

Retail prices of ACTs co-paid by the AMFm and other antimalarial medicines:

Ghana, Kenya, Madagascar, Nigeria, Tanzania and Uganda

Report of price-tracking surveys

Survey Date: September / October 2011

Investigators: Health Action International (www.haiweb.org and www.haiafrica.org)

These price tracking studies were commissioned by the Global Fund to Fight AIDS Tuberculosis and Malaria (and in Uganda, by the Medicines for Malaria Venture). Health Action International (HAI) Africa, which conducted the study, also analyzed the data and prepared the report. HAI Africa is solely responsible for the accuracy of data in the report.

1.0 Introduction

The AMFm is an innovative financing mechanism to expand access to affordable artemisinin-based combination therapies (ACTs) for malaria through the public and private sectors. Hosted and managed by the Global Fund to Fight AIDS, Tuberculosis and Malaria, the AMFm does three things: (i) it negotiates with manufacturers to reduce prices paid by private sector importers to the same level as prices paid by public sector importers; (ii) it makes a co-payment on behalf of the first-line buyer, thus subsidizing the buyer's purchase of ACTs from the manufacturer and (iii) it supports country-level activities to promote access to and appropriate use of the co-paid ACTs. Phase 1 of the AMFm started operations in mid-2010 and it includes nine pilots in eight countries. The Global Fund has commissioned an independent evaluation of AMFm Phase 1. For more information on the AMFm, including benchmarks for estimating the success of Phase 1, see <http://www.theglobalfund.org/en/amfm/>.

Private sector markets and prices are generally unregulated in most AMFm pilot countries. The Global Fund commissioned a series of price tracking studies in the private sector of several AMFm Phase 1 countries to inform the implementation of the pilots, including adjustments that may be appropriate in each country context.¹ (The Medicines for Malaria Venture commissioned the study in Uganda). Information from these studies will be available to implementers who make decisions at country level, technical partners who work with implementers, the Global Fund in its capacity as host and manager of AMFm Phase 1, and other interested parties who might wish to track the progress of work during AMFm Phase 1. These surveys include Ghana, Kenya, Madagascar, Nigeria, Tanzania and Uganda.

The operational aim of AMFm is to influence the market such that retail prices of co-paid ACTs decline and, over time, become price-competitive with those of the market-dominant non-AMFm antimalarials.

The Global Fund does not specify a recommended retail price for AMFm medicines, but countries have the option of doing so if they wish. The following table provides information about suggested retail prices (SRPs) for adult equivalent treatment packs, as specified by countries. The table also shows the dates on which the first AMFm co-paid ACTs arrived in the countries, to provide an idea of how long the co-paid ACTs have been on the national markets.

Table 1: Suggested Retail Prices (SRP) and dates of first ACTs deliveries

Country	SRP in local currency or maximum sales price	SRP in US \$	First delivery date of co-paid ACTs in-country
Ghana	No more than 1.50 Cedis	US \$ 1.00	02 August 2010
Kenya	40 Kenyan Shillings	US \$ 0.45	10 August 2010
Madagascar	No SRP		14 October 2010
Nigeria	75 Naira	US \$ 0.50	25 January 2011
Tanzania	1000 Tanzania Shillings	US \$ 0.65	12 October 2010
Uganda	1200 Ugandan Shillings	US \$ 0.42	23 April 2011

Source: Global Fund Secretariat

This report is the third in a series. It includes data collected in all six countries during September and October 2011.

The methods are presented in Section 2 and the findings are in Section 3. Various annexes include more detail.

¹ The price-tracking surveys are different from the baseline and endpoint surveys for the independent evaluation of AMFm Phase 1, for which the Global Fund has contracted other organizations.

2.0 Methodology

Sampling and data collection are conducted using the standardized methodology co-developed by WHO and HAI (www.haiweb.org/medicineprices) minimally adapted for antimalarial medicines and the AMFm price-tracking exercise. The methodology also allows for availability analyses. Sixty facilities are targeted in each country (five formal and five informal facilities per region, in six regions per country). For this price-tracking project, Uganda was selected to carry out the price tracking in double the number of facilities (a target total of 120 facilities in six regions: ten formal and ten informal facilities per region).

After two rounds of data collection in Uganda² the effect of the larger sample size in Uganda is still being determined. Upon initial analysis, the larger sample size made little difference on median prices for medicines with greater availability (such as AL and SP), while for medicines with low availability, it made a greater difference on median prices. A more comprehensive analysis will emerge as the rounds of data available for comparison increase.

The final facilities numbers for this round are outlined in Table 2 below.

Table 2: Number of facilities surveyed by country, Sept – Oct 2011 data collection exercise

Country	Total Sites	Formal Sites*	Informal Sites**
Kenya	60	31	29
Ghana	60	31	29
Nigeria	60	30	30
Madagascar	60	30	30
Tanzania	60	30	30
Uganda	115 ***	67	48 ***
ALL COUNTRIES	415	219	196

*Formal sites defined as registered retail pharmacies

**Informal sites defined as unregulated, unlicensed outlets

***Identifying informal sites in Uganda was a challenge in September / October as the medicines regulatory authority, under new management, was inspecting and enforcing across the sector -- seemingly sending informal sellers into "hiding"

Data were collected per facility on two lists of antimalarial medicines: the complete list of AMFm ACTs, and a list of non-AMFm "other antimalarials" of interest which includes selected non-AMFm-supplied ACTs and selected non-ACTs. For the non-AMFm "other antimalarials", three price points were collected: originator brand (OB) price, highest price generic (HPG), and lowest price generic (LPG). The medicines lists are found in the Annexes.

² Uganda and Madagascar began data collection for the second round of the AMFm Price Tracking studies

3.0 Findings

3.1 Availability

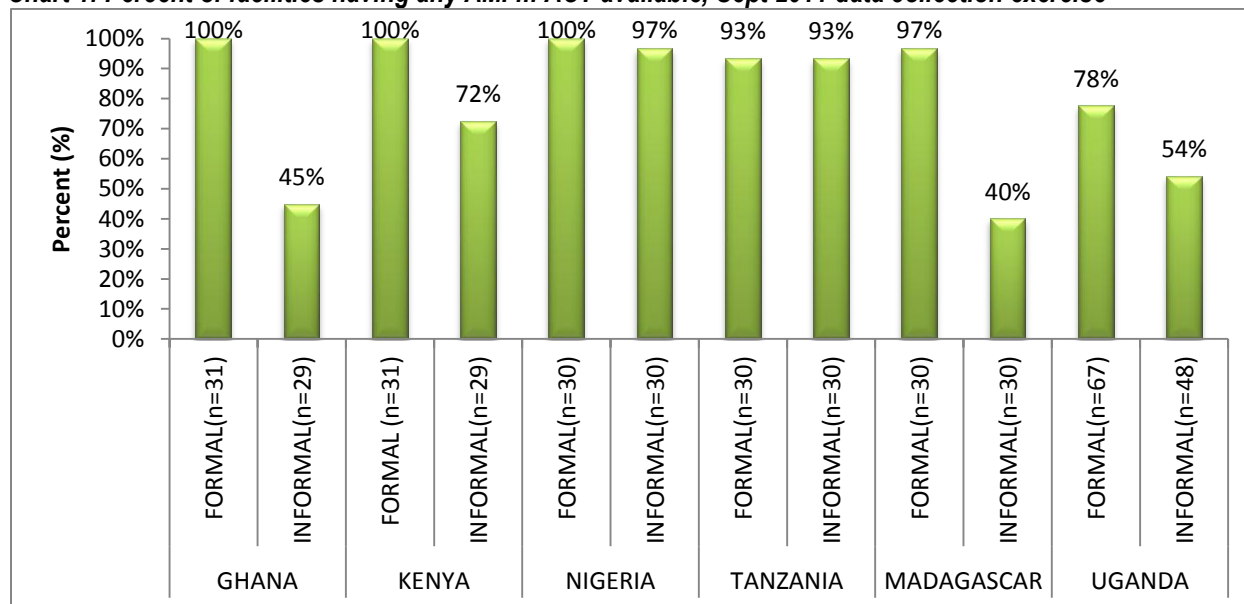
3.1.1. Availability of AMFm medicines

AMFm medicines are found in the private sectors of all six countries, but not in every formal and informal outlet visited. Table 3 and Chart 1 below show the number and percent of outlets visited having any AMFm ACT available on the day of data collection. More AMFm medicines continue to be found in formal outlets than in informal outlets.

Table 3: Facilities having any AMFm ACT available, Sept - Oct 2011 data collection exercise

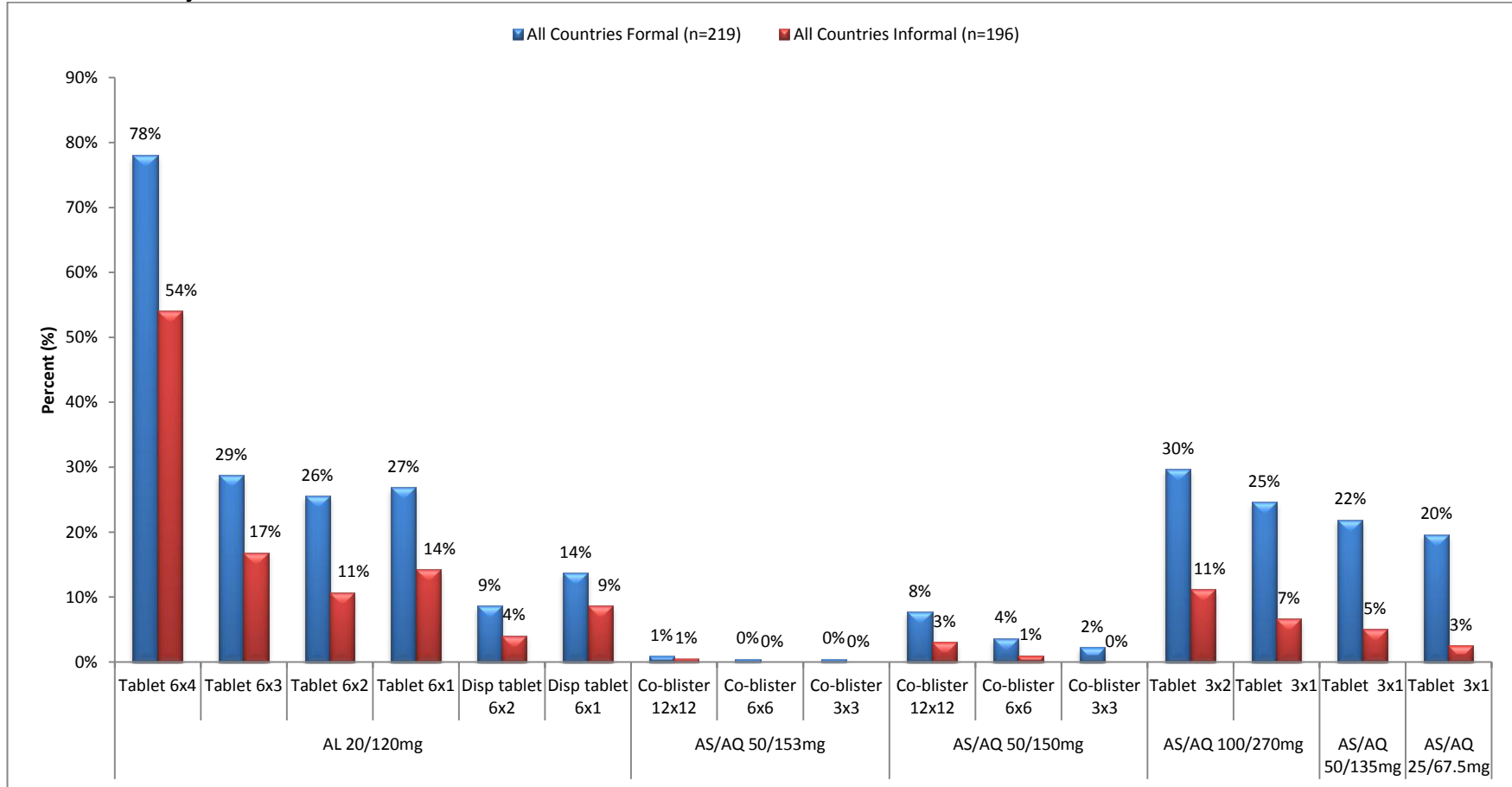
COUNTRY	TYPE	Total Surveyed	# with any AMFm ACTs	% with any AMFm ACTs
Ghana	Formal	31	31	100.0%
	Informal	29	13	44.8%
Kenya	Formal	31	31	100.0%
	Informal	29	21	72.4%
Nigeria	Formal	30	30	100.0%
	Informal	30	29	96.7%
Tanzania	Formal	30	28	93.3%
	Informal	30	28	93.3%
Madagascar	Formal	30	29	96.7%
	Informal	30	12	40.0%
Uganda	Formal	67	52	77.6%
	Informal	48	26	54.2%

Chart 1: Percent of facilities having any AMFm ACT available, Sept 2011 data collection exercise



Among the AMFm medicines found, artemether/lumefantrine (AL) 20/120mg is again (as per June and August 2011 findings) the most common across all six countries. Chart 2 below illustrates the percent of facilities which have the individual AMFm medicines available on the day of data collection. More detail on availability, including *relative availability* and disaggregation by country and sub-sector, may be found in Annexes 1 and 2.

Chart 2: Availability of AMFm medicines across all six countries



** AS/AQ 50/153mg was not frequently found across all six countries: for the co-blisters 6x6 and 3x3, small bars are seen but with the % having been rounded off to zero

3.1.2 Availability of non-AMFm medicines

With the exception of artemether tablet 50mg, each of the non-AMFm medicines surveyed is found at least once across all countries. Findings on their relative availability are presented by country in Annex 3. The most and least available medicines (from the relative availability data) are listed below in Table 4. These results are generated based on the frequency each non-AMFm medicine was found to be available at a facility, regardless of product type (Originator Brand, Lowest Price Generic, or Highest Price Generic).

Table 4: “Most” and “least” available non-AMFm antimalarials surveyed, across countries

Most available	Least available
<ul style="list-style-type: none"> ▪ Sulphadoxine / pyrimethamine tablet 500/25mg (<i>most commonly found</i>) ▪ Doxycycline tablet / capsule 100mg ▪ Artemether / lumefantrine tablet 20/120mg ▪ Dihydroartemisinin / piperaquine tablet 40/320mg ▪ Quinine tablet 300mg (sulphate or bisulfate) ▪ Sulphamethoxypyrazine / pyrimethamine tablets 500/25mg ▪ Quinine suspension 50mg/5mL ▪ Amodiaquine suspension 50mg/5mL ▪ Amodiaquine tablet 200mg (as HCl) ▪ Proguanil tablet 100mg 	<ul style="list-style-type: none"> ▪ Halofantrine suspension 100mg/5mL ▪ Mefloquine tablet 250mg (as HCl) ▪ Artesunate/mefloquine tablet 100/220mg ▪ Sulphamethoxypyrazine / pyrimethamine suspension 100mg/5mL ▪ Artesunate / mefloquine tablet 25/55mg ▪ Atovaquone / proguanil adult tablet 250/100mg ▪ Quinine drops 200mg/mL ▪ Artesunate suppository 50mg ▪ Sulphadoxine / pyrimethamine drops ▪ Artemether tablet 50mg (<i>not found</i>)

3.2 Medicine prices

Medicine prices are reported as medians, means, maximums, minimums and quartiles. Selected analyses are presented below for some of the most commonly available medicines, as well as comparisons between AMFm prices and non-AMFm prices. All prices are reported in USD, using exchange rates³ taken on the first day of data collection.

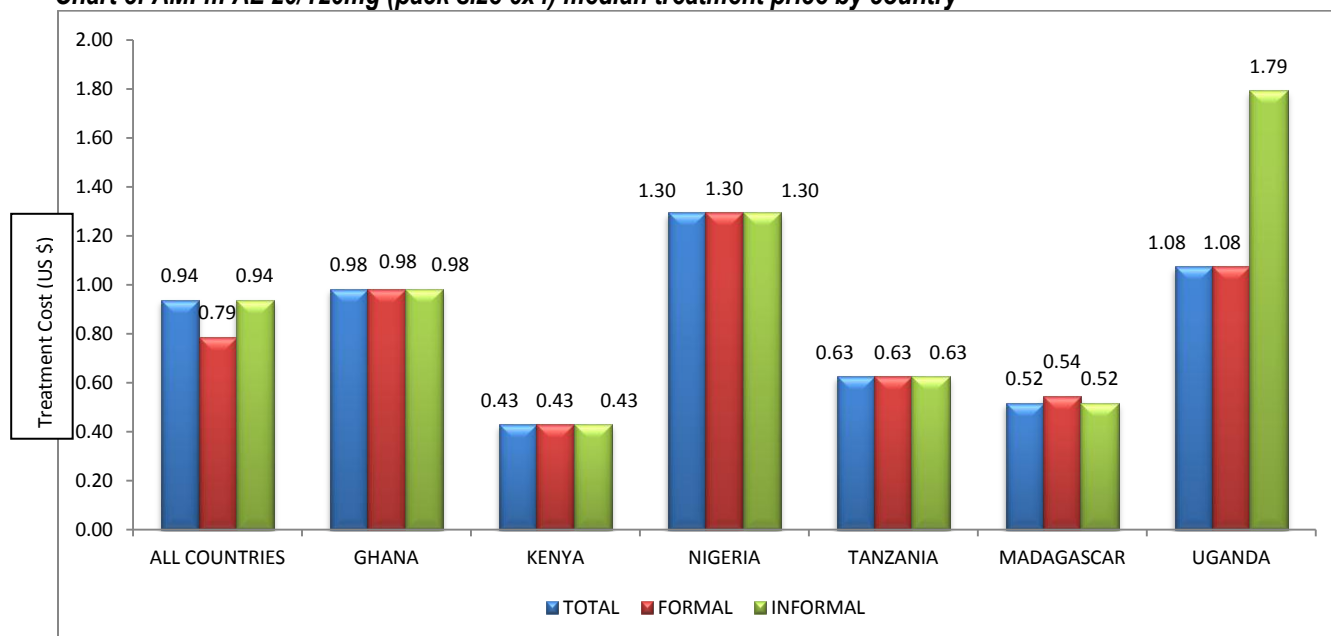
3.2.1 ACTs prices: AMFm and non-AMFm

AMFm prices vary between countries, but less so within countries' private sub-sectors.

3.2.1.1 AL 20/120mg

As shown in Chart 3 below, Kenya continues to achieve the lowest AMFm adult AL treatment price, a median of \$0.43 for an adult AL treatment (6x4 tablets), across the private sector facilities surveyed. The highest median prices for AMFm AL are again found in Nigeria and Uganda.

³ www.xe.com

Chart 3: AMFm AL 20/120mg (pack size 6x4) median treatment price by country

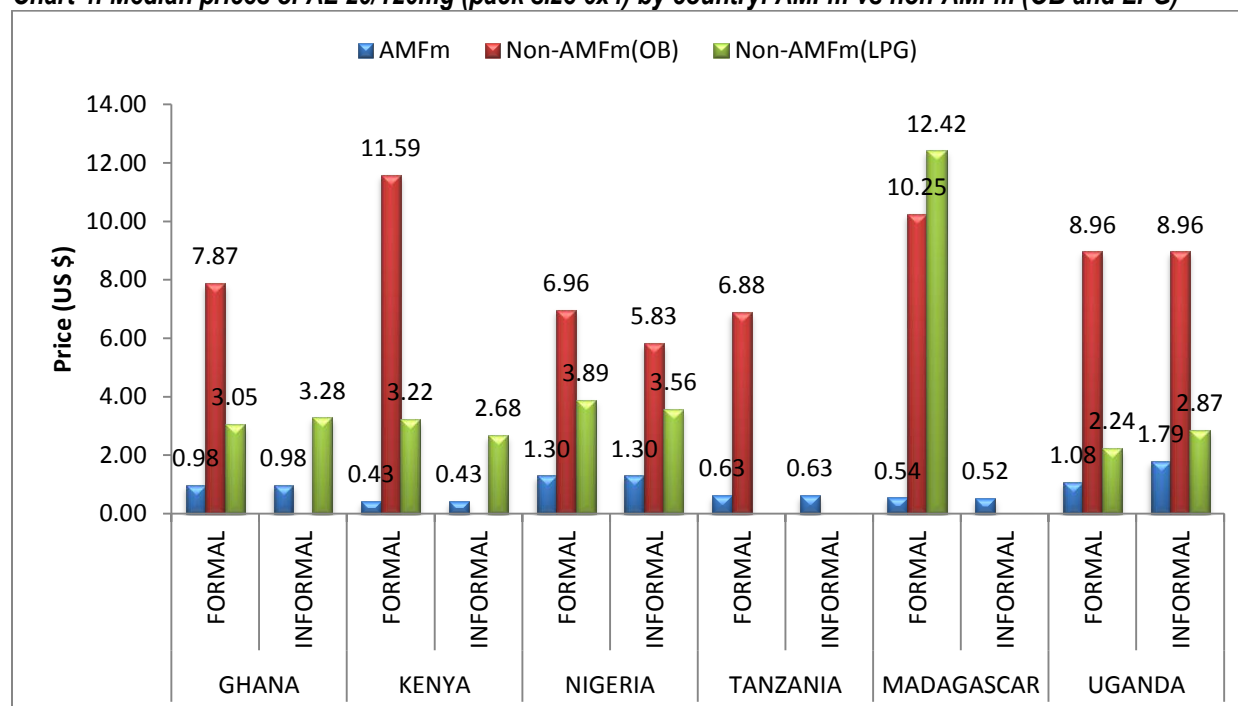
The consistency of the median prices in August (exactly the same across four countries: Ghana, Kenya, Nigeria and Tanzania) reflect an apparently increased uniformity of AMFm pricing across sectors. Table 5 below further illustrates the AMFm AL 20/120mg prices.

Table 5: Treatment price data by country for AMFm AL 20/120 (tablet, pack size 6x4) across all manufacturers

COUNTRY	TYPE	N	MEDIAN	MEAN	MIN	MAX	LQ	UQ	IQR
Ghana	Formal	40	0.98	1.02	0.79	1.31	0.98	0.98	0.00
	Informal	9	0.98	1.09	0.98	1.31	0.98	1.31	0.33
Kenya	Formal	60	0.43	0.45	0.32	1.07	0.43	0.43	0.00
	Informal	31	0.43	0.44	0.43	0.54	0.43	0.43	0.00
Nigeria	Formal	53	1.30	1.54	0.65	6.48	0.97	1.94	0.97
	Informal	46	1.30	1.61	0.65	3.24	0.97	1.94	0.97
Tanzania	Formal	38	0.63	0.65	0.38	1.25	0.63	0.63	0.00
	Informal	32	0.63	0.76	0.63	0.94	0.63	0.94	0.31
Madagascar	Formal	6	0.54	0.60	0.52	0.78	0.52	0.65	0.13
	Informal	4	0.52	0.58	0.52	0.78	0.52	0.58	0.06
Uganda	Formal	70	1.08	1.16	0.00	5.38	0.66	1.65	0.99
	Informal	25	1.79	2.05	1.08	4.30	1.43	2.15	0.72

*N is the number of price data points (e.g. based on availability, since price data is only documented for those medicines available on the day of data collection.)

Prices for non-AMFm AL 20/120mg (pack size 6x4, both OB and LPG) are higher than AMFm prices across all countries and all sub-sectors. The high LPG price in Madagascar is noted but reflects only one (validated) data point. These prices are compared and illustrated in Chart 4 below. Price details are found in Annex 4.

Chart 4: Median prices of AL 20/120mg (pack size 6x4) by country: AMFm vs non-AMFm (OB and LPG)

Median Price Ratios (MPRs) reveal that non-AMFm AL 20/120mg adult treatments cost from 2 to 7 times the AMFm price for the LPG (with Madagascar having the one extraordinary price at 23 times the AMFm price) and from 5 to 27 times the AMFm price for the OB. MPRs by country and sub-sector are presented in Table 6 below.

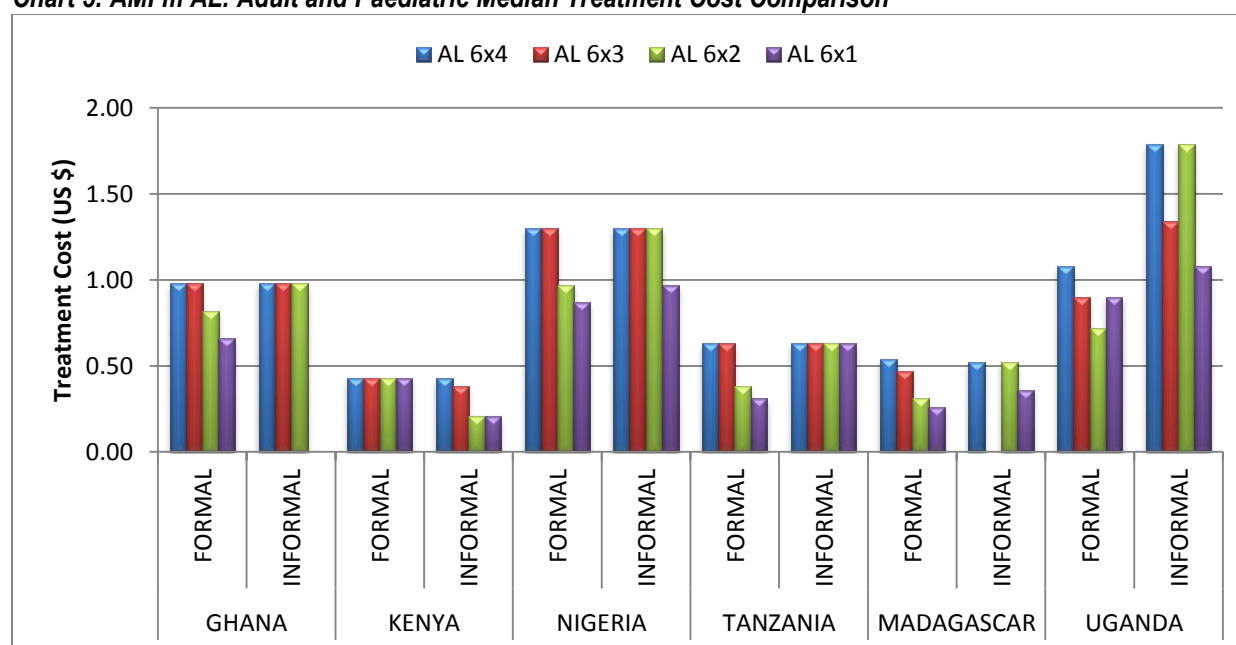
Table 6: Median Price Ratios for AL 20/120mg: AMFm and non-AMFm across countries

Country	Facility Type	MPR (AMFm: non-AMFm-LPG)	MPR (AMFm: non-AMFm-OB)
Ghana	Formal	1:3	1:8
	Informal	1:3	-
Kenya	Formal	1:7	1:27
	Informal	1:6	-
Nigeria	Formal	1:3	1:5
	Informal	1:3	1:5
Tanzania	Formal	-	1:11
	Informal	-	-
Madagascar	Formal	1:23	1:19
	Informal	-	-
Uganda	Formal	1:2	1:8
	Informal	1:2	1:5

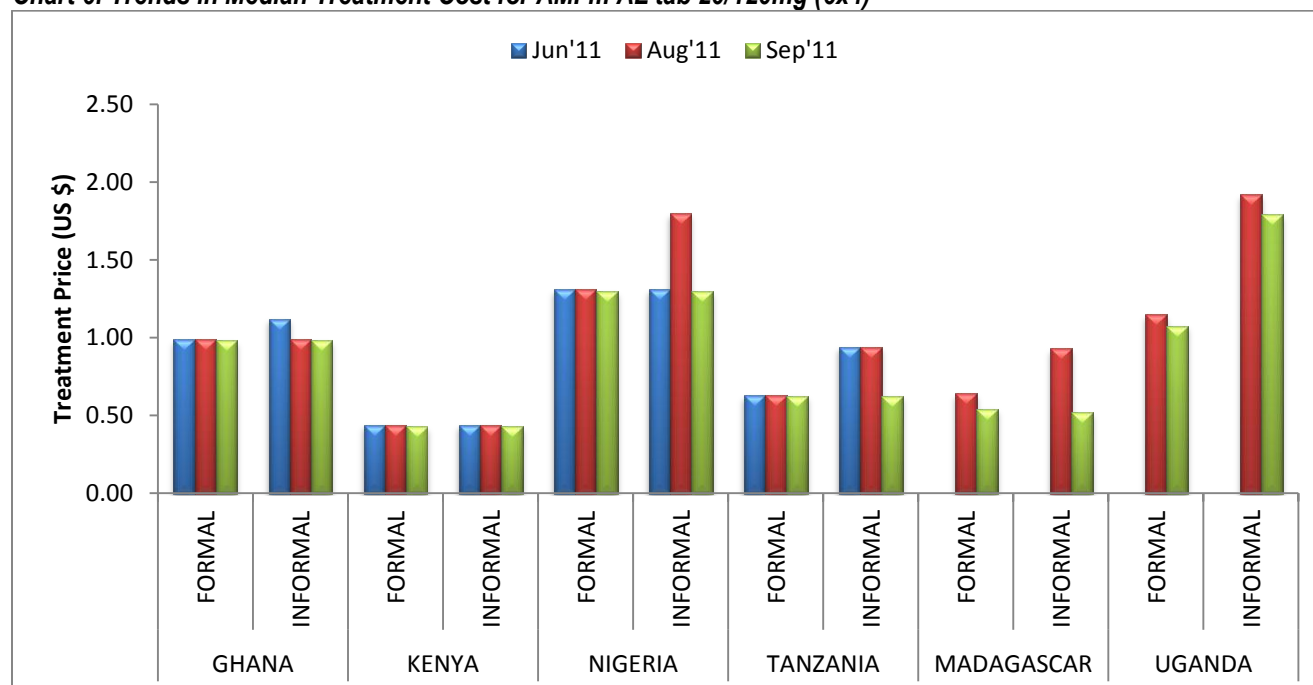
When comparing AMFm adult to paediatric treatments for AL, costs decrease from the adult treatment (6x4) to the lowest paediatric weight band treatment (6x1). The exception of Uganda is again noted, although with few price points, a meaningful interpretation is difficult to make. These findings are shown in Table 7 and Chart 5 below.

Table 7: Median Prices for AMFm AL 20/120mg: different pack sizes (treatment costs) across countries

Country	Facility Type	AL 6x4 (adult)	AL 6x3	AL 6x2	AL 6x1 (paediatric)
Ghana	Formal	0.98	0.98	0.82	0.66
	Informal	0.98	0.98	0.98	-
Kenya	Formal	0.43	0.43	0.43	0.43
	Informal	0.43	0.38	0.21	0.21
Nigeria	Formal	1.30	1.30	0.97	0.87
	Informal	1.30	1.30	1.30	0.97
Tanzania	Formal	0.63	0.63	0.38	0.31
	Informal	0.63	0.63	0.63	0.63
Madagascar	Formal	0.54	0.47	0.31	0.26
	Informal	0.52	-	0.52	0.36
Uganda	Formal	1.08	0.90	0.72	0.90
	Informal	1.79	1.34	1.79	1.08

Chart 5: AMFm AL: Adult and Paediatric Median Treatment Cost Comparison

Price trends of AMFm AL 20/120mg (pack size 6x4) are presented over two to three data sets. Pricing was relatively steady over time (Ghana, Kenya, Nigeria, Tanzania), or slightly decreased over time (Madagascar, Uganda). These trends are illustrated in Chart 6 below.

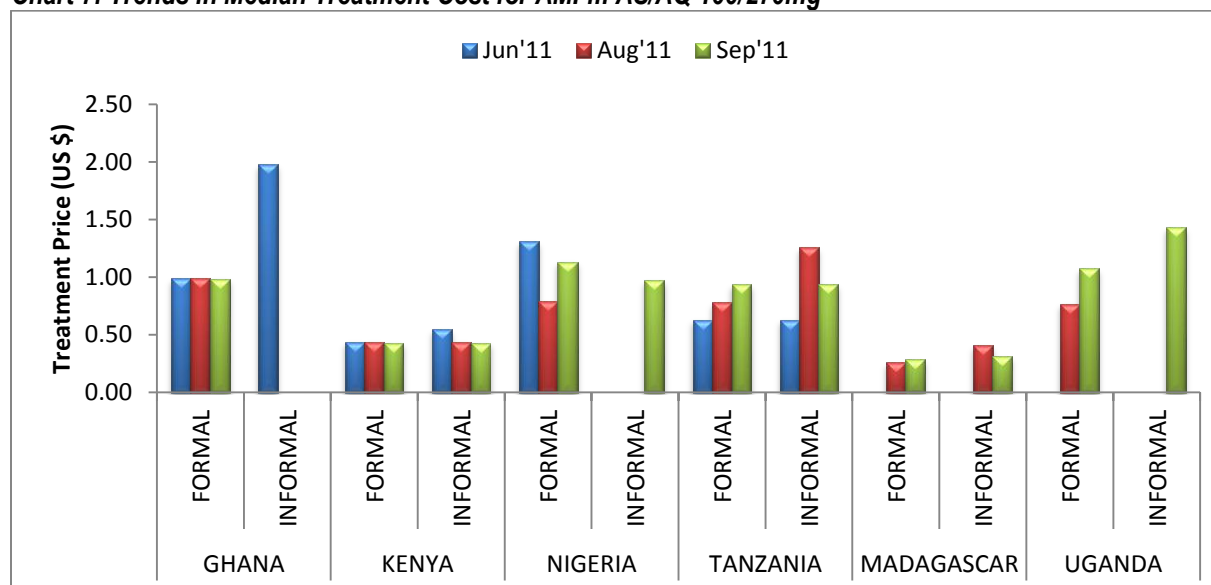
Chart 6: Trends in Median Treatment Cost for AMFm AL tab 20/120mg (6x4)**3.2.1.2 AMFm Artesunate +/- amodiaquine (AS+AQ blister and AS/AQ FDC)**

Price data for AMFm AS/AQ FDC 100/270mg (adult treatment pack size 3x2) is presented in Table 8 below. Adult treatment prices are lowest in Madagascar, where it is also found most commonly among the six countries.

Table 8: Treatment price data for AMFm AS/AQ FDC 100/270mg tablet (treatment pack size 3x2)

COUNTRY	TYPE	N	MEDIAN	MEAN	MIN	MAX	Lower Quartile	Upper Quartile	IQR
Ghana	Formal	3	0.98	0.98	0.98	0.98	0.98	0.98	0.00
	Informal	0							
Kenya	Formal	13	0.43	0.40	0.11	0.43	0.43	0.43	0.00
	Informal	4	0.43	0.43	0.43	0.43	0.43	0.43	0.00
Nigeria	Formal	4	1.13	1.30	0.97	1.94	0.97	1.46	0.49
	Informal	1	0.97	0.97	0.97	0.97	0.97	0.97	0.00
Tanzania	Formal	8	0.94	1.11	0.31	3.13	0.58	1.25	0.67
	Informal	5	0.94	0.94	0.63	1.25	0.94	0.94	0.00
Madagascar	Formal	24	0.28	0.34	0.26	0.52	0.26	0.41	0.16
	Informal	8	0.31	0.37	0.31	0.52	0.31	0.40	0.09
Uganda	Formal	13	1.08	1.60	0.29	7.17	0.43	1.79	1.36
	Informal	4	1.43	1.88	1.08	3.58	1.34	1.97	0.63

Price trends for AMFm AS/AQ 100/270mg are presented over two to three data sets in Chart 7 below. Pricing was less steady over time as compared to the AMFm AL trends above in Chart 6.

Chart 7: Trends in Median Treatment Cost for AMFm AS/AQ 100/270mg

3.2.2 Price comparisons between AMFm medicines vs non-ACTs by treatment course: paediatric treatments

Paediatric doses are found less frequently than adult doses. Where found, the paediatric treatment prices for AMFm medicines and SP suspension (OB and LPG) are compared, with the LPG SP being the lowest treatment cost. For the AMFm medicines, dispersible AL treatments tend to cost more than regular tablets although with relatively few data points, a meaningful conclusion is difficult to make. These findings are illustrated below in Table 9.

Table 9: Cost comparisons (MPRs) for paediatric treatments (AMFm treatments vs SP) in USD \$

Country	Facility type	AMFm					non-AMFm	
		AL tab 6x1	AL dispersible tab 6x1	AS/AQ 50/150mg tab 3x1	AS/AQ 50/135mg tab 3x1	AS/AQ 25/67.5mg tab 3x1	SP Suspension 5mL (OB)	SP suspension 5mL (LP)
Ghana	Formal	0.66	0.57	0.82	0.66	0.52	-	-
	Informal	-	-	-	-	-	-	0.55
Kenya	Formal	0.43	0.43	-	0.27	0.32	-	-
	Informal	0.21	0.30	-	-	-	-	-
Nigeria	Formal	0.87	1.30	-	0.65	0.52	0.97	0.39
	Informal	0.97	0.87	-	-	0.42	0.81	0.49
Tanzania	Formal	0.31	0.53	-	0.34	0.41	-	0.11
	Informal	0.63	0.63	-	0.63	0.41	3.13	0.18
Madagascar	Formal	0.26	-	-	0.16	0.16	-	-
	Informal	0.36	-	-	0.21	0.21	-	-
Uganda	Formal	0.90	0.72	-	0.45	0.36	-	-
	Informal	1.08	-	-	0.63	-	-	-

3.2.3 Price comparisons between AMFm and non-AMFm (ACTs and non-ACTs) antimalarials by treatment course: adult treatments

AMFm adult treatments are compared to a variety of generally dominant non-AMFm antimalarial treatment costs (both OB and LPG) in each of the six countries in Charts 8 – 13 below. Such analyses are of interest as per the “benchmarks for success” proposed to be AMFm prices of <300% (year 1) or <150% (year 2) of the price of the dominant non-AMFm antimalarial on the market.⁴

Chart 8: Ghana median treatment prices (adult)

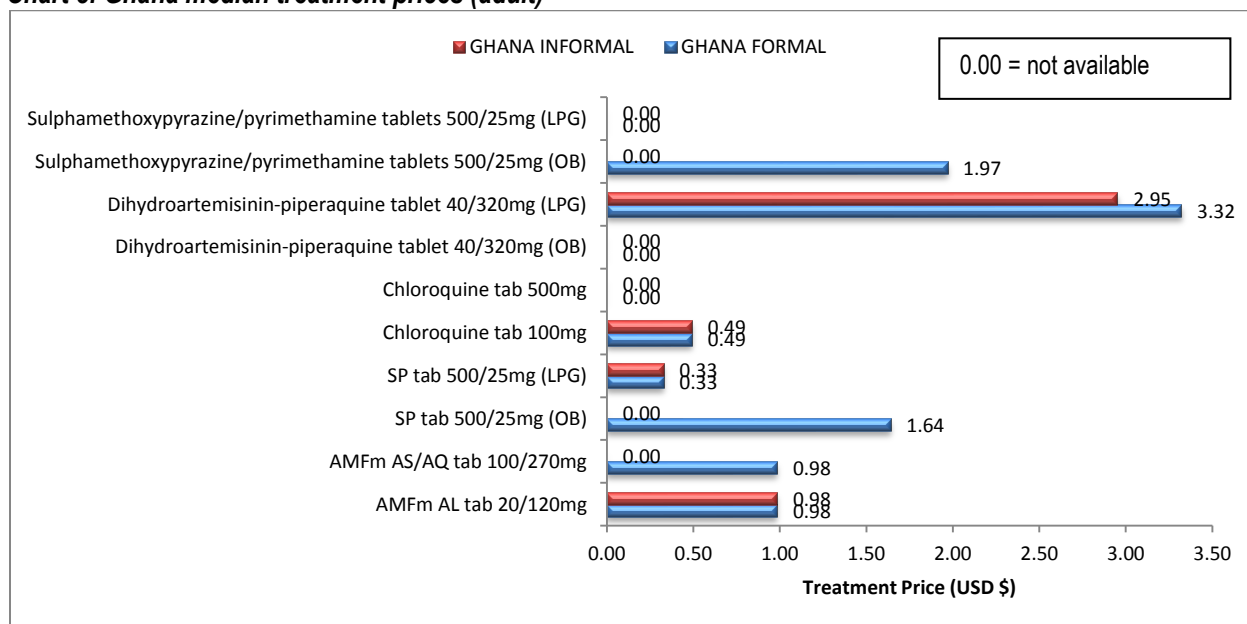
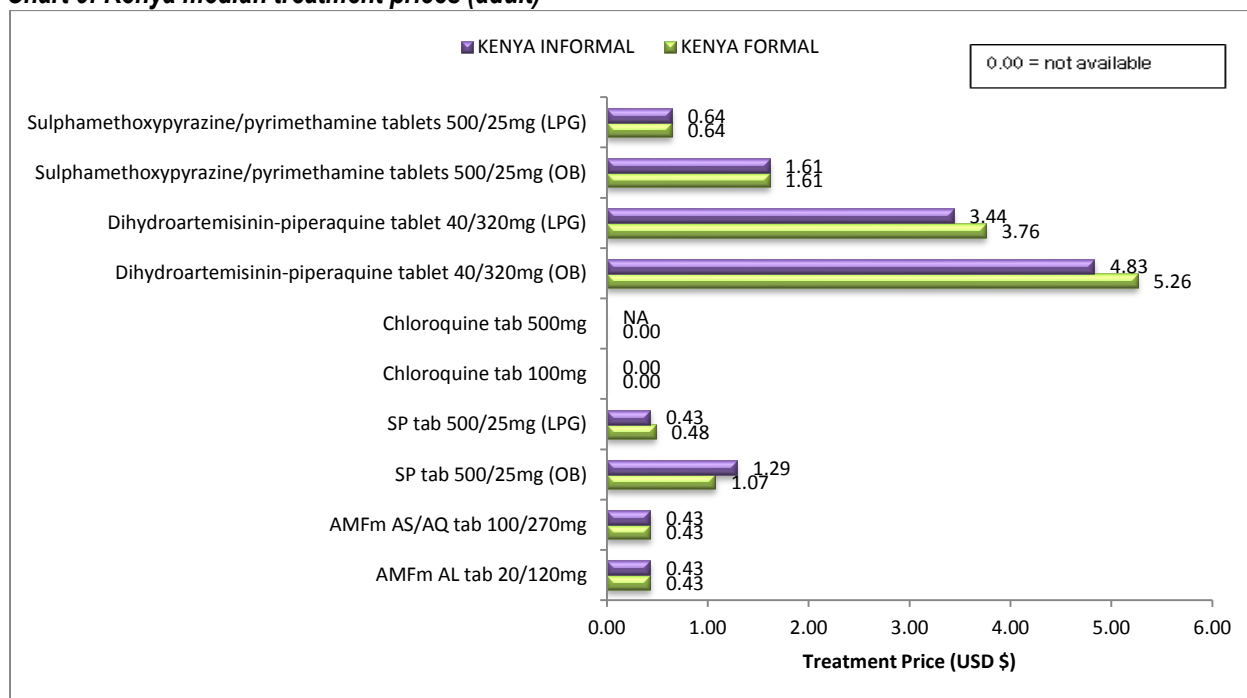


Chart 9: Kenya median treatment prices (adult)



⁴ http://www.theglobalfund.org/documents/amfm/E2PI_EstimatingBenchmarksInAMFm_Report_en/

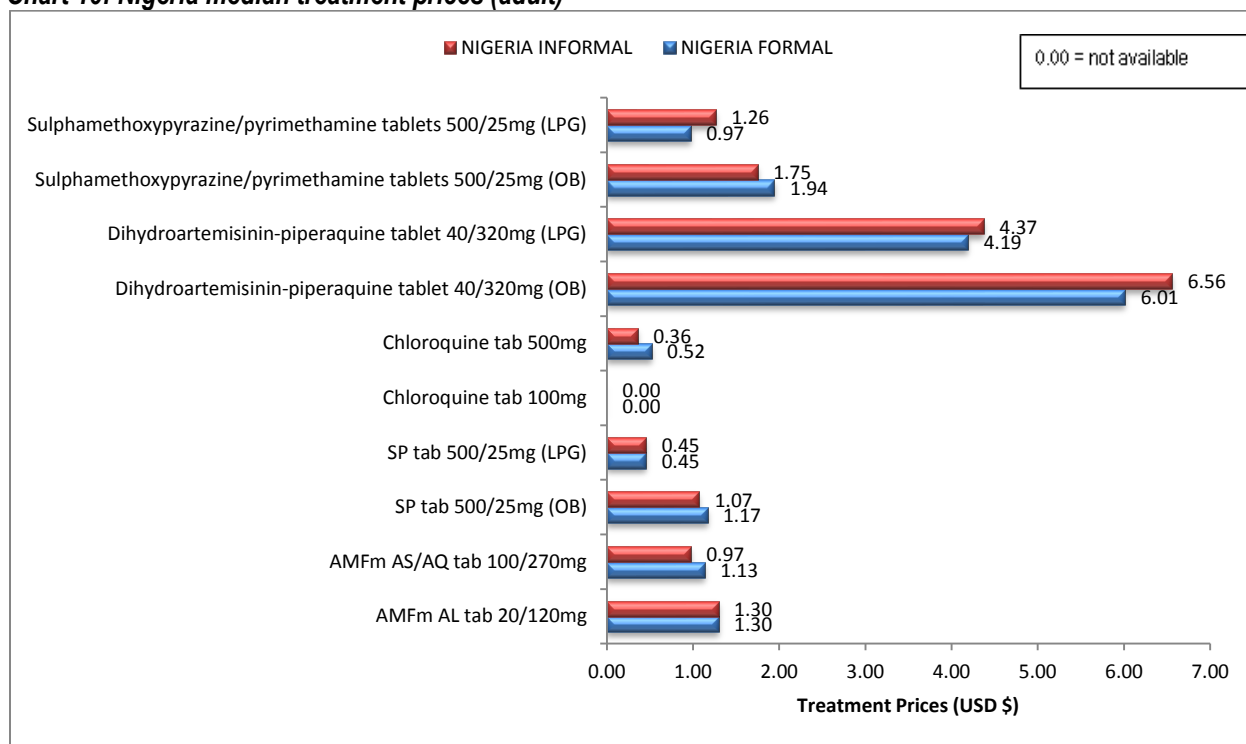
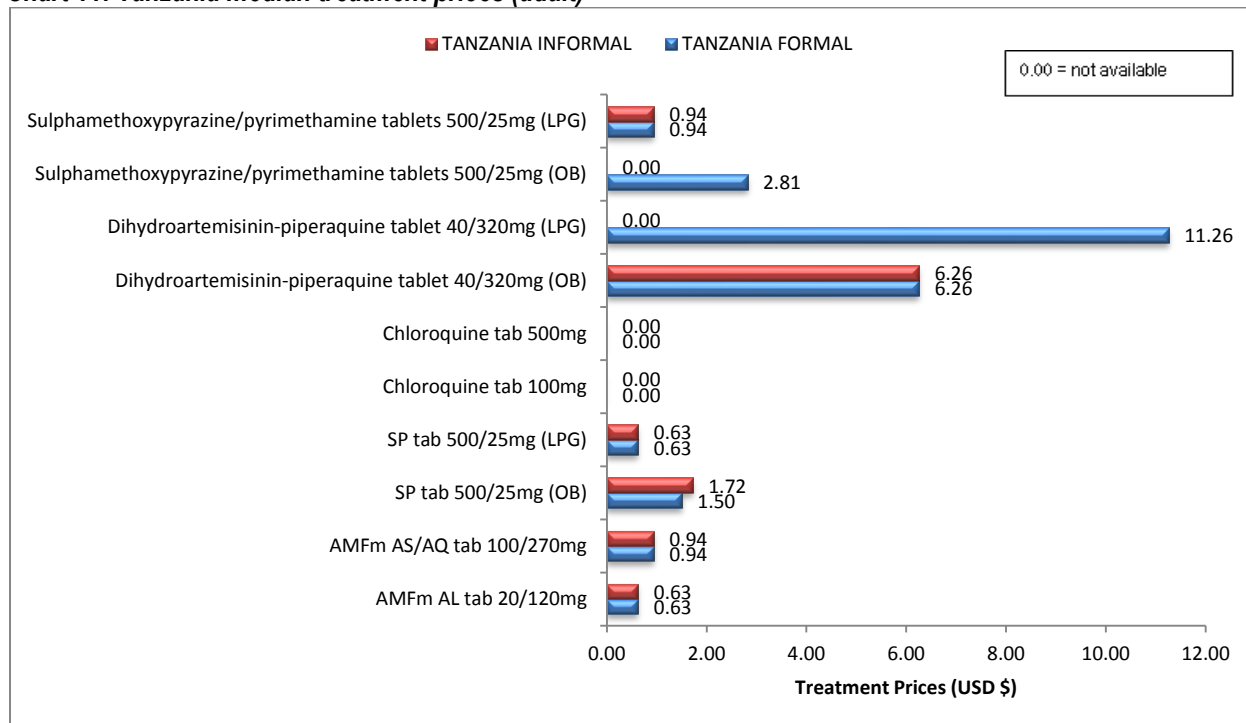
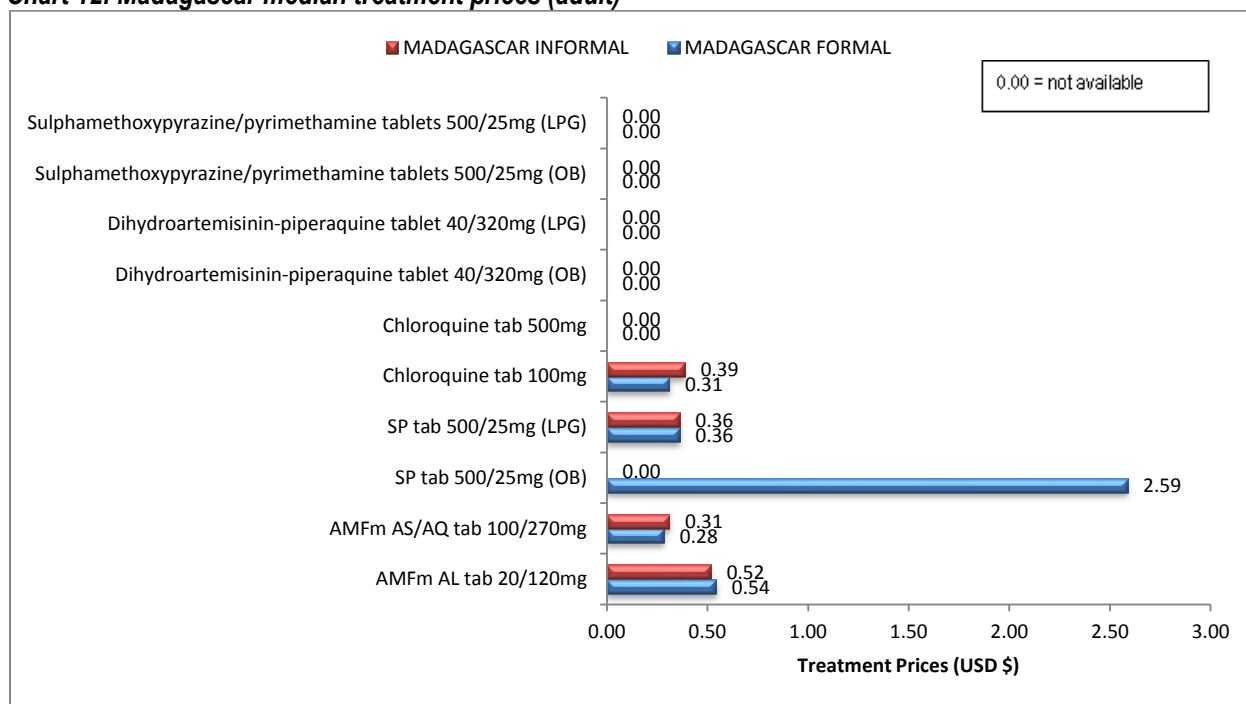
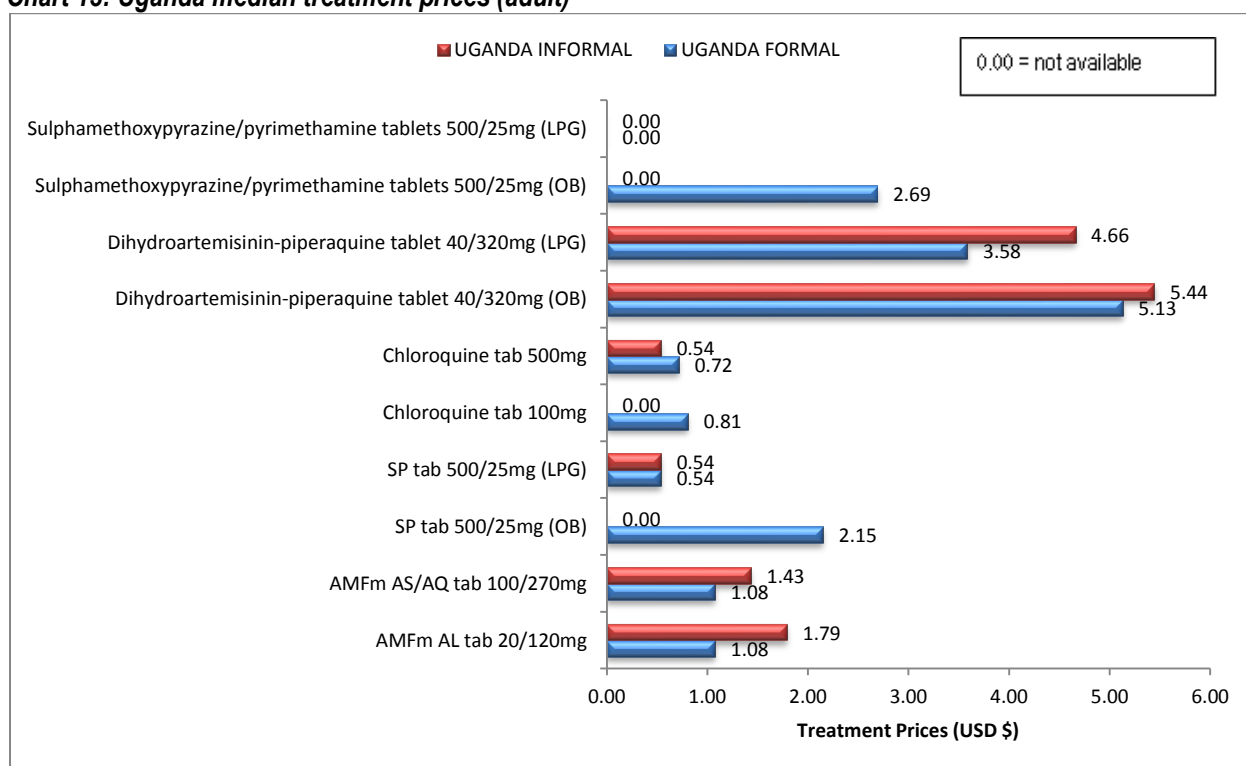
Chart 10: Nigeria median treatment prices (adult)**Chart 11: Tanzania median treatment prices (adult)**

Chart 12: Madagascar median treatment prices (adult)**Chart 13: Uganda median treatment prices (adult)**

4.0 For Discussion

Consistent with the intent of the on-going price-tracking studies, implementers from each country will continue to examine and interpret the data in their specific contexts, with attention to factors including but not limited to: the duration of implementation; the supply of ACTs compared to estimated demand; the duration, extent and intensity of public information campaigns; the pre-AMFm prices of quality-assured ACTs; the reach of private sector supply chains for ACTs; and the nationally recommended retail price, if any, in the country.

5.0 Annexes

Annex 1: Relative availability of AMFm medicines found by country The N below is the total frequency of different types of medicines found in the facility type. The percentages reported are relative to each other among all the medicines found in the facility and thus add up to 100% (percentages are rounded, thus totals may not exactly be 100%).

AMFm Medicine	Pack Size / Dose	ALL COUNTRIES		GHANA		KENYA		NIGERIA		TANZANIA		MADAGASCAR		UGANDA	
		FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL
		N=785	N=336	N=87	N=19	N=154	N=50	N=155	N=128	N=111	N=73	N=116	N=29	N=162	N=37
Artemether/Lumefantrine 20/120mg	Tablet 6x4	34%	44%	46%	47%	39%	62%	34%	36%	34%	44%	5%	14%	43%	68%
Artemether/Lumefantrine 20/120mg	Tablet 6x3	10%	11%	3%	21%	8%	4%	19%	18%	13%	8%	3%	0%	10%	8%
Artemether/Lumefantrine 20/120mg	Tablet 6x2	9%	9%	7%	11%	7%	6%	15%	13%	11%	7%	4%	3%	7%	3%
Artemether/Lumefantrine 20/120mg	Tablet 6x1	10%	11%	1%	0%	8%	6%	18%	18%	13%	12%	3%	7%	9%	3%
Artemether/Lumefantrine 20/120mg	Disp tablet 6x2	2%	2%	1%	0%	7%	6%	1%	2%	4%	3%	0%	0%	1%	0%
Artemether/Lumefantrine 20/120mg	Disp tablet 6x1	4%	5%	5%	0%	8%	4%	3%	6%	7%	10%	0%	0%	1%	0%
Artesunate+Amodiaquine 50/153mg	Co-blisters 12x12	0%	0%	0%	5%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Artesunate+Amodiaquine 50/153mg	Co-blisters 6x6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Artesunate+Amodiaquine 50/153mg	Co-blisters 3x3	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Artesunate+Amodiaquine 50/150mg	Co-blisters 12x12	2%	2%	14%	11%	0%	0%	1%	3%	0%	0%	0%	0%	2%	0%
Artesunate+Amodiaquine 50/150mg	Co-blisters 6x6	1%	1%	7%	5%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%
Artesunate+Amodiaquine 50/150mg	Co-blisters 3x3	1%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Artesunate/Amodiaquine 100/270mg	Tablet 3x2	8%	7%	3%	0%	8%	8%	3%	1%	7%	7%	21%	28%	8%	11%
Artesunate/Amodiaquine 100/270mg	Tablet 3x1	7%	4%	2%	0%	6%	4%	1%	0%	5%	3%	23%	28%	6%	3%
Artesunate/Amodiaquine 50/135mg	Tablet 3x1	6%	3%	2%	0%	5%	0%	2%	0%	4%	4%	21%	17%	5%	5%
Artesunate/Amodiaquine 25/67.5mg	Tablet 3x1	5%	1%	1%	0%	3%	0%	2%	2%	4%	3%	19%	3%	6%	0%

Annex 2: Absolute availability of AMFm medicines found by country (as percentage of facilities which had the AMFm antimalarial available, regardless of manufacturer) This is calculated as percentages of facilities which had the AMFm antimalarial available: regardless of, and across all, manufacturers. For example, if a facility had AL 20/120mg available from three different manufacturers (Novartis, Cipla, Ipca) or just one manufacturer, they would both be captured as facilities with AL 20/120 as “available.”

AMFm Medicine	Pack Size / Dose	ALL COUNTRIES		GHANA		KENYA		NIGERIA		TANZANIA		MADAGASCAR		UGANDA	
		FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL	FORMAL	INFORMAL
		N=219	N=196	N=31	N=29	N=31	N=29	N=30	N=30	N=30	N=30	N=30	N=30	N=67	N=48
Artemether/Lumefantrine 20/120mg	Tablet 6x4	78%	54%	94%	31%	97%	69%	100%	83%	87%	87%	20%	13%	75%	46%
Artemether/Lumefantrine 20/120mg	Tablet 6x3	29%	17%	10%	14%	39%	7%	60%	60%	37%	20%	10%	0%	24%	6%
Artemether/Lumefantrine 20/120mg	Tablet 6x2	26%	11%	19%	3%	32%	10%	43%	33%	40%	17%	13%	3%	16%	2%
Artemether/Lumefantrine 20/120mg	Tablet 6x1	27%	14%	3%	0%	35%	10%	60%	47%	43%	27%	10%	7%	19%	2%
Artemether/Lumefantrine 20/120mg	Disp tablet 6x2	9%	4%	3%	0%	35%	10%	7%	10%	13%	7%	0%	0%	1%	0%
Artemether/Lumefantrine 20/120mg	Disp tablet 6x1	14%	9%	13%	0%	39%	7%	17%	27%	27%	23%	0%	0%	1%	0%
Artesunate+Amodiaquine 50/153mg	Co-blister 12x12	1%	1%	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Artesunate+Amodiaquine 50/153mg	Co-blister 6x6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Artesunate+Amodiaquine 50/153mg	Co-blister 3x3	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Artesunate+Amodiaquine 50/150mg	Co-blister 12x12	8%	3%	39%	7%	0%	0%	7%	13%	0%	0%	0%	0%	4%	0%
Artesunate+Amodiaquine 50/150mg	Co-blister 6x6	4%	1%	19%	3%	0%	0%	0%	3%	0%	0%	0%	0%	3%	0%
Artesunate+Amodiaquine 50/150mg	Co-blister 3x3	2%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Artesunate/Amodiaquine 100/270mg	Tablet 3x2	30%	11%	10%	0%	42%	14%	13%	3%	27%	17%	80%	27%	19%	8%
Artesunate/Amodiaquine 100/270mg	Tablet 3x1	25%	7%	6%	0%	29%	7%	7%	0%	17%	7%	90%	27%	13%	2%
Artesunate/Amodiaquine 50/135mg	Tablet 3x1	22%	5%	6%	0%	23%	0%	10%	0%	13%	10%	80%	17%	12%	4%
Artesunate/Amodiaquine 25/67.5mg	Tablet 3x1	20%	3%	3%	0%	13%	0%	10%	7%	13%	7%	73%	3%	13%	0%

Annex 3: Relative availability of non-AMFm medicines found by country The N below is the total frequency of different types of medicines found in the facility type. The percentages reported are relative to each other among all the medicines found in the facility and thus add up to 100% (percentages are rounded, thus totals may not exactly be 100%).

Medicine Type	ALL COUNTRIES		GHANA		KENYA		NIGERIA		TANZANIA		MADAGASCAR		UGANDA	
	FORMAL	INFOR-MAL	FORMAL	INFOR-MAL	FORMAL	INFOR-MAL	FORMAL	INFOR-MAL	FORMAL	INFOR-MAL	FORMAL	INFOR-MAL	FORMAL	INFOR-MAL
	N=1907	N=997	N=231	N=45	N=258	N=74	N=635	N=503	N=316	N=200	N=113	N=45	N=354	N=128
Amodiaquine suspension 50mg / 5mL	4.1%	5.7%	11.3%	15.6%	0.0%	1.4%	3.1%	4.6%	10.1%	13.0%	0.0%	0.0%	0.0%	0.0%
Amodiaquine tablet 200mg (as HCl)	3.3%	4.9%	1.3%	4.4%	0.0%	2.7%	4.4%	4.6%	9.5%	10.5%	0.0%	0.0%	0.6%	0.8%
Artemether tablet 50mg	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Artemether/lumefantrine tablet 20/120mg	10.2%	8.0%	15.2%	17.8%	7.0%	8.1%	10.7%	8.5%	0.6%	0.0%	11.5%	0.0%	16.7%	18.0%
Artesunate suppository 50mg	0.3%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Artesunate tablet / capsule 50mg	2.2%	3.9%	1.3%	2.2%	0.0%	0.0%	6.1%	7.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Artesunate/amodiaquine tablet 50/153mg	2.5%	2.1%	3.9%	2.2%	1.2%	0.0%	4.3%	4.0%	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%
Artesunate/mefloquine tablet 25/55mg	0.6%	0.1%	0.0%	0.0%	2.7%	0.0%	0.3%	0.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Artesunate/mefloquine tablet 100/220mg	0.8%	0.4%	0.0%	0.0%	3.1%	2.7%	0.3%	0.4%	1.6%	0.0%	0.0%	0.0%	0.3%	0.0%
Atovaquone-proguanil adult tablet 250/100mg	0.5%	0.0%	0.9%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%
Chloroquine syrup 50mg / 5mL	2.5%	4.4%	0.4%	0.0%	0.0%	0.0%	6.8%	8.5%	0.0%	0.0%	0.0%	2.2%	1.1%	0.0%
Chloroquine tablet 100mg	1.8%	2.9%	0.4%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.7%	62.2%	1.1%	0.0%
Chloroquine tablet 150mg	1.6%	2.2%	0.0%	0.0%	0.0%	0.0%	2.7%	3.8%	0.0%	0.0%	0.0%	0.0%	3.7%	2.3%
Dihydroartemisin tablet 60mg	2.8%	2.4%	8.7%	4.4%	0.8%	0.0%	4.9%	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dihydroartemisinin-piperazine tablet 40/320mg	10.0%	5.4%	6.5%	2.2%	17.1%	13.5%	6.5%	4.8%	8.5%	5.0%	0.0%	0.0%	17.8%	7.0%
Doxycycline tablet / capsule 100mg	10.1%	10.3%	10.8%	17.8%	6.6%	6.8%	7.1%	9.1%	9.2%	9.5%	16.8%	2.2%	16.1%	18.0%
Halofantrine suspension 100mg/5mL	1.2%	0.9%	0.4%	0.0%	1.2%	0.0%	2.7%	1.8%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Halofantrine tablet 250mg	2.3%	1.3%	0.0%	0.0%	3.9%	0.0%	3.8%	2.6%	1.6%	0.0%	4.4%	0.0%	0.0%	0.0%
Mefloquine tablet 250mg (as HCl)	1.7%	0.0%	3.0%	0.0%	5.4%	0.0%	0.2%	0.0%	0.6%	0.0%	0.0%	0.0%	2.3%	0.0%
Proguanil tablet 100mg	3.8%	3.2%	1.7%	0.0%	10.9%	8.1%	5.2%	5.0%	1.3%	0.5%	0.9%	0.0%	0.6%	0.0%
Quinine drops 200mg/mL	0.3%	0.3%	0.0%	0.0%	2.3%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Quinine suspension 50mg/5mL	5.2%	5.7%	5.2%	4.4%	5.8%	9.5%	3.3%	2.2%	10.1%	11.5%	0.0%	0.0%	5.4%	10.9%
Quinine tablet 300mg (sulphate or bisulfate)	7.0%	6.4%	4.8%	2.2%	6.6%	8.1%	3.1%	3.2%	8.2%	7.0%	4.4%	0.0%	15.5%	21.1%
Sulphadoxine/pyrimethamine drops	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	1.6%
Sulphadoxine/pyrimethamine suspension 12.5mg/5mL	2.5%	4.4%	0.0%	2.2%	0.0%	0.0%	6.6%	7.0%	1.9%	4.0%	0.0%	0.0%	0.0%	0.0%
Sulphadoxine / pyrimethamine tablet 500/25mg	15.6%	17.6%	15.6%	22.2%	11.6%	21.6%	12.6%	14.1%	17.7%	18.5%	36.3%	33.3%	15.5%	20.3%
Sulphamethoxy-pyrazine/pyrimethamine suspension 100mg/5mL	0.6%	0.6%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	3.5%	3.0%	0.0%	0.0%	0.0%	0.0%
Sulphamethoxy-pyrazine / pyrimethamine tablets 500/25mg	6.5%	6.4%	6.5%	0.0%	11.2%	13.5%	5.4%	3.8%	14.2%	17.5%	0.0%	0.0%	0.3%	0.0%

***N= Total frequency of different types of medicines found. The percent is relative to only those found; it is not absolute availability.

Unit price data of non-AMFm lowest price generic artesunate/amodiaquine tablet 50/153mg

COUNTRY	TYPE	N	MEDIAN	MEAN	MIN	MAX	Lower Quartile	Upper Quartile	IQR
Ghana	Formal	8	0.41	0.42	0.08	0.77	0.25	0.57	0.32
	Informal	1	0.33	0.33	0.33	0.33	0.33	0.33	0.00
Kenya	Formal	2	0.25	0.25	0.22	0.27	0.23	0.26	0.02
	Informal	0							
Nigeria	Formal	16	0.56	0.61	0.13	1.30	0.46	0.67	0.21
	Informal	11	0.54	0.56	0.27	1.19	0.35	0.70	0.35
Tanzania	Formal	0							
	Informal	0							
Madagascar	Formal	0							
	Informal	0							
Uganda	Formal	8	0.11	0.39	0.02	1.79	0.10	0.29	0.19
	Informal	0							

Treatment price data for AMFm artesunate/amodiaquine 100/270mg tablet (treatment pack size 3x2)

COUNTRY	TYPE	N	MEDIAN	MEAN	MIN	MAX	Lower Quartile	Upper Quartile	IQR
Ghana	Formal	3	0.98	0.98	0.98	0.98	0.98	0.98	0.00
	Informal	0							
Kenya	Formal	13	0.43	0.40	0.11	0.43	0.43	0.43	0.00
	Informal	4	0.43	0.43	0.43	0.43	0.43	0.43	0.00
Nigeria	Formal	4	1.13	1.30	0.97	1.94	0.97	1.46	0.49
	Informal	1	0.97	0.97	0.97	0.97	0.97	0.97	0.00
Tanzania	Formal	8	0.94	1.11	0.31	3.13	0.58	1.25	0.67
	Informal	5	0.94	0.94	0.63	1.25	0.94	0.94	0.00
Madagascar	Formal	24	0.28	0.34	0.26	0.52	0.26	0.41	0.16
	Informal	8	0.31	0.37	0.31	0.52	0.31	0.40	0.09
Uganda	Formal	13	1.08	1.60	0.29	7.17	0.43	1.79	1.36
	Informal	4	1.43	1.88	1.08	3.58	1.34	1.97	0.63

Treatment price data for non-ACT originator brand sulphadoxine/pyrimethamine tablet 500/25mg

COUNTRY	TYPE	N	MEDIAN	MEAN	MIN	MAX	Lower Quartile	Upper Quartile	IQR
Ghana	Formal	12	1.64	1.59	1.18	1.97	1.43	1.64	0.21
	Informal	0							
Kenya	Formal	19	1.07	1.12	0.86	1.29	1.07	1.29	0.21
	Informal	6	1.29	1.20	0.97	1.29	1.13	1.29	0.16
Nigeria	Formal	28	1.17	1.20	0.84	1.75	1.08	1.30	0.21
	Informal	22	1.07	1.08	0.65	1.75	0.97	1.17	0.19
Tanzania	Formal	14	1.50	1.45	0.94	1.88	1.25	1.56	0.31
	Informal	2	1.72	1.72	1.56	1.88	1.64	1.80	0.16
Madagascar	Formal	9	2.59	2.66	2.48	2.95	2.59	2.69	0.10
	Informal	0							
Uganda	Formal	2	2.15	2.15	1.79	2.51	1.97	2.33	0.36
	Informal	0							

Treatment price data for non-ACT lowest price generic sulphadoxine/pyrimethamine tablet 500/25mg

COUNTRY	TYPE	N	MEDIAN	MEAN	MIN	MAX	Lower Quartile	Upper Quartile	IQR
Ghana	Formal	24	0.33	0.37	0.33	0.98	0.33	0.33	0.00
	Informal	10	0.33	0.32	0.26	0.33	0.33	0.33	0.00
Kenya	Formal	10	0.48	0.89	0.21	4.83	0.32	0.54	0.21
	Informal	9	0.43	0.40	0.32	0.54	0.32	0.43	0.11
Nigeria	Formal	27	0.45	0.44	0.26	0.65	0.36	0.52	0.16
	Informal	29	0.45	0.46	0.32	1.30	0.39	0.52	0.13
Tanzania	Formal	29	0.63	0.64	0.25	0.94	0.63	0.63	0.00
	Informal	28	0.63	0.62	0.19	0.94	0.61	0.63	0.02
Madagascar	Formal	25	0.36	0.36	0.25	0.52	0.31	0.41	0.10
	Informal	15	0.36	0.42	0.26	0.78	0.36	0.49	0.13
Uganda	Formal	45	0.54	0.45	0.02	0.72	0.36	0.54	0.18
	Informal	26	0.54	0.59	0.32	1.08	0.54	0.72	0.18

Treatment price data for Chloroquine tablet 100mg (Lowest priced generic)

COUNTRY	TYPE	N	MEDIAN	MEAN	MIN	MAX	Lower Quartile	Upper Quartile	IQR
Ghana	Formal	1	0.49	0.49	0.49	0.49	0.49	0.49	0.00
	Informal	1	0.49	0.49	0.49	0.49	0.49	0.49	0.00
Kenya	Formal	0							
	Informal	0							
Nigeria	Formal	0							
	Informal	0							
Tanzania	Formal	0							
	Informal	0							
Madagascar	Formal	28	0.31	0.52	0.02	1.24	0.23	1.02	0.78
	Informal	28	0.39	0.35	0.23	0.47	0.31	0.39	0.08
Uganda	Formal	3	0.81	0.73	0.32	1.08	0.56	0.94	0.38
	Informal	0							

Treatment price data for Chloroquine tablet 150mg (Lowest priced generic)

COUNTRY	TYPE	N	MEDIAN	MEAN	MIN	MAX	Lower Quartile	Upper Quartile	IQR
Ghana	Formal	0							
	Informal	0							
Kenya	Formal	0							
	Informal	0							
Nigeria	Formal	11	0.52	0.57	0.32	0.84	0.52	0.65	0.13
	Informal	12	0.36	0.42	0.26	0.65	0.32	0.52	0.19
Tanzania	Formal	0							
	Informal	0							
Madagascar	Formal	0							
	Informal	0							
Uganda	Formal	12	0.72	0.70	0.36	1.08	0.72	0.72	0.00
	Informal	3	0.54	0.69	0.09	1.43	0.31	0.99	0.67