of malaria 3 rd edition, 2015
Halofantrine	1398mg	Manufacturer Guidelines (Halfan – GSK)
Primaquine	45mg	WHO Guidelines for the treatment of malaria 2nd edition, 2010
Quinine	10408mg	WHO Model Formulary, 2008
Sulfadoxine Pyrimethamine	1500mg	WHO Model Formulary, 2008

Annex 12: Antimalarial Volumes

Table X10: Antimalarial volumes, by outlet type

AETDs sold or distributed in the previous week by outlet type and antimalarial type:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailers	TOTAL Private	ALL Outlets
	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)
1. Any ACT	5912.7 (529.9, 11295.4)	667.6 (0.0, 1447.2)	46.7 (0.0, 100.4)	6627.0 (1197.9, 12056.1)	281.4 (87.2, 475.7)	610.0 -	863.7 (0.0, 1873.2)	47.0 (0.0, 169.4)	1802.2 (766.6, 2837.8)	8429.2 (3000.0, 13858.3)
Artesunate Amodiaquine Ψ	5912.0 (529.3, 11294.7)	667.6 (0.0, 1447.2)	46.7 (0.0, 100.4)	6626.3 (1197.2, 12055.4)	261.3 (73.4, 449.3)	297.2 -	562.6 (0.0, 1565.9)	47.0 (0.0, 169.4)	1168.1 (221.1, 2115.1)	7794.4 (2348.2, 13240.6)
Artemether Lumefantrine	0.7 -	0.0 -	0.0 -	0.7 -	20.1 -	312.8 -	301.1 (0.0, 980.6)	0.0 -	634.1 (83.3, 1184.8)	634.7 (84.0, 1185.5)
Quality-assured ACT (QA ACT)	5905.7 (523.0, 11288.5)	667.6 (0.0, 1447.2)	46.7 (0.0, 100.4)	6620.1 (1190.9, 12049.2)	281.4 (87.2, 475.7)	610.0 -	863.7 (0.0, 1873.2)	47.0 (0.0, 169.4)	1802.2 (766.6, 2837.8)	8422.2 (2992.9, 13851.5)
QA ACT with the “green leaf” logo	2370.4 (0.0, 6967.8)	280.1 (0.0, 684.6)	0.0 -	2650.5 (0.0, 7212.1)	131.0 (7.1, 254.9)	150.4 -	350.8 (0.0, 946.5)	30.1 -	662.3 (126.9, 1197.7)	3312.8 (0.0, 7857.7)
QA ACT without the “green leaf” logo	3530.1 (304.4, 6755.8)	387.5 (0.0, 810.8)	46.7 (0.0, 100.4)	3964.4 (703.8, 7224.9)	139.2 (40.8, 237.5)	459.5 -	512.9 (0.0, 1591.4)	13.9 (0.0, 188.2)	1125.5 (177.7, 2073.4)	5089.9 (1761.8, 8418.0)
Non-quality assured ACT	6.9 -	0.0 -	0.0 -	6.9 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	6.9 -
Nationally Registered ACT	5912.7 (529.9, 11295.4)	667.6 (0.0, 1447.2)	46.7 (0.0, 100.4)	6627.0 (1197.9, 12056.1)	281.4 (87.2, 475.7)	610.0 -	863.7 (0.0, 1873.2)	47.0 (0.0, 169.4)	1802.2 (766.6, 2837.8)	8429.2 (3000.0, 13858.3)
2. Any non-artemisinin therapy	11602.7 (6480.6, 16724.8)	504.3 -	193.6 (48.7, 338.4)	12300.5 (7029.8, 17571.3)	5648.2 (1986.2, 9310.1)	2932.7 -	16753.9 (7119.1, 26388.7)	6833.2 (2460.8, 11205.7)	32168.0 (18036.7, 46299.3)	44468.5 (29433.2, 59503.8)
Sulfadoxine Pyrimethamine	10857.2 (6872.4, 14842.0)	361.4 -	102.0 (19.0, 185.1)	11320.6 (7381.5, 15259.6)	3978.9 (1072.6, 6885.2)	2797.9 -	7317.2 (4504.2, 10130.3)	848.4 (120.3, 1576.5)	14942.5 (9772.4, 20112.6)	26263.0 (19653.5, 32872.5)
Chloroquine	0.0 -	130.4 (0.0, 634.0)	28.8 (0.0, 109.4)	159.3 (0.0, 471.9)	882.3 -	0.0 -	8783.1 (0.0, 18074.7)	5968.8 (1860.9, 10076.7)	15634.2 (4821.8, 26446.5)	15793.4 (4988.0, 26598.8)
Oral Quinine	117.3	2.7	1.6	121.7	110.0	47.7	215.4	0.0	373.1	494.7

Table X10: Antimalarial volumes, by outlet type

AETDs sold or distributed in the previous week by outlet type and antimalarial type:*	Public Health Facility	Community Health Worker	Private Not For-Profit Facility	ALL Public / Not For-Profit	Private For-Profit Facility	Pharmacy	Drug Store	General Retailers	TOTAL Private	ALL Outlets
	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)	# AETD (95% CI)
	(48.4, 186.2)	-	(0.0, 17.4)	(53.2, 190.1)	(12.8, 207.1)	-	(0.0, 810.1)	-	(0.0, 854.1)	(14.7, 974.7)
Quinine IV/IM	538.1 (155.0, 921.3)	9.7 (0.0, 59.4)	61.1 (0.0, 190.1)	609.0 (223.9, 994.1)	677.0 (90.7, 1263.3)	85.6 -	438.1 (221.8, 654.5)	16.1 (0.0, 50.3)	1216.8 (487.9, 1945.6)	1825.7 (881.8, 2769.6)
Other non-artemisinin therapy ^	90.1 (0.0, 263.3)	0.0 -	0.0 -	90.1 (0.0, 263.3)	0.0 -	1.5 (0.0, 16.0)	0.0 -	0.0 -	1.5 (0.0, 6.4)	91.6 (0.0, 238.8)
3. Oral artemisinin monotherapy	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
4. Non-oral artemisin monotherapy	5.8 (0.4, 11.2)	0.0 -	0.0 -	5.8 (0.4, 11.2)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	5.8 (0.4, 11.3)
Artesunate IV/IM #	5.8 (0.4, 11.2)	0.0 -	0.0 -	5.8 (0.4, 11.2)	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -	5.8 (0.4, 11.3)
OUTLET TYPE TOTAL***	17521.2 (7505.3, 27537.1)	1171.9 (146.0, 2197.7)	240.3 (80.4, 400.3)	18933.4 (8667.5, 29199.2)	5929.6 (2290.7, 9568.5)	3542.6 -	17617.6 (7366.8, 27868.4)	6880.3 (2470.0, 11290.6)	33970.1 (19172.4, 48767.9)	52903.5 (35005.8, 70801.1)

*A total of 6,410 AETDs were reportedly sold or distributed in the previous 7 days. See Annex 11 for a description of AETD calculation.

Ψ At the time of the 2015 Madagascar ACTwatch outlet survey, artesunate amodiaquine was the first-line treatment for uncomplicated malaria.

A total of 2,169 antimalarials were audited. Of these, 41 audited antimalarials were not included in market share calculations due to incomplete or inconsistent information.

Source: ACTwatch Outlet Survey, Madagascar, 2015

