Multi-Country Independent Evaluation Report

Independent Evaluation of the
**Affordable Medicines
Facility - malaria (AMFm) Phase 1**

Final Report

September 28, 2012

Independent Evaluation of Phase 1 of the Affordable Medicines Facility - malaria (AMFm)

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This version of the report includes the following information not previously included in the Preliminary Report of July 18, 2012: (i) results from the remote areas study; (ii) results from the logo study (exit interviews and focus group discussions); (iii) an annex describing the Consultative Forum held in June 2012 in Nairobi; and (iv) some new content to Section 1.2 Overview of the AMFm, including orders requested, approved and delivered as of end September 2012. None of this new information has affected the assessment of the achievements of the Phase 1 benchmarks that were included in the preliminary report of July 18, 2012.

This version of the report does not include findings from the endline household surveys. Those findings will be included in a supplemental report when endline data become available.

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List of abbreviations

ACT	Artemisinin-Based Combination Therapy
ADDO	Accredited Drug Dispensing Outlets
AETD	Adult Equivalent Treatment Dose
AGOA	Africa Growth Opportunity Act
AHC	Ad Hoc Committee
AL	Artemether-Lumefantrine
ALMA	African Leaders Malaria Alliance
AM	Antimalarial
AMT	Artemisinin monotherapy
AMFm	Affordable Medicines Facility – malaria
AMFmCC	AMFm Coordinating Committee
API	Active Pharmaceutical Ingredient
ARI	Acute Respiratory Infection
ASAQ	Amodiaquine and Artesunate
BCC	Behavior change communication
CAPSS	Consortium for ACT Private Sector Subsidy
CCA	Community Change Agent
CCM	County Coordinating Mechanism
CEM	Cohort Event Monitoring
CERMES	*Centre de Recherches Médicales et Sanitaires*
CHAG	Christian Health Association of Ghana
CHAI	Clinton Health Access Initiative
CHW	Community Health Worker
CI	Confidence Interval
CIERPA	*Centre International d'Etudes et de Recherches sur les Populations Africaines*
CIF	Cost-Insurance-Freight
CMS	Central Medical Stores
CP	Condition Precedent
CPC	Consumer Protection Council
CPD	Continuing Professional Development
CRDH	*Centre de Recherche pour le Développement Humain*
CRS	Catholic Relief Services
CSI	*Centre de Santé Intégré*
DAMM	*Direction d'Agence de Medicament de Madagascar*
DCs	Data Contributors
DFID	Department for International Development
DHAP	Dihydroartemisinin-Piperaquine
DHS	Demographic and Health Survey
DLDB	*Duka la Dawa Baridi*
DNDi	Drugs for Neglected Diseases initiative
DOMC	Division of Malaria Control
ERP	Expert Review Panel
E2Pi	Evidence to Policy Initiative
FBO	Faith-Based Organization

FCO	Focal Coordinating Office
FGD	Focus group discussion
FLB	First Line Buyer
FMOH	Federal Ministry of Health
FOB	Free on Board
GDP	Gross Domestic Product
Gh₵	Ghana Cedis
GHS	Ghana Health Service
Global Fund	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GoU	Government of Uganda
HAI	Health Action International
HBC	Home Based Care
HMM	Home Management of Malaria
HPLC	High-performance Liquid Chromatography
ICCM	Integrated Community Care and Management
ICH	The International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use
IE	Independent Evaluation/Evaluator
IEC	Information, Education and Communication
IPT	Intermittent Preventive Treatment
IMCI	Integrated Management of Childhood Illnesses
IOM	Institute of Medicine
IQR	Interquartile Range
IRB	Institutional Review Board
IRS	Indoor Residual Spraying
IOM	Institute of Medicine
ITN	Insecticide-Treated Net
JHU	Johns Hopkins University
JMS	Joint Medical Stores
KAP	Knowledge, Attitude, and Perception
KCM	Kenya Country Mechanism
KEMSA	Kenya Medical Supplies Agency
KII	Key Informant Interview
LANSPEX	*Laboratoire National de Santé Publique et d'Expertise*
LCS	Licensed Chemical Sellers
LFA	Local Fund Agent
LGA	Local Government Area
LLIN	Long-lasting Insecticidal Net
LTR	Local Technical Representative
LSHTM	London School of Hygiene and Tropical Medicine
MEEDS	Malaria Early Epidemic Detection System
MICC	Malaria Interagency Coordinating Committee
MICS	Multiple Indicator Cluster Survey
MIS	Malaria Indicator Survey
MMV	Medicines for Malaria Venture
MOF	Ministry of Finance
MOFEA	Ministry of Finance and Economic Affairs

MOH	Ministry of Health
MoHSW	Ministry of Health and Social Welfare
MOMS	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
MSA	Master Supply Agreement
MVU	Mobile Video Unit
NAFDAC	National Agency for Food and Drug Administration and Control
nAT	Non-Artemisinin Therapy
NDA	National Drug Authority
NGO	Nongovernmental Organization
NHIS	National Health Insurance Scheme
NHS	National Health System
NMCP	National Malaria Control Program
NMS	National Medical Stores
NOC	National Oversight Committee
nQAACT	Non-Quality-Assured Artemisinin-Based Combination Therapy
NSA	National Strategy Application
OJT	On-the-Job Training
ONEN	*Organisation National des Educateurs Novateurs*
OS	Outlet survey
ONPPC	*Office National des Produits Pharmaceutiques et Chimiques*
OTC	Over-the-Counter
PCN	Pharmacists Council of Nigeria
PDA	Personal Digital Assistant
PHCC	Primary Health Care Center
PHCU	Primary Health Care Unit
PMI	President's Malaria Initiative
PNLP	*Programme National de Lutte contre le Paludisme*
POM	Prescription-Only Medicines
POP	Part One Pharmacy
PPB	Pharmacy & Poisons Board
PPS	Probability Proportional to Size
PR	Principal Recipient
PSI	Population Services International
PSM	Procurement Supply Management
PV	Pharmacovigilance
PwC	PricewaterhouseCoopers
QAACT	Quality-Assured Artemisinin-Based Combination Therapy
QCIL	Quality Chemicals Industries Limited
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
RFP	Request for Proposal
RMCG	Role Model Care Givers
RMS	Regional Medical Stores
RRP	Recommended Retail Price
RSE	Relative standard error
SADC	Southern Africa Development Community

SC	Steering Committee
SI	Supporting Intervention
SMOH	State Ministry of Health
SOP	Standard Operating Procedures
SP	Sulfadoxine-Pyrimethamine
SR	Sub-Recipient
SSA	sub-Saharan Africa
SSF	Single Stream Funding
SuNMaP	Support to National Malaria Control Program
SURE	Securing Ugandans' Rights to Essential Medicines
TANAM	Tanzania National Malaria Movement
TERG	Technical Evaluation Reference Group
TFDA	Tanzania Food and Drug Authority
TLC	*Technologie de l'Information et de Communication*
TWG	Technical Working Group
TZ-RDIP	Tanzania Remote Distribution Incentive Program
UGP	*Unité de Gestion de Projet*
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USD	United States Dollar
VHT	Village Health Team
VPP	Voluntary Pooled Procurement
WHO	World Health Organization
WHO/AFRO	World Health Organization/Africa region
YGC	Yakubu Gowon Centre
ZFDB	Zanzibar Food and Drug Board
ZILS	Zanzibar Integrated Logistics System
ZMCP	Zanzibar Malaria Control Program

Definition of key terms

Key terms	Definition
Adult Equivalent Treatment Dose (AETD)	An AETD is the number of milligrams (mg) of an antimalarial drug needed to treat a 60 kg adult.
Antimalarial	Any medicine recognized by WHO for the treatment of malaria. Medicines used solely for the prevention of malaria are excluded from analysis in this report.
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.
Booster Sample	A booster sample is an extra sample of units (or in this case outlets) of a type not adequately represented in the main survey, but which are of special interest. In this survey, we have included a booster sample of public health facilities and Part One pharmacies in the entire district that includes the selected subdistrict, consisting of all of the public health facilities and Part One pharmacies in the district that are not in the selected subdistrict.
Censused subdistrict	A subdistrict where field teams conducted a full census of all outlets with the potential to sell antimalarials.
Combination therapy	The use of two or more classes of antimalarial drugs/molecules in the treatment of malaria that have independent modes of action.
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.
Enumerated Outlets	Outlets that were visited by a member of one of the field teams and from which at a minimum basic descriptive information was collected (Sections C1-C9 of the outlet survey questionnaire).
First-line treatment	The government-recommended treatment for uncomplicated malaria.
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.
Non-artemisinin therapy	An antimalarial medicine that does not contain artemisinin or any of its derivatives.
Outlet	Any point of sale or provision of a commodity to an individual. Outlets are not restricted to stationary points of sale and may include mobile units or individuals.
Pediatric formulation	Antimalarial drug packaged specifically for children.
Quality-Assured Artemisinin-Based Combination Therapies (QAACTs)	QAACTs are ACTs that comply with the Global Fund to Fight AIDS, Tuberculosis and Malaria's Quality Assurance Policy. For the purpose of the Independent Evaluation, a QAACT is any ACT that appeared on the Global Fund's indicative list of antimalarials meeting the Global Fund's quality assurance policy prior to baseline or endline data collection (see http://www.theglobalfund.org/en/procurement/quality/pharmaceutical/#General), or which previously had C-status in an earlier Global Fund quality assurance policy and was used in a program supplying subsidized ACTs. At baseline, QAACTs were defined as any ACT that appeared on the Global Fund's indicative list of antimalarials meeting its quality assurance policy as at June 2010, or which previously had C-status in an earlier Global Fund quality assurance policy and was used in a program supplying subsidized ACTs. At endline, QAACTs were defined as any ACT that appeared on the Global Fund's indicative list of antimalarials meeting its quality assurance policy as of September 2011, or which previously had C-status in an earlier Global Fund quality assurance policy and was used in a program supplying subsidized ACTs.
Rapid-Diagnostic Test (RDT) for malaria	A test used to confirm the presence of malaria parasites in a patient's bloodstream.
Screened	An outlet that was administered the screening questions (S1 to S4) of the outlet survey questionnaire (see screening criteria).
Screening criteria	The set of requirements that must be satisfied before the full questionnaire is administered. In this survey, an outlet met the screening criteria if (1) it had antimalarials in stock at the time of the survey visit, or (2) it reported having stocked them in the past three months.
Subdistrict (SD)	The primary sampling unit, or cluster, for the outlet survey. It is an administrative unit that has a population size of approximately 10,000 to 15,000 inhabitants. These units frequently are defined by geographical, health or political boundaries.
Treatment/dosing regimen	The posology or timing and number of doses of an antimalarial used to treat malaria. This schedule often varies by patient weight.

Overview of the Independent Evaluation of AMFm

The success of malaria control efforts depends on a high level of coverage in the use of effective antimalarials such as artemisinin-based combination therapies (ACTs). Although these antimalarials have been procured in large amounts by countries, evidence suggests that ACT use still remains far below target levels. In response to this issue, the Affordable Medicines Facility – malaria (AMFm) hosted by the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) was set up. AMFm comprises three key elements: (i) price reductions through negotiations with ACT manufacturers; (ii) a buyer subsidy through a 'co-payment' for ACTs at the top of the global supply chain; and (iii) supporting interventions to promote appropriate use of ACTs. Examples of these supporting interventions include training providers and outreach to communities to promote ACT use. All ACTs subsidized through AMFm bear a green leaf logo on their packaging. The four main objectives of AMFm are to: (i) increase ACT affordability; (ii) increase ACT availability; (iii) increase ACT use, including among vulnerable groups; and (iv) "crowd out" oral artemisinin monotherapies, chloroquine and sulfadoxine-pyrimethamine (SP) by increasing the market share for ACTs.

The Independent Evaluation of AMFm was designed to assess whether, and to what extent, AMFm Phase 1 achieves its objectives. The evaluation was carried out in all of the currently operational Phase 1 pilots (Ghana, Kenya, Madagascar, Niger, Nigeria, Tanzania mainland, Uganda, and Zanzibar). The evaluation is based on a non-experimental design with a pre- and post-test intervention assessment in which each participating country is treated independently as a case study. The evaluation includes two major components: (1) a pre-intervention (baseline) and post-intervention (endline) study of key outcomes through nationally representative outlet surveys and use of secondary household survey data; and (2) documentation of key features of the context at baseline and endline and the AMFm implementation process in each country. The results of the outlet and household surveys are compared to the AMFm success benchmarks (see Figure 1), and interpreted using the process and context data to facilitate interpretation of the changes in outcomes over the implementation period and to judge whether any observed changes are likely to be due to AMFm. Availability, price and market share benchmarks focus on quality assured ACTs (QAACTs) defined as products meeting the Global Fund's quality assurance criteria. (At the time this report was written, no endline household survey data were available to measure use of ACTs to treat fever in young children, but it is expected that household data will be available for some countries before November 2012.) In addition, two complementary studies were carried out in selected countries at endline. The remote area study examined the availability, price and market share of ACTs at the end of the main endline outlet survey in areas considered remote and those considered non-remote. The AMFm logo study assessed whether or not the AMFm logo achieved its intended effect with respect to public awareness and marketing.

A number of key findings can be distilled:

1. **Achievement of success benchmarks** – Figure 1 provides an overview of the performance of each pilot against the AMFm success benchmarks. Of the 8 pilots, success benchmarks were clearly met in 5 pilots for availability, 5 pilots for QAACT price relative to the most popular antimalarial that is not a QAACT, and 4 pilots for QAACT market share (all shaded green). It is also possible that benchmarks were met in one additional pilot for availability and price, and in 3 additional pilots for market share, although the evidence is not as strong (shaded amber). The success benchmarks related to artemisinin monotherapy (AMT) price and market share were met in all pilots with sufficient AMTs in the market to make these benchmarks relevant.

2. **AMFm and the private for-profit sector** – AMFm has been a "game changer" in the private for-profit sector for all pilots except Niger and Madagascar, with a dramatic impact on the antimalarial market, through large increases in QAACT availability, decreases in QAACT prices, and increases in QAACT market share. These changes were substantial and achieved in only a few months, demonstrating the power of tapping into the distributional capacity of the private sector. The changes are very likely to be largely attributable to AMFm. The private for-profit sector response was similar in rural and urban areas, in some cases reducing or closing a rural-urban gap in availability and market share. There was considerable penetration of copaid QAACTs even in remote areas in Ghana and Kenya, where this was evaluated.

3. **AMFm and the public sector** – AMFm led to fewer fundamental changes to public sector antimalarial supply, where QAACT supply continued to be hindered by problems with procurement and grant requirements, leading to substantial delays in ordering. Increases in QAACT market share were seen in the public sector in four pilots (Ghana, Nigeria, Uganda and Zanzibar), although in Nigeria most QAACTs distributed through the public sector were not copaid. QAACTs were available in less than 80% of all public facilities at endline in five pilots, and there was generally no change in public sector QAACT prices as most countries already provided QAACTs for free at baseline (except Ghana where public sector QAACT prices fell).

4. **Limited impact in Madagascar and Niger** – The impact of AMFm on the private for-profit sector was limited in Madagascar and Niger, where orders of copaid ACTs were very low. Explanations may include (i) the lack of full-scale mass media campaigns; (ii) the structure of the private for-profit antimalarial sector, which had a much higher proportion of general stores, and in Niger itinerant vendors, who are not allowed to stock QAACTs; and (iii) an unfavourable context of political and/or economic instability and severe weather conditions.

5. **Effect of duration of implementation** – Longer duration of implementation appears to be positively correlated with performance, if the combined presence of copaid ACTs and the operation of a large-scale sustained IEC/BCC campaign is considered a proxy for full

AMFm implementation. With the exception of Zanzibar, pilots with earlier start dates achieved more success benchmarks. No large-scale sustained IEC/BCC campaign was in place by the end of 2011 in Madagascar, Niger or Uganda, and these pilots achieved fewer benchmarks. However, it is possible that delayed start dates reflect weaker implementation capacity in general, and therefore one should be cautious in attributing performance to duration of implementation alone.

6. **Prices and markups in the private for-profit sector** – The price of copaid QAACTs in the private for-profit sector at endline was very variable across pilots, ranging from USD 0.51 in Madagascar to USD 1.96 in Uganda. Reasons for this variability are unclear but may include (i) variations in the recommended retail price and its promotion through national IEC/BCC campaigns; (ii) guidelines on markups (in Madagascar); (iii) differences in cost structure including tax components; and (iv) time since copaid ACTs first arrived in each country. The median retail gross markup on copaid QAACTs was less than 70% in all pilots (which can be considered reasonable for the retail sector), except Uganda (133%) and Zanzibar (100%).

7. **Crowding out oral artemisinin monotherapy** – Even at baseline, market share for oral AMT was less than 4% in Ghana and less than 1% in Kenya, Madagascar, Niger, Tanzania Mainland and Uganda. In Nigeria and Zanzibar where oral AMT market share was somewhat higher at baseline, large and significant falls were observed, likely reflecting a combination of the AMFm subsidy and complementary regulatory measures with particularly strong enforcement of the latter in Zanzibar.

8. **Availability of non-artemisinin therapies** – Availability of non-artemisinin therapies such as chloroquine and sulphadoxine-pyrimethamine fell in some countries, but remained very high in most countries. However, most of the increase in QAACT market share was at the expense of the market share of non-artemisinin therapies.

9. **Market structure** – The private sector was a major player in the antimalarial market in all pilots, accounting for between 40% and 97% of antimalarial sales volumes at baseline, and between 49% and 92% at endline. There was no clear pattern across pilots in the change in private for-profit market share between baseline and endline.

10. **Availability of malaria diagnosis** – Diagnostic availability (rapid diagnostic tests or microscopy) varied substantially in the public sector, from 29% in Nigeria to 98% in Zanzibar at endline. However, in private for-profit outlets, only three pilots had substantial availability at endline (Kenya - 14%, Uganda – 21%, Zanzibar - 32%). In this sector, health facilities/pharmacies have higher availability of diagnostics than drug and general stores.

11. **Results of operational research** – Results from studies of interventions to enhance the implementation of antimalarial subsidies by improving targeting and/or drug use show that implementation of such interventions is feasible on a small scale, but more evidence

on effectiveness and cost-effectiveness of large-scale programs is needed to inform policy.

12. **Issues not covered by the Independent Evaluation** – A number of important issues related to AMFm policy decisions were beyond the scope of the Independent Evaluation, including the impact on targeting copaid ACTs to persons with parasitemia; advice provided to patients; adherence to dosing regimens; global artemisinin supply; and prevalence of counterfeit products.

13. **Possible hindering factors for AMFm in some countries include**:
   - Delays in the public sector procurement process for copaid ACTs
   - Issues with Global Fund grants and delays in procurement of supporting interventions, meaning that implementation of most interventions lagged behind the arrival of copaid ACTs by several months
   - Suspension of Global Fund disbursements or grants interrupting implementation of supporting interventions
   - Application of Global Fund demand levers to ration orders
   - Political and/or economic instability
   - An antimalarial provider market dominated by highly informal outlets operating outside of regulated distribution channels (in Madagascar and Niger)

14. **Possible facilitating factors for AMFm in some countries include**:
   - Strong AMFm governance structures (including steering committees), involvement of the private sector and technical assistance from the Clinton Health Access Initiative
   - Generally smooth operation of the registration process for first-line buyers and ordering through the copayment mechanism
   - Strong, large-scale mass media campaigns, including promotion of the AMFm logo
   - Longer duration of implementation
   - Establishment and promotion of a recommended retail price set at an appropriate level
   - Complementary regulatory changes, such as giving ACTs over-the-counter status, and implementation of the AMT ban
   - AMFm training in some countries (although only Ghana and Zanzibar had over 20% training coverage)

Figure 1: Overview of the achievement of the AMFm Success Benchmarks by county, indicating benchmarks achieved (in green), nearly or possibly achieved (in amber) and not achieved (in red), (point estimate, and p-value for statistical test of whether the level stated in the benchmark was achieved)

Benchmark	Ghana	Kenya	Madagascar	Niger	Nigeria	Tanzania mainland	Uganda	Zanzibar*
1. 20 percentage point increase in QAACT availability	52 (*p*<0.01)	35 (*p*<0.01)	4.6 (*p*=0.99)	10 (*p*=0.99)	26 (*p*=0.14)	44 (*p*<0.01)	46 (*p*<0.01)	39
2. Median price of QAACTs with AMFm logo is <3 times the median price of the most popular antimalarial in tablet form that is not a QAACT (ratio)	3.0 (*p*=0.81)	1.0 (*p*<0.01)	1.6 (*p*<0.01)	2.5 (*p*<0.01)	3.1 (*p*=0.99)	1.0 (*p*<0.01)	3.3 (*p*=0.99)	1.5
3. Median price of QAACTs with AMFm logo is less than the median price of AMT tablets (difference, QAACT – AMT)	-0.94 (*p*<0.01)				-1.17 (*p*<0.01)			-6.3
4. 5 percentage point increase in percentage of children with fever who received ACT treatment	na	na	na	na	na	na	na	na
5. 10 percentage point increase in market share of QAACTs	40 (*p*<0.01)	31 (*p*=0.01)	8.6 (*p*=0.61)	-8.8 (*p*=0.99)	18 (*p*<0.01)	16 (*p*=0.23)	17 (*p*=0.08)	48
6. Decrease in market share of oral AMTs (percentage point change)					-3.9 (*p*=0.03)			-12

Notes: Green shading = the benchmark was achieved, with strong statistical evidence (generally *p*<0.01); Amber shading = either the benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak (*p*≥0.05). However, the power to detect a 10 percentage point increase in market share was only 35% in Tanzania, 66% in Uganda and 70% in Madagascar, compared with the usual minimum standard of 80%; therefore, *p*-values should be interpreted with caution. Red shading = the benchmark was not met; Grey shading for Benchmarks 3 and 6 = not relevant because the number of AMT products was very low at baseline. * *p*-values not shown for Zanzibar because a complete census of antimalarial stocking outlets was undertaken; na = not available; ACT= artemisinin-based combination therapy; AMT= artemisinin montherapy; QAACT= quality-assured artemisinin-based combination therapy

Executive Summary

Overview of the independent evaluation

The success of malaria control efforts depends on a high level of coverage in the use of effective antimalarials such as artemisinin-based combination therapies (ACTs). Although these antimalarials have been procured in large amounts by countries, evidence suggests that ACT use still remains far below target levels.

In response to this issue, the Affordable Medicines Facility – malaria (AMFm) hosted by the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) was set up. AMFm comprises three key elements: (i) price reductions through negotiations with ACT manufacturers; (ii) a buyer subsidy through a 'co-payment' for ACTs at the top of the global supply chain; and (iii) supporting interventions to promote appropriate use of ACTs. Examples of these supporting interventions include training providers and outreach to communities to promote ACT use. All ACTs subsidized through AMFm bear a green leaf logo on their packaging.

The four main objectives of AMFm are to: (i) to increase ACT affordability; (ii) to increase ACT availability; (iii) to increase ACT use, including among vulnerable groups; and (iv) to "crowd out" oral artemisinin monotherapies, chloroquine and sulfadoxine-pyrimethamine (SP) by gaining market share. AMFm is being tested in a first phase that includes nine pilots in eight countries: Cambodia, Ghana, Kenya, Madagascar, Niger, Nigeria, Republic of Tanzania (mainland and Zanzibar) and Uganda.

The Independent Evaluation (IE) of AMFm was designed to assess whether, and to what extent, AMFm Phase 1 achieves its objectives. The IE is part of a multi-faceted monitoring and evaluation framework developed for AMFm Phase 1. Through a competitive bid, the Global Fund contracted ICF International and the London School of Hygiene and Tropical Medicine (LSHTM) to conduct the IE. The IE was carried out in all of the currently operational Phase 1 pilots (Ghana, Kenya, Madagascar, Niger, Nigeria, Tanzania mainland, Uganda, and Zanzibar). In addition, the Global Fund contracted with Data Contributors (DCs) that were responsible for in-country fieldwork and data analysis for the outlet surveys. These institutions are Population Services International (PSI), Drugs for Neglected Diseases initiative (DNDi), and Centre de Recherche pour le Développement Humain (CRDH). PSI was responsible for the work in Kenya, Madagascar, Nigeria, Uganda, Tanzania mainland (which was subcontracted to the Ifakara Health Institute) and Zanzibar. For the surveys in Madagascar, Nigeria and Uganda the IE has drawn on outlet surveys commissioned prior to AMFm and carried out by PSI's ACTwatch Project (www.actwatch.info) through a grant from the Bill and Melinda Gates Foundation, which either partially or fully funded outlet survey rounds in these Phase 1 pilots. DNDi subcontracted with the Komfo Anokye Teaching Hospital, Kumasi, to undertake the work in Ghana. CRDH subcontracted with the Centre International d'Etudes et de Recherches sur les Populations Africaines (CIERPA) to undertake the work in Niger.

The IE is based on a non-experimental design with a pre- and post-test intervention assessment in which each participating country is treated independently as a case study. The evaluation includes two major components: (1) a pre-intervention (baseline) and post-intervention (endline) study of key outcomes through nationally representative outlet surveys and use of secondary household survey data; and (2) documentation of key features of the context at baseline and endline and the AMFm implementation process in each country through key informant interviews and document review, to facilitate interpretation of the changes in outcomes over the implementation period and to judge whether any observed changes are likely to be due to AMFm. These data sources are supplemented by additional primary data on outlets in remote areas in Ghana and Kenya; and primary data on user views of the AMFm logo in four pilots (Ghana, Kenya, Madagascar and Nigeria). Operational research conducted by other groups was also reviewed. The results of the baseline and endline outlet and household surveys are compared to the AMFm success metrics (see below). The findings on achievement of success metrics are synthesized with the process and context data collected for each country and the other studies outlined above to assess the performance of AMFm in each operational pilot, and to help learn how and why this new model unfolds in a variety of contexts, while drawing lessons that can help future operations.

Methods for the IE outlet surveys were built on those developed for the ACTwatch project, and cover outlets across the public, private for-profit and private not-for-profit sectors in rural and urban areas. Baseline outlet surveys were conducted between April and December 2010 (except Nigeria which was conducted from September to November 2009), and endline outlet surveys were conducted between October 2011 and January 2012. The midpoint of endline survey fieldwork was between 6.5 and 15.5 months after the arrival in the country of the first AMFm copaid drugs.

For the purpose of analysis, antimalarials were split into three categories: non-artemisinin therapy (nAT) (e.g., SP, amodaquine, and quinine), artemisinin monotherapy (AMT) and artemisinin-based combination therapy (ACT). AMTs were further classified into oral and non-oral AMTs, as while non-oral AMT are recommended for treatment of severe malaria, the removal of oral AMTs from the market is a key policy goal. ACTs were further subdivided into those that met the Global Fund's standards as "quality-assured ACTs" (QAACTs) and those that did not. At endline, QAACTs are further classified based on whether the AMFm green-leaf logo was present on the packaging, as a proxy for whether the product was subsidized by AMFm. Antimalarial volume and price data are reported in terms of adult equivalent treatment doses (AETDs). An AETD is defined as the number of milligrams (mg) of an antimalarial drug needed to treat a 60 kg adult. Price data were adjusted to 2010 USD.

Existing nationally representative household survey reports and data were used to extract information for the ACT use indicators from four types of national surveys (DHS, MICS, MIS and ACTwatch). At the time this report was written, no endline household survey data were available for any countries. A supplemental report, including revised tables and a

discussion of the household survey results in the interpretation of the success metrics in Chapter 8, will be prepared if a sufficient quantity of endline data becomes available in the coming months.

Interpretation and operationalization of success metrics
The Global Fund's AMFm Ad Hoc Committee commissioned the Evidence to Policy Initiative (E2Pi) to propose benchmarks for outcomes which could realistically be expected in the first and second years of the pilots. To inform the setting of the benchmarks, the E2Pi team conducted a literature review and key informant interviews to review the experience of relevant programs and developed metrics and benchmarks for QAACT availability, price, market share and ACT use.

The IE has refined and operationalized these metrics for use in this report as follows:
- Benchmark 1: At least a 20 percentage point increase from baseline to endline in the percentage of outlets stocking ALL QAACTs (both with and without the AMFm logo)
- Benchmark 2: In private for-profit outlets, a ratio of the median price of QAACTs with the AMFm logo to the median price of the most popular antimalarial that is not a QAACT in tablet form of less than 3.
- Benchmark 3: In private for-profit outlets, a median price of QAACTs with the AMFm logo of less than the median price of AMT tablets
- Benchmark 4: At least a 5 percentage point increase from baseline to endline in the percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment
- Benchmark 5: At least a 10 percentage point increase from baseline to endline in the market share of ALL QAACTs (both with and without the AMFm logo)
- Benchmark 6: A decrease from baseline to endline in the market share of AMTs (all oral dosage forms)

Price metrics are calculated for the private for-profit sector only because in most settings QAACTs are free in public and private not-for-profit health facilities. Price metrics are calculated for QAACTs with the logo only in order to focus on the extent to which the subsidy provided through AMFm has been passed through to final retail prices.

These benchmarks are based on the thresholds proposed by E2Pi for one year after "the effective start date of AMFm at the country level." It should be noted that while half of the pilots had at least some copaid drugs in the country for more than 12 months before the endline outlet survey (16.5 months in Ghana, 15 months in Kenya, 14 months in Madagascar and 13.5 months in Tanzania), the time between the arrival of drugs and the endline outlet survey in the remaining countries ranged from 6.5-9.5 months. Implementation of supporting interventions often trailed the arrival of copaid drugs in country, in some cases by six months, and in 3 pilots (Madagascar, Niger, Uganda) no large scale sustained communications campaign for AMFm had been established by the time of endline data collection. Figure 2 provides an overview of the timeline of AMFm implementation in each pilot, from the signing of the grant amendment to grant disbursements, arrival of copaid drugs, and implementation of the IEC/BCC campaign (this supporting intervention has been highlighted

as it is a key intervention included in all pilot AMFm proposals). The figure also shows the timing of the implementation of demand levers, and the dates of the Independent Evaluation baseline and endline outlet survey data collection. This duration of effective implementation needs to be taken into account when interpreting country performance against the benchmarks, together with other elements of implementation process and country context.

Figure 2: Timeline of AMFm Phase 1 Independent Evaluation data collection; grant amendments and disbursements; arrival in-country of copaid QAACTs; launch events; IEC/ BCC implementation; and application of demand levers by the Global Fund

The figure is a Gantt-style timeline spanning April 2010 through March 2012, with rows for each country (Ghana, Kenya, Madagascar, Niger, Nigeria, Tanzania-mainland, Uganda, Zanzibar). For each country the following sub-rows are shown:
- IE outlet survey data collection
- Grant amendment and disbursement
- Copaid ACTs in-country (private sector)
- Copaid ACTs in-country (public sector)
- IEC/BCC implementation
- Application of demand levers by the Global Fund

Notes: ■ = Baseline and endline data collection for Independent Evaluation outlet surveys. ▮ (yellow) = Signing of grant amendment and Global Fund grant disbursements for implementation of Supporting Interventions. ▮ (green) = Copaid QAACTs in-country (although not necessarily in continuous supply); + = copaid QAACTs delivered, ▮ (orange) = Implementation of AMFm public awareness (IEC/BCC) campaign at scale. ▮ (light) =Interim AMFm public awareness (IEC/BCC) campaign i.e. Ghana: talk shows only; Niger: activities not at scale; Nigeria: stop-gap soft launch; Uganda: stop-gap radio. ▮ (purple) = Application of Global Fund demand levers. GA= grant amendment; $= disbursement for implementation of SIs; L= launch; L *= "Soft" Launch; in Tanzania- mainland a "soft" launch was held with a press conference on January 25, 2011; in Uganda a "soft" launch was held on April 29, 2011- linked to World Malaria Day celebrations, however no IEC/BCC or trainings began until after endline data collection. **Nigeria: Baseline data collection completed Sept-Nov 2009

Key findings

The key findings begin with a presentation of the aggregate orders for copaid drugs and their breakdown by country. The results of the baseline and endline outlet surveys and the changes over time in availability, price and market share indicators across all countries are subsequently presented. This is followed by presentation of results from household surveys, the remote areas study, the public awareness/logo study and findings from operational research. An assessment of the achievement of the AMFm Success Benchmarks is given for each country individually, which draws on the country case studies of implementation process and context in order to understand the extent to which observed changes in key outcomes can plausibly be attributed to AMFm.

Key findings on aggregate orders and demand levers

The total number of QAACT doses delivered to 81 first line buyers (FLB) by the end of 2011 was 155.8 million (Table 1). Just over one-third of these doses were delivered to Nigeria. Ghana, Kenya, Uganda and Tanzania mainland were the next largest recipients with much smaller amounts delivered to Niger, Madagascar and Zanzibar. The majority were delivered to private for-profit FLBs in Ghana, Madagascar, Nigeria, Tanzania mainland and Zanzibar. In Kenya, the public sector received similar quantities as the private for-profit sector, and in Niger and Uganda the public sector was the main recipient.Table 2 shows the quantity of copaid QAACTs delivered between January and September 2012.

Table 1: Quantity of copaid quality-assured ACTs delivered, July 2010 – December 2011 1.1.1

Quantity of copaid quality-assured ACT treatments delivered* to countries, by sector, according to country

Country	Public	Private not-for-profit	Private for-profit	Total
Ghana	1,404,325	0	23,269,401	24,673,726
Kenya	14,347,410	0	14,109,228	28,456,638
Madagascar	489,050	0	1,199,128	1,688,178
Niger	1,783,480	0	441,640	2,225,120
Nigeria	7,827,690	5,389,830	44,043,781	57,261,301
Tanzania – mainland	4,917,600	0	8,122,020	13,039,620
Uganda	20,705,490	599,900	6,921,310	28,226,700
Zanzibar	91,075	0	150,000	241,075

* Manufacturers must provide proof of delivery to The Global Fund with all invoices for co-payment. Due to the delay between delivery and submission of an invoice by manufacturers, the actual treatment quantities delivered may be higher than what is officially reported in this table.

Source: Global Fund data base

Table 2: Quantity of copaid quality-assured ACTs delivered, January 2012 – September 2012

Quantity of copaid quality-assured ACT treatments delivered* to countries, by sector, according to country

Country	Public	Private not-for-profit	Private for-profit	Total
Ghana	1,801,710	0	11,896,780	13,698,490
Kenya	2,233,980	0	9,736,660	11,970,640
Madagascar	218,100	0	563,664	781,764
Niger	381,390	0	1,250,360	1,631,750
Nigeria	827,425	3,036,140	29,407,679	33,271,244
Tanzania – mainland	4,917,780	0	10,625,308	15,543,088
Uganda	2,166,360	500,000	7,555,960	10,222,320
Zanzibar	0	0	0	0

* Manufacturers must provide proof of delivery to The Global Fund with all invoices for co-payment. Due to the delay between delivery and submission of an invoice by manufacturers, the actual treatment quantities delivered may be higher than what is officially reported in this table.

Source: Global Fund data base

There are some systematic differences in the purchasing behavior of public and private sector first-line buyers. For the public sector, typically there is a single first-line buyer that places a single order (with staggered deliveries) to cover the entire public sector need for a full year, following a competitive tender process. In contrast, to cover the private sector needs, several private sector first-line buyers place multiple, relatively smaller orders periodically throughout the year, after directly contacting a manufacturer and reaching an agreement.

Up until July 2011 all orders made by FLB were approved by the Global Fund in the same quarter. However, it became apparent that the demand for AMFm copaid ACTs was greater than the resources available for co-payment during Phase 1. In order to ensure the availability of co-payment funding until additional resources might be secured, the AMFm Secretariat developed a framework for rationing co-payment. Since August 2011, each request for co-payment received is evaluated on the basis of several criteria (for example, the ratio of cumulative approved orders to estimated demand, relative proportion of pediatric formulations/pack sizes, and sector) and approved within the constraint of USD 8-10 million per month.

The immediate result of the application of these levers was a drastic reduction in the proportion of orders approved for co-payment, particularly for the private sector as all public sector requests for co-payment received in 2011 were approved for co-payment. In Q3 and Q4 of 2011, the AMFm approved only 32% of the private not-for-profit and private for-profit sector requests for co-payment received; Nigeria, Ghana, Kenya, and Uganda were the most affected, with only 24%, 27%, 56% and 57%, respectively, of private sector orders approved during this period. By contrast, all requests had been approved for Madagascar and Niger, and relatively few orders were pending or cancelled in Tanzania mainland and Zanzibar. Although orders take several months to arrive in country and be distributed, it is likely that non-approval of orders due to demand levers, particularly in Q3 of 2011, may have influenced QAACT availability by the time of the endline outlet surveys in at least four of the pilots.

The relative percentage of child versus adult packs of AL, which represents 85% of all co-paid ACTs approved, has evolved over time. In March 2011, the co-payment structure was revised to favor pediatric packs, which began to have an effect, with child packs of AL increasing from 32% to 49% of approved orders in the period March to July 2011. Following implementation of the demand-shaping levers, this resulted in further increases in the relative proportion of child packs, to 65% for the period August to December 2011 and to 69% for the period January to August 2012.

Key findings from the outlet surveys
Figures 3 and 4 show the breakdown of the structure of the antimalarial market (that is, all antimalarials, including quality-assured ACTs as well as other products) in the eight pilots for all outlet types (Figure 3) and for private for-profit outlets (Figure 4). Over 75% of outlets stocking antimalarials at endline were private for-profit outlets, except in Zanzibar where this

was 63%. Differences across pilots were seen, however, in the composition of the private for-profit sector (Figure 4). In Ghana, Nigeria, Tanzania mainland, Uganda, and Zanzibar, drug stores were the most common type of private for-profit sector outlet stocking antimalarials, while in Kenya, Madagascar, and Niger, general stores were the most common such outlet at endline. Of note, itinerant vendors were only frequently found in Niger where they made up 28% of the total private for-profit outlets stocking antimalarials at endline.

Figure 3: Breakdown of outlets stocking antimalarials by outlet type at endline Figure

Legend: Public health facility · Private not-for-profit health facility · Private for-profit outlet · Community health worker

Y-axis: Percentage of outlets stocking antimalarials

X-axis categories: Ghana, Kenya, Madagascar, Niger, Nigeria, Tanzania mainland, Uganda, Zanzibar
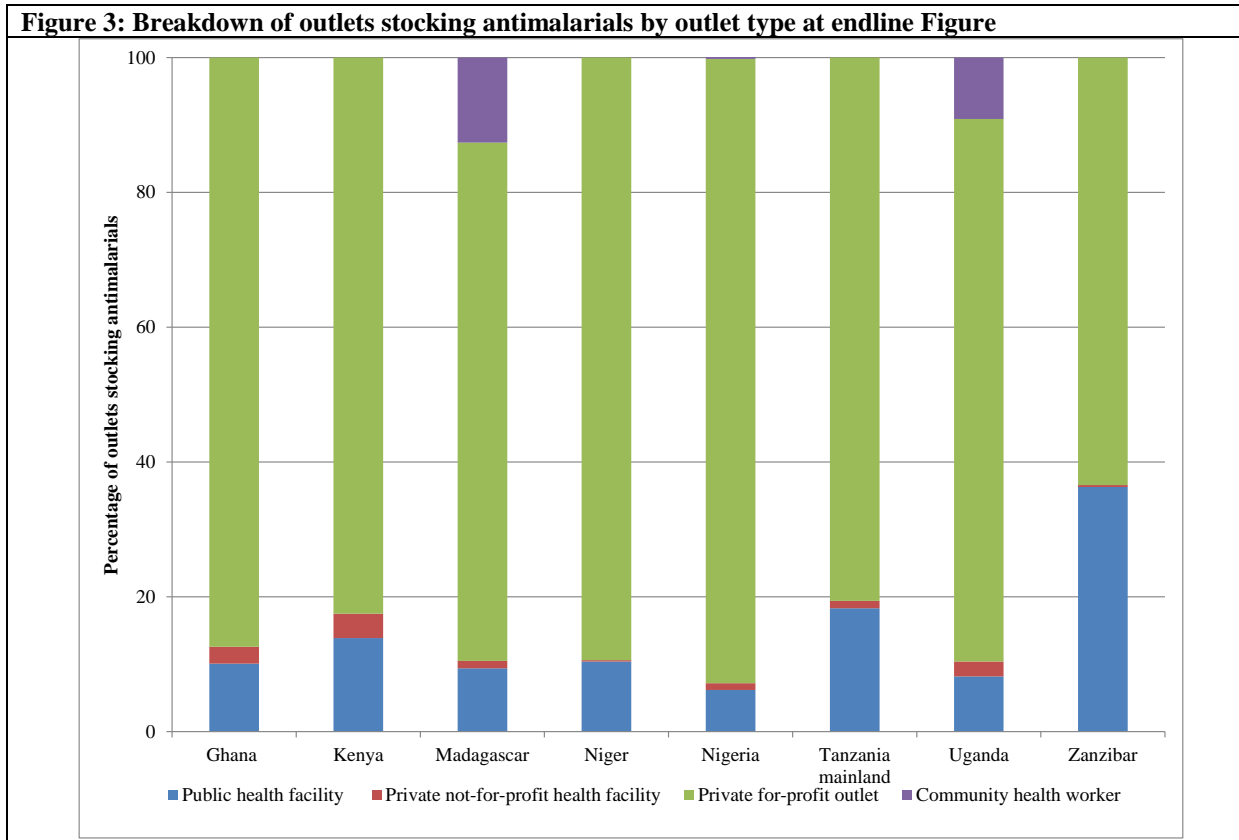
Figure 4: Breakdown of private for-profit outlets stocking antimalarials market structure by outlet type at endline, 2011
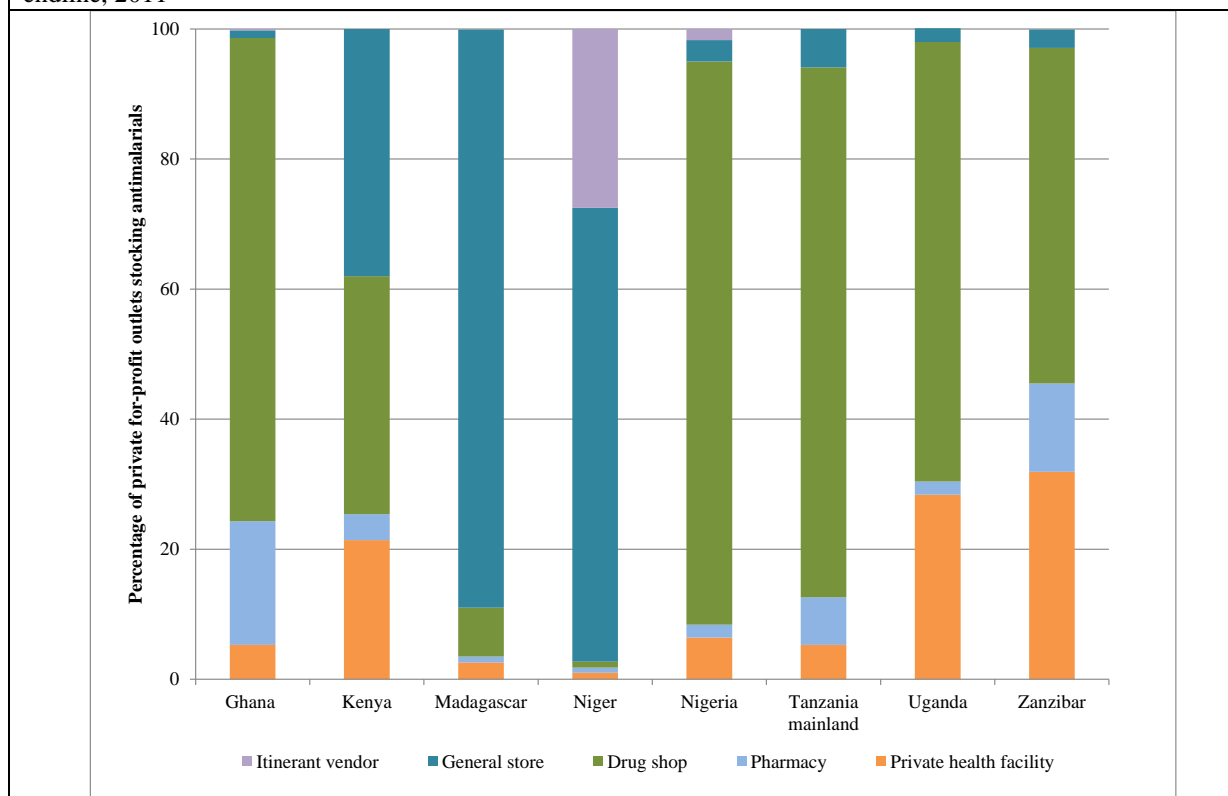
Availability of quality-assured ACTs

At endline, QAACT availability across all sectors ranged from 19% to 85% (Figure 5). QAACT availability was lowest in Niger (19%) and Madagascar (28%), ranged from 54% to 70% in Kenya, Nigeria, Tanzania mainland and Uganda, and exceeded 80% in Ghana and Zanzibar. In Ghana and Zanzibar, QAACT availability was over 80% in both public facilities and private for-profit outlets (results for private non-profit outlets and community health workers are not generally presented separately due to the small samples for these outlet types) (Figure 6). In Kenya, Tanzania mainland and Uganda availability in private for-profit outlets was over 60%, but this was lower than availability in the public sector (over 80%). There were much bigger differences in availability between the public and private for-profit sectors in Madagascar (94% vs. 9%) and Niger (73% vs. 14%). Nigeria stands out as having similar levels of availability in the public and private for-profit sectors, with public sector availability lower than in other countries (57% in public facilities vs. 53% in private for-profit outlets).

The change in QAACT availability between baseline and endline is used to assess Success Benchmark 1 (Figure 5). Between baseline and endline there were large and significant increases in QAACT availability among all outlets in Ghana, Kenya, Nigeria, Tanzania mainland, Uganda and Zanzibar, with increases of 24-52 percentage points, with the majority of the increase observed in the private for-profit sector in all cases (Figure 6). Niger had a more modest increase of 10 percentage points. In public health facilities, there were increases in QAACT availability in Kenya, Madagascar, Niger and Zanzibar. In the remaining pilots,

there was no evidence of change in public health facilities. Increases in QAACT availability were seen in both urban and rural areas in all countries (Figure 7). No change was observed in Madagascar.

Figure 5: Percentage of outlets with QAACTs in stock at baseline and endline, and the Success Benchmark 1 threshold (20 percentage point increase in availability of QAACTs)
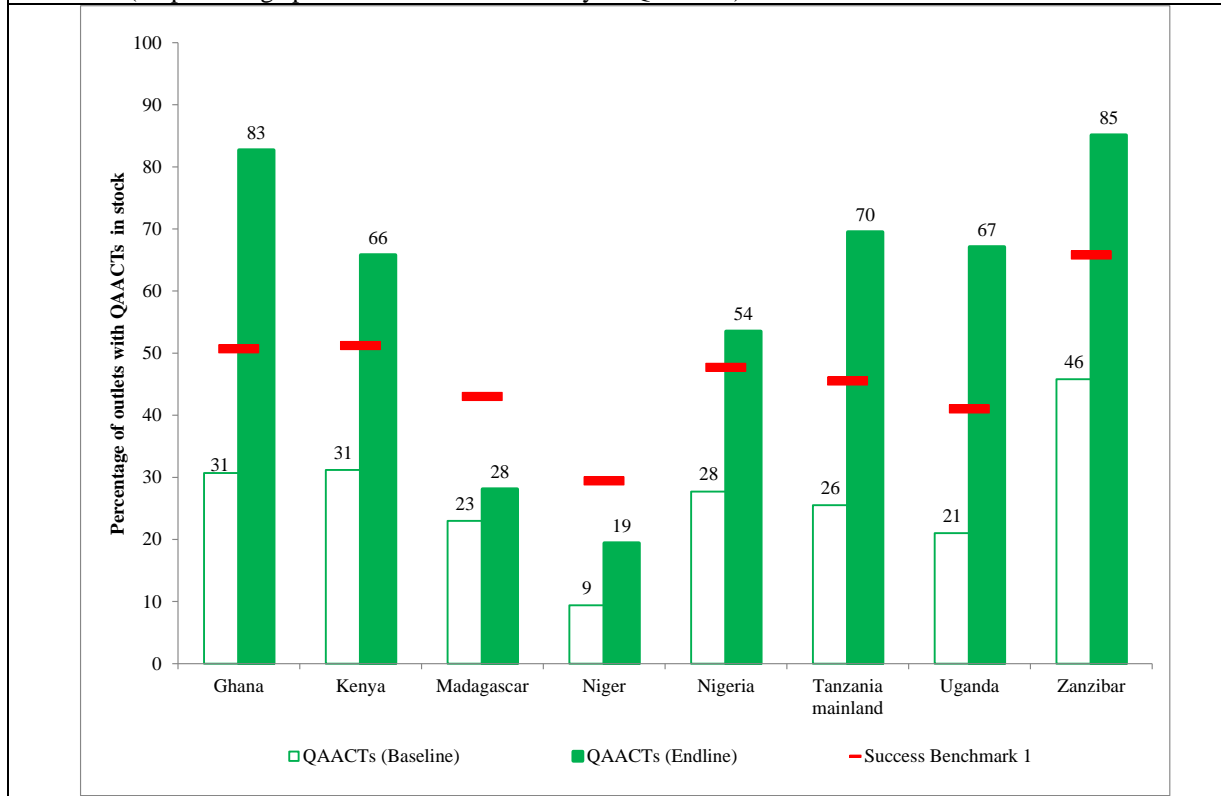
Figure 6: Percentage of public health facilities and private for-profit outlets with QAACTs in stock at baseline and endline

Public health facilities (Baseline) · Public health facilities (Endline) · Private for-profit facilities (Baseline) · Private for-profit facilities (Endline)
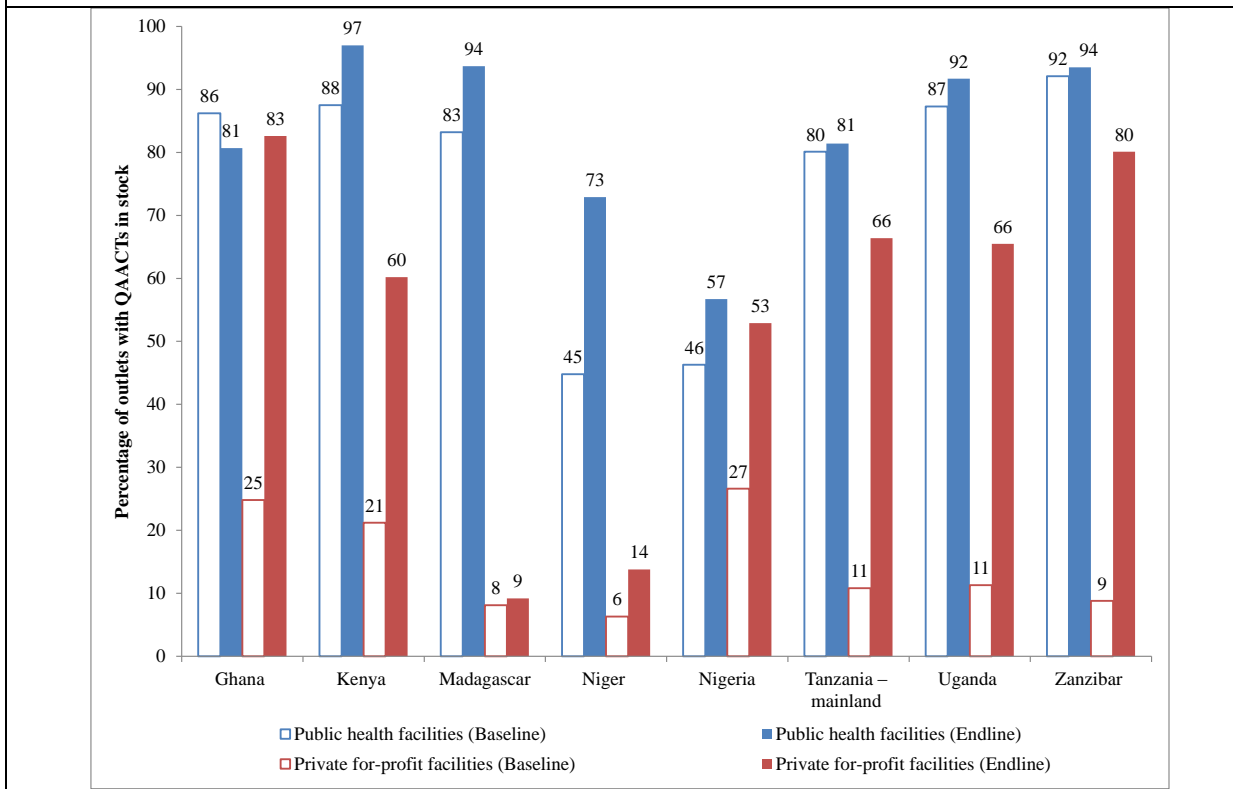
Figure 7: Percentage of outlets with QAACTs in stock in urban and rural areas at baseline and endline

Urban (Baseline) · Urban (Endline) · Rural (Baseline) · Rural (Endline)
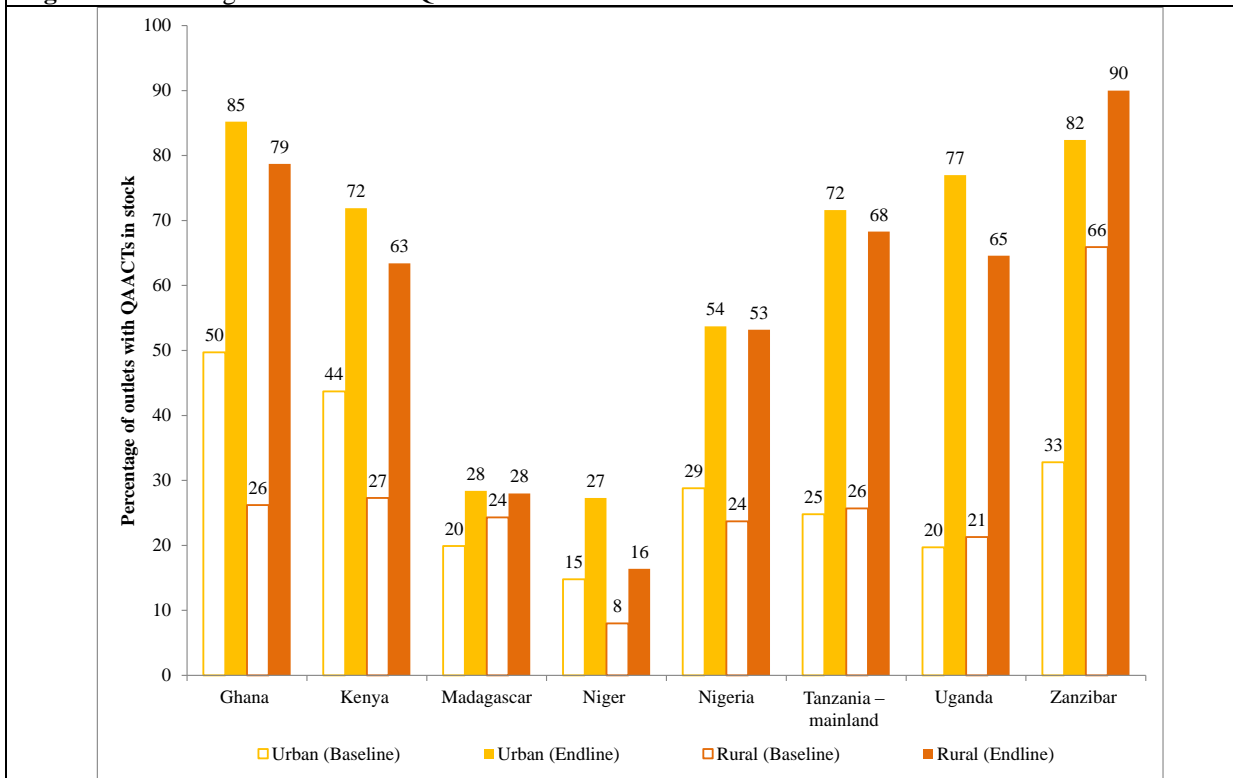
At endline, availability of QAACTs with the AMFm logo was substantially higher than those without the logo everywhere except Madagascar and Niger. The availability of QAACTs without the logo varied from 6% to 21% (Figure 8).

At endline, the availability of oral artemisinin monotherapy (AMT) was high in Ghana (41%) and Nigeria (34%) [Figure 9]. Everywhere else oral AMT was stocked by less than 1% of outlets. There was little change between baseline and endline in all countries other than Zanzibar, where oral AMT availability fell from 17% at baseline to a negligible level at endline. In Ghana, oral AMT was primarily available in the private for-profit sector (47% of outlets at endline). In Nigeria, oral AMT availability at endline was 15% in public facilities and 35% in private for-profit outlets. At endline, nATs remained common in all countries, with availability among all outlets over 75% except in Zanzibar, where it was 47% (Figure 9).

Figure 8: Percentage of outlets with QAACTs in stock by presence of the AMFm logo at endline
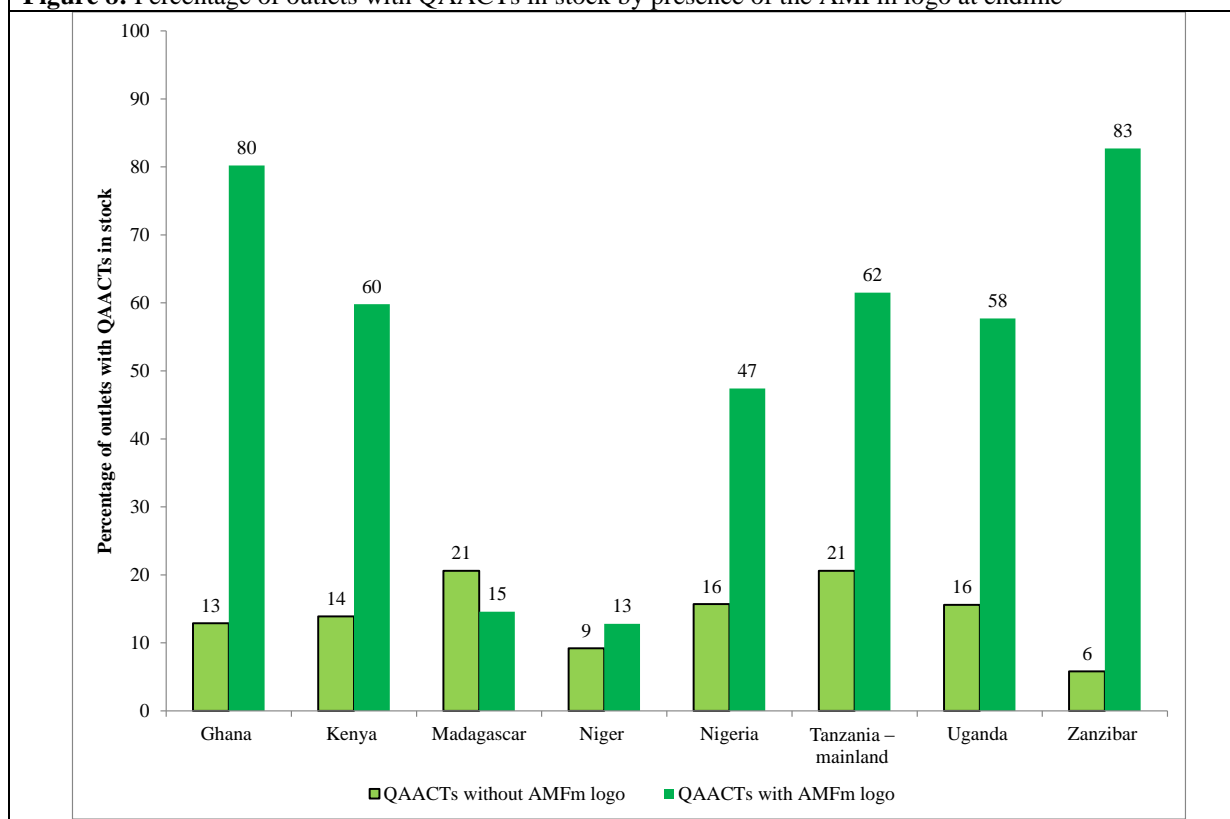
Figure 9: Percentage of outlets with oral AMT and non-artemisinin therapies in stock at baseline and endline
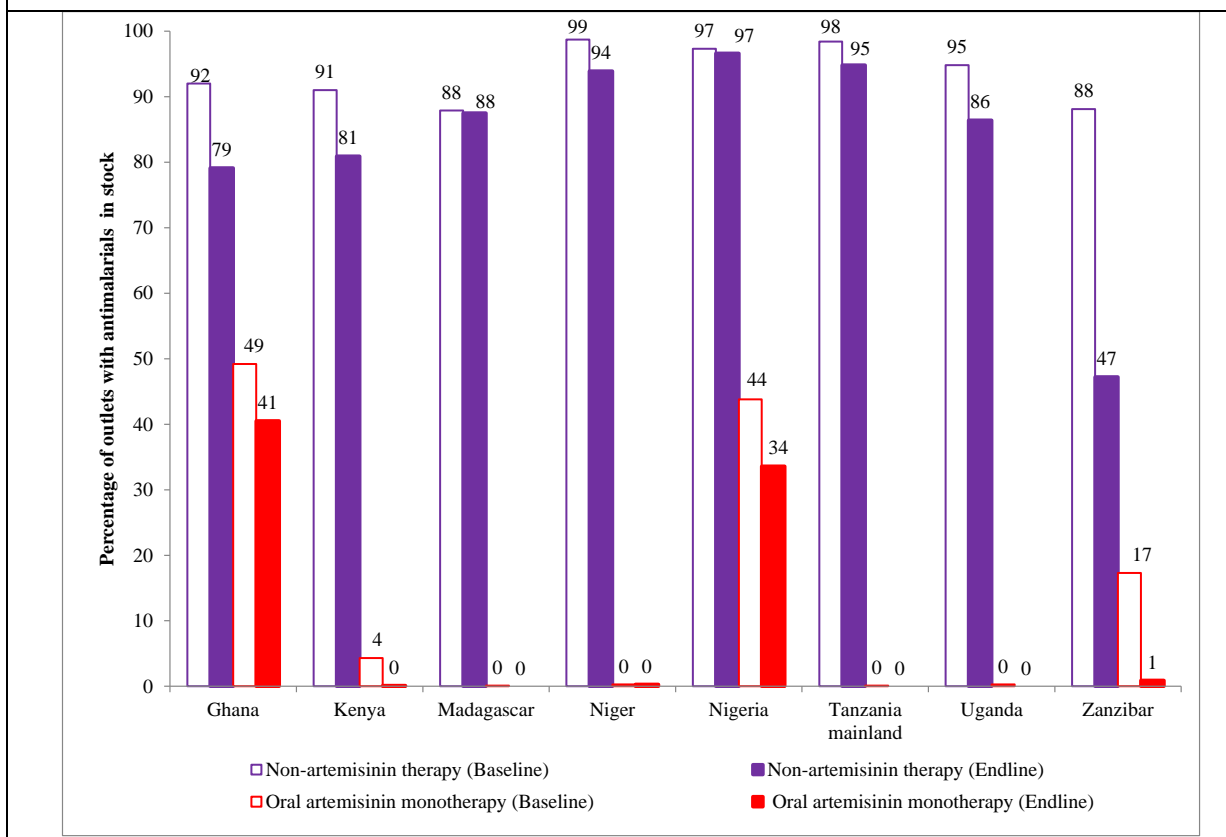
Affordability of quality-assured ACTs

In the public sector the median price per AETD of QAACTs was zero in all countries except Ghana at baseline and endline, reflecting widespread free provision of QAACTs (Figure 10). In Ghana, the median QAACT price fell from USD 2.74 at baseline to USD 0.94 at endline. It is recognised that patients face a variety of other costs when using the public sector, including consultation fees, transport costs, etc, and these may pose a considerable barrier to care even when drugs are supplied free of charge. Given the predominance of free QAACTs in the public sector, this section focuses on prices in the private for-profit sector.

In the private for-profit sector, the lowest median prices were in Kenya (USD 0.58) and Madagascar (USD 0.60), followed by Tanzania mainland (USD 0.94). In other countries, prices were USD 1.13 in Ghana, USD 1.17 in Zanzibar, USD 1.19 in Niger, USD 1.48 in Nigeria and USD 1.96 in Uganda (Figure 10). Prices for pediatric QAACT doses in the private for-profit sector ranged from USD 0.19 in Madagascar to USD 0.89 in Nigeria.

Large and significant falls in median QAACT price per AETD were seen in the private for-profit sectors of six of the eight pilots, with the decline ranging from USD 1.28 to USD 4.82. No significant price change was observed overall in Uganda, but there was a significant fall of USD 2.68 in urban areas. In Madagascar, there was a significant increase in the median price of USD 0.46, but the median price at baseline was only USD 0.14, reflecting the

presence of an ACT subsidy program at baseline (brand name ACTipal), which included a very low recommended retail price (USD 0.10-0.20 for an adult equivalent treatment dose). QAACTs were slightly more expensive in urban than rural areas, except in Uganda where the median prices were the same, and in Nigeria where the price was higher in rural areas (Figure 11).

Figure 10. Median cost to patients of one adult equivalent treatment dose (AETD) of QAACTs in public and private for-profit outlets (2010 US dollar equivalent), at baseline and endline

Y-axis: Median cost to patients of one AETD of QAACTs in public and private for-profit outlets (US dollar equivalent)

Country	Public health sector (Baseline)	Public health sector (Endline)	Private for-profit sector (Baseline)	Private for-profit sector (Endline)
Ghana	2.74	0.94	3.42	1.13
Kenya	0	0	2.63	0.58
Madagascar	0	0	0.14	0.60
Niger	0	0	2.47	1.19
Nigeria	0	0	4.47	1.48
Tanzania mainland	0	0	5.28	0.94
Uganda	0	0	2.79	1.96
Zanzibar	0	0	5.99	1.17
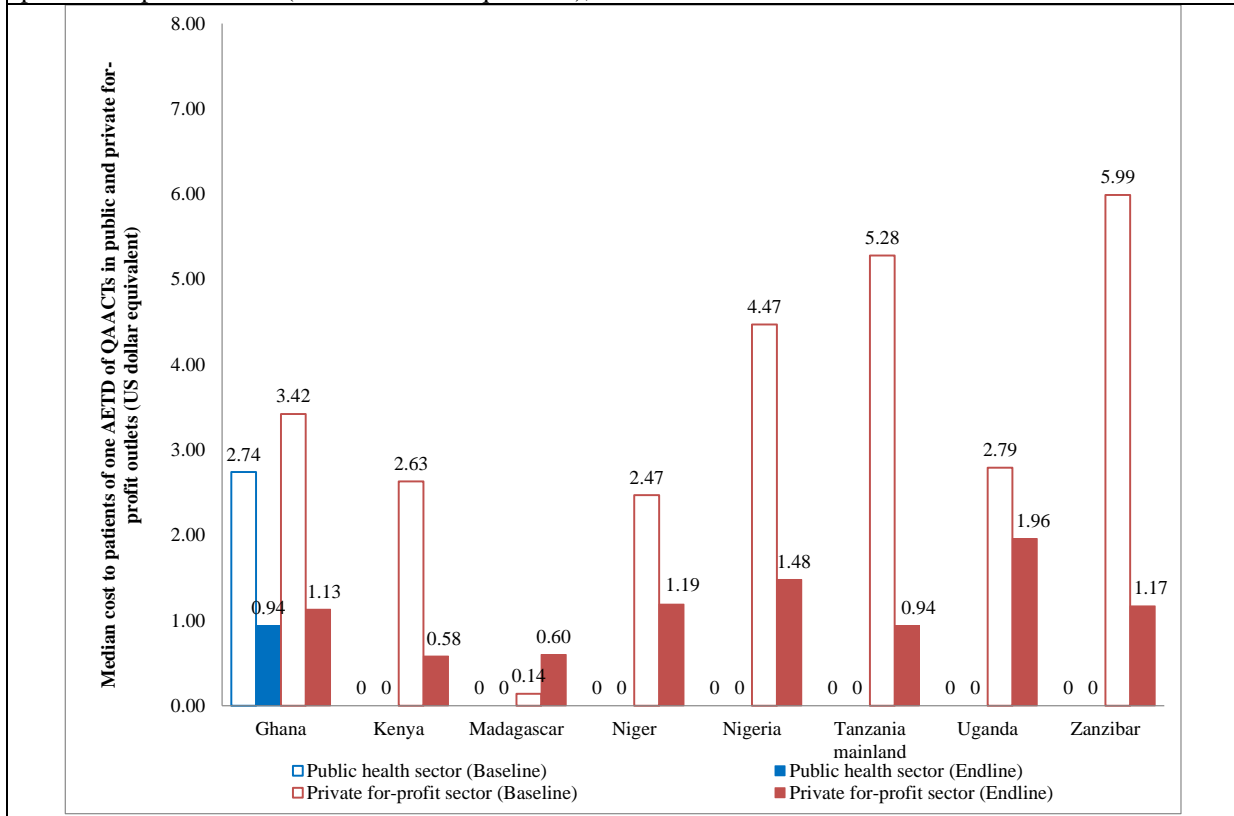
Figure 11. Median cost to patients of one AETD of QAACTs in private for-profit outlets in rural and urban areas (2010 US dollar equivalent), at baseline and endline
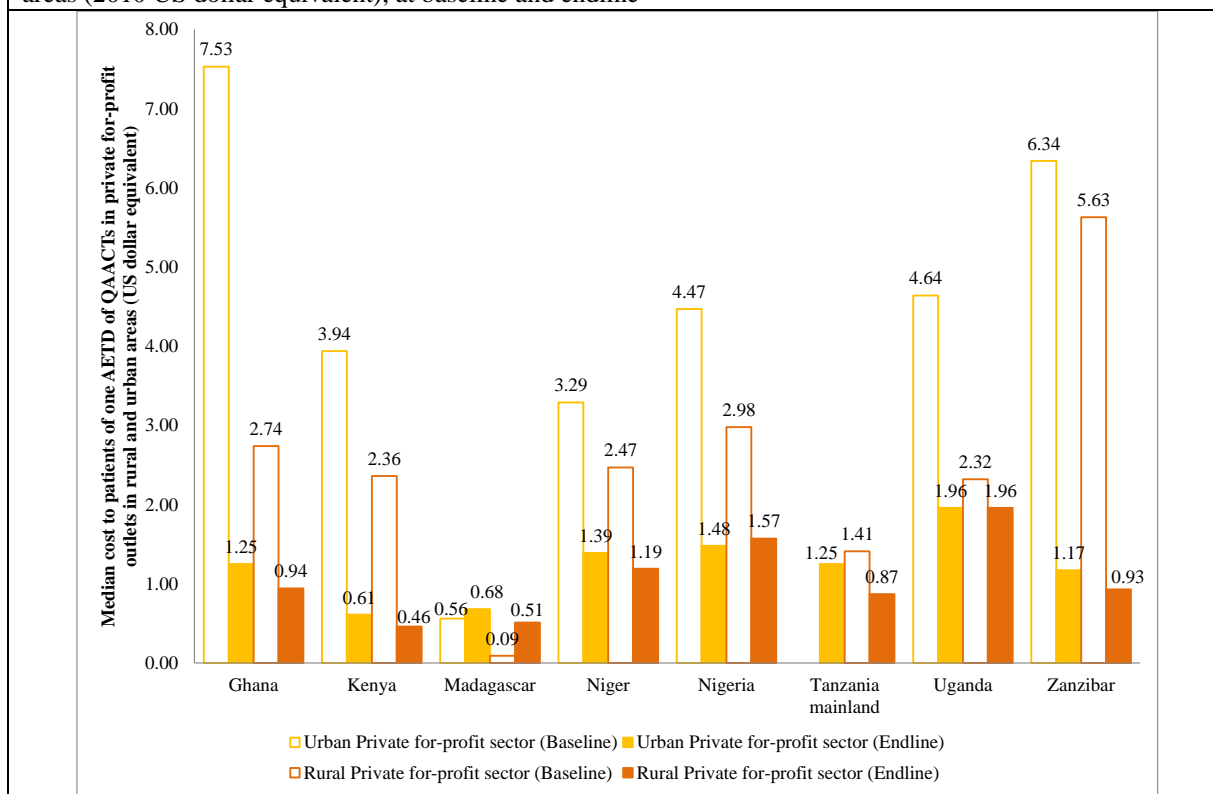
In the private for-profit sector at endline, quality-assured ACTs with the AMFm logo were generally much less expensive than those without the logo. In Ghana and Zanzibar, the price of QAACTs without the logo in the private for-profit sector was around seven times higher than those with the logo. In Kenya, Niger and Nigeria, QAACTs without the logo were somewhat more expensive. In Uganda, the median price was the same for the two types of products, while in Tanzania mainland, QAACTs without the logo were less expensive in rural areas, but considerably more expensive in urban areas (Figure 12). In Madagascar, QAACTs without the logo were much more expensive in urban areas than those with the logo, but in rural areas they were less expensive, possibly reflecting the presence of the subsidized ACT product ACTipal.

Figure 13 shows the cost to patients of QAACTs with the AMFm logo in comparison to the recommended retail price (RRP) for QAACTs with the logo, showing that, on the whole, median prices charged were higher than the RRP.

Figure 14 shows the median cost of QAACTs with the logo and the cost of the most popular antimalarial which is not a QAACT in tablet form at endline in private for-profit outlets. These data are used to assess Success Benchmark 2. The most popular antimalarial which is not a QAACT in tablet form was SP in Ghana, Kenya, Nigeria, Tanzania mainland and Uganda; amodiaquine in Zanzibar; and chloroquine in Madagascar and Niger. QAACTs with the logo were the same price as the most popular antimalarial which is not a QAACT in Kenya and Tanzania mainland. In Zanzibar and Madagascar, they were 1.5 and 1.6 times

more expensive, respectively, and in Niger they were 2.5 times more expensive. In Ghana, Nigeria and Uganda, QAACTs with the logo were three or more times as costly as the most popular antimalarial which is not a QAACT.

Figure 12. Median cost to patients of one AETD of QAACTs in private for-profit outlets by presence of the AMFm logo (2010 US dollar equivalent), at baseline and endline
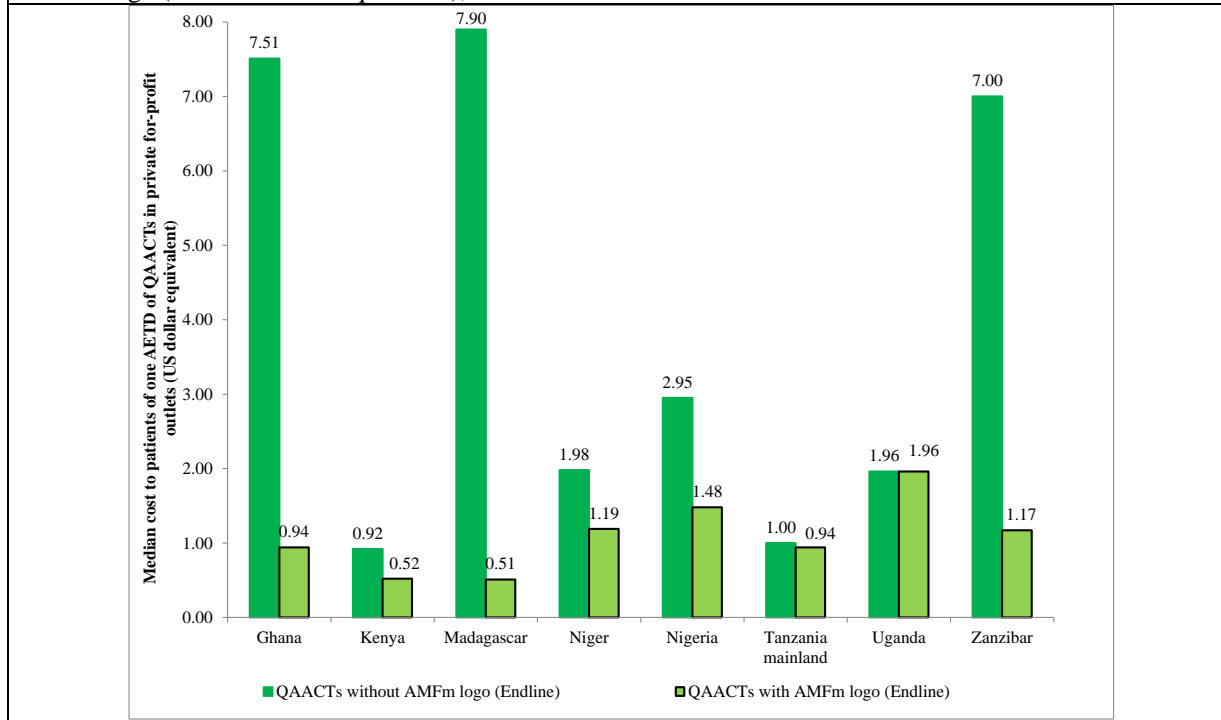
Figure 13: Median cost to patients of one AETD of QAACTs with the AMFm logo and the recommended retail price in private for-profit outlets (2010 US dollar equivalent) at endline
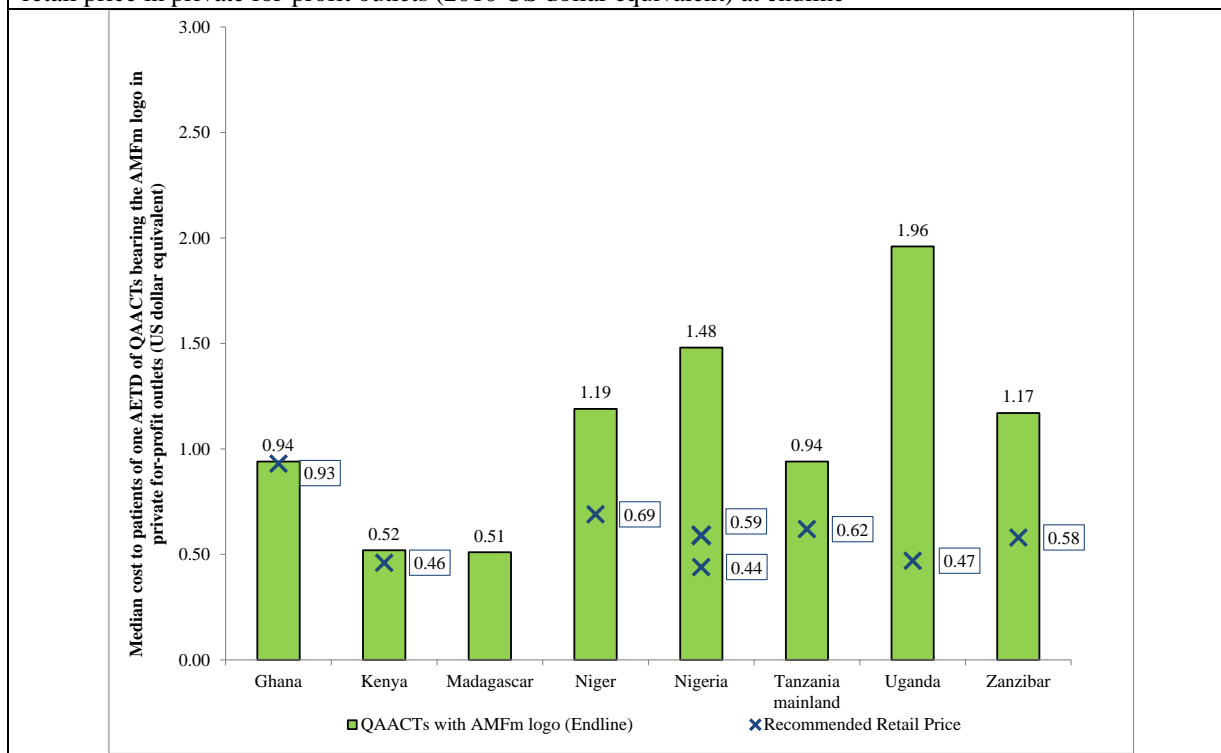
Figure 14: Median cost to patients in private for-profit outlets of one AETD of QAACTs bearing the AMFm logo compared with the cost per AETD of the most popular antimalarial that is not a quality-assured ACT (2010 US dollar equivalent) at endline, and the Success Benchmark 2 threshold (median price ratio <3)
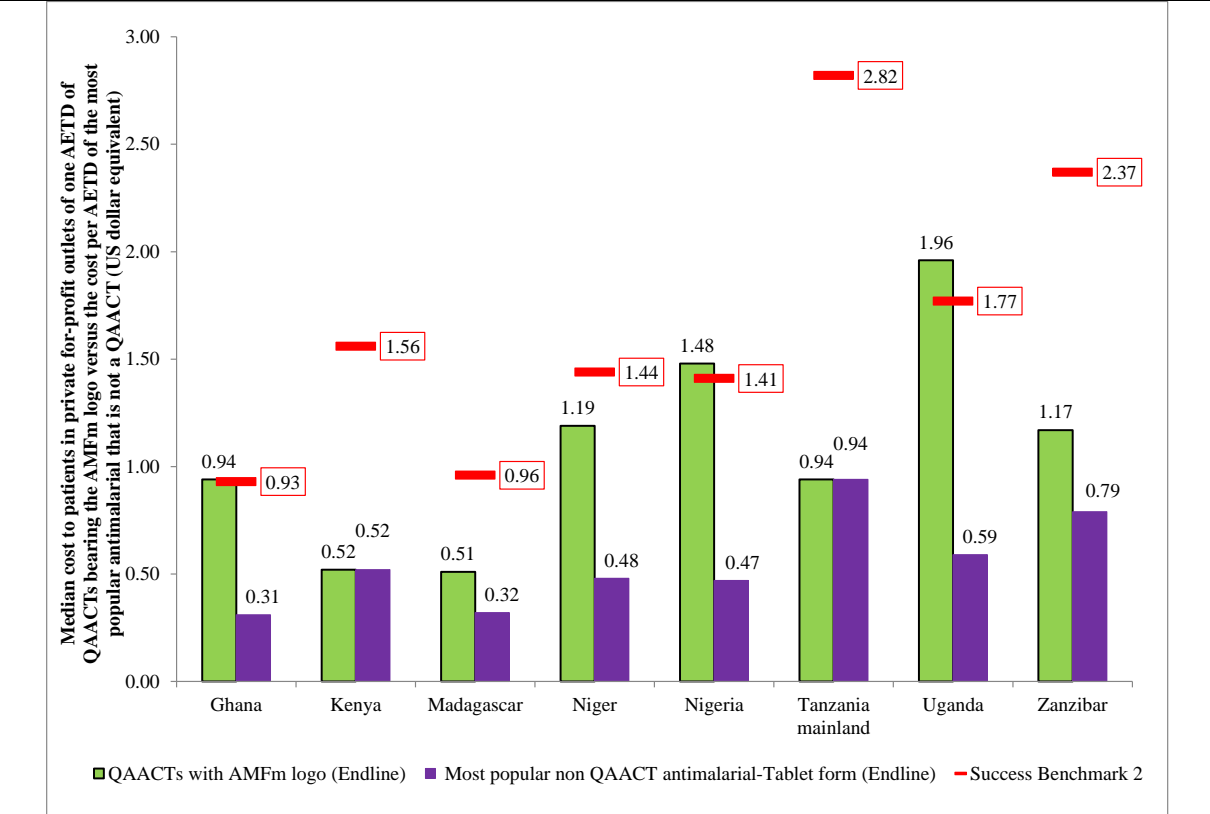
Note: The most popoular antimalarial which is not a QAACT (tablet form) was calculated in terms of total sales volumes of tablets in private for-profit outlets

Figure 15 shows the cost to patients of QAACTs with the AMFm logo and the cost of artemisinin monotherapy tablets at endline in private for-profit outlets in Ghana and Nigeria (data are not shown for other countries due to the low number of observations for artemisinin monotherapy tablets). These data are used to assess Success Benchmark 3. QAACTs with the logo were much less costly than oral AMT tablets in both countries.

Figure 15: Median cost to patients in private for-profit outlets of one AETD of QAACTs bearing the AMFm logo and oral artemisinin monotherapy (AMT) in tablet form (2010 US dollar equivalent) at endline
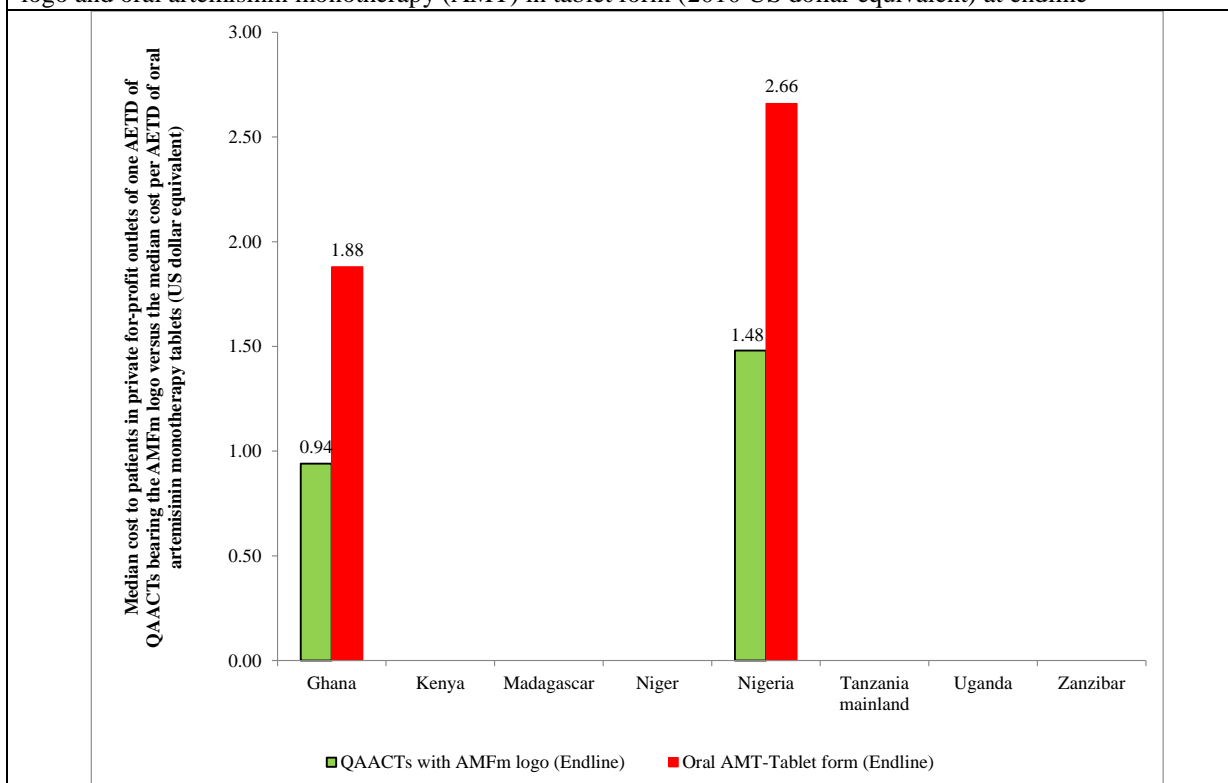
Note: Results are only presented for Ghana and Nigeria as in the other countries the number of AMT tablets products was very small.

The gross percentage markup at the outlet level for QAACTs bearing the AMFm logo at endline in private for-profit outlets ranged from 36% in Niger to 133% in Uganda (Figure 16). Note that these are gross markups that include both profit margin and the cost of doing business. Between baseline and endline, percentage markups increased somewhat (except in Niger), bringing them up to a level similar to those of nATs, which ranged from 41% in Nigeria to 85% in Niger. With the dramatic fall in the median QAACT price in most countries, an increase in percentage markups may not imply any increase in absolute markups.

Figure 16: Median gross percentage markup between purchase price and retail selling price of QAACTs bearing the AMFm logo and non-artemisinin therapy in private for-profit outlets at endline
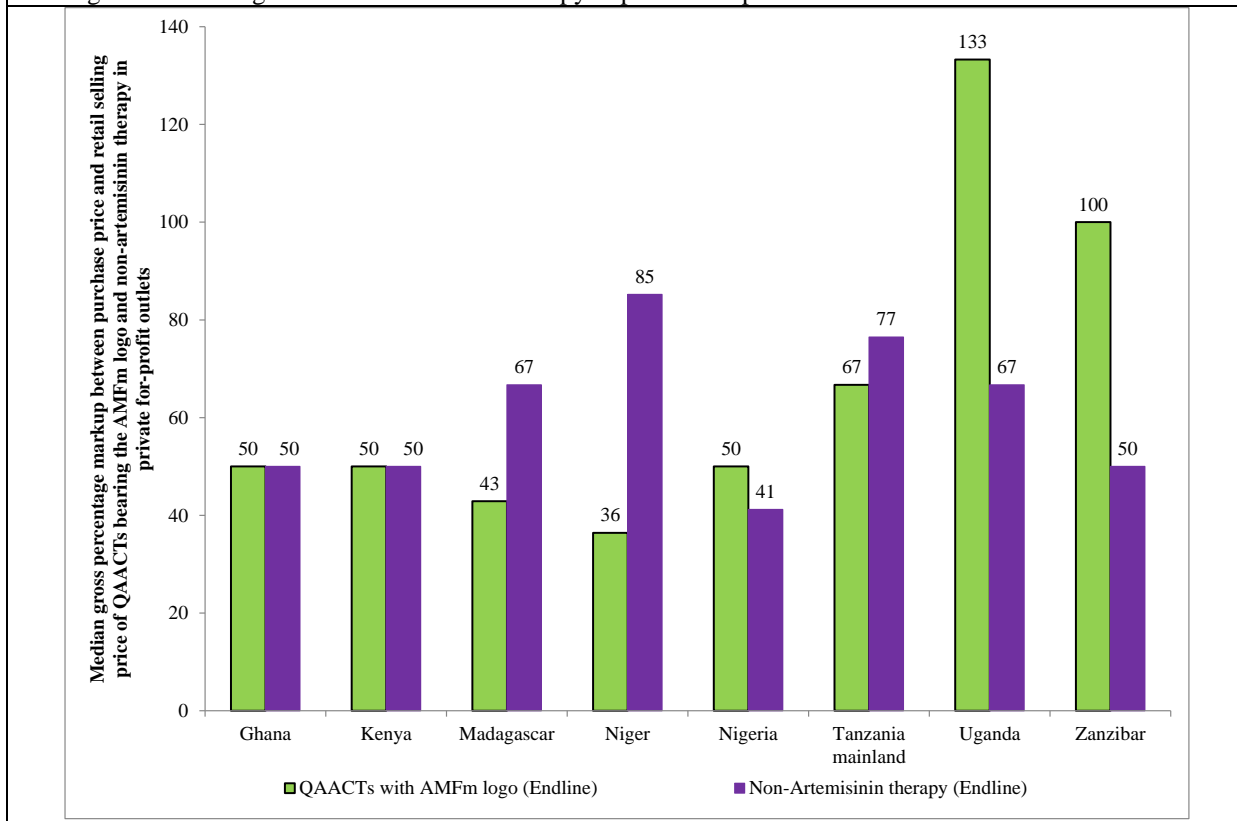
Figure 17 shows the total gross markup in USD for QAACTs with the AMFm logo in private for-profit outlets from the point of purchase by first line buyers to the point of sale to patients, capturing both the additional costs and profit margins that are added by first line buyers, any intermediate wholesalers and retailers. Total gross markup varied from USD 0.40 in Kenya to USD 1.83 in Uganda.

Figure 17: Median total absolute markup from first line buyer purchase price per AETD to retail selling price per AETD for QAACTs bearing the AMFm logo in private for-profit outlets (2010 US dollar equivalent) at endline
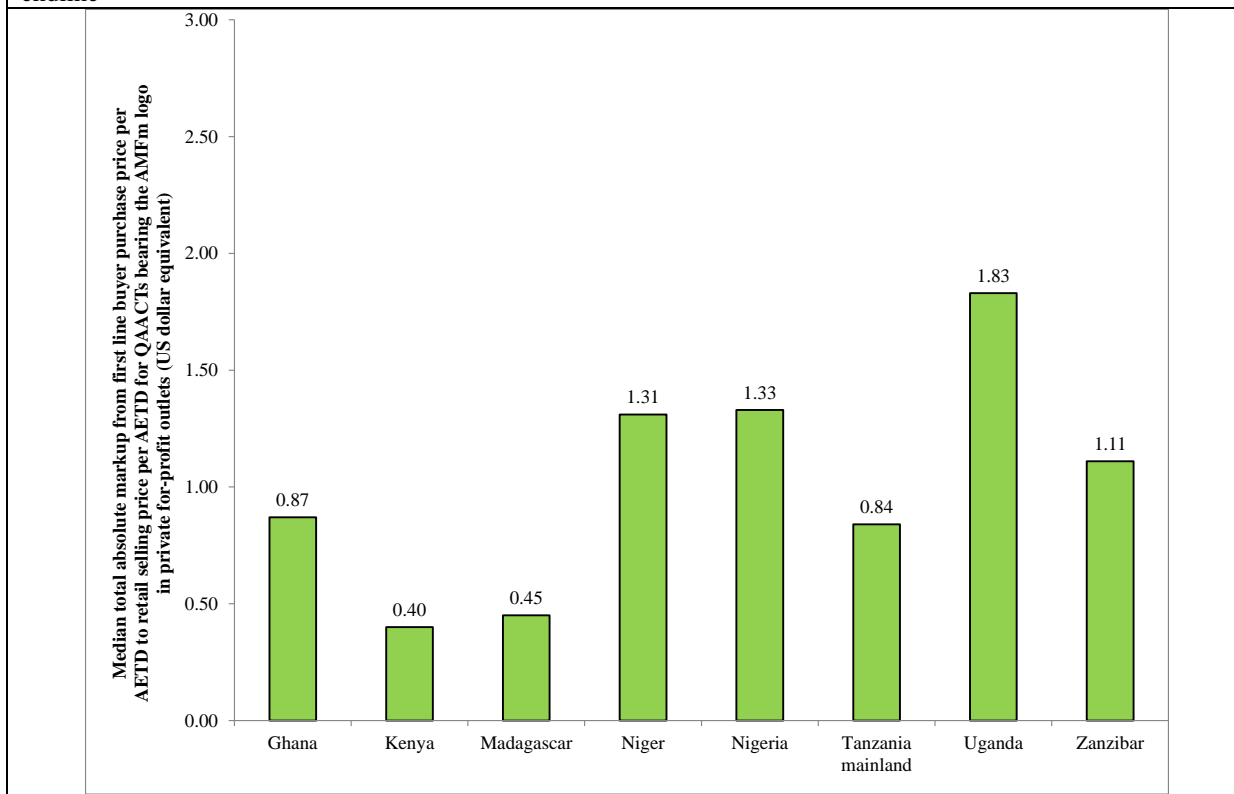
Market share of quality-assured ACTs

Across all outlet types, the QAACT market share at endline ranged from 10% in Niger to 58% in Ghana and Zanzibar (Figure 18). The change in QAACT market share between baseline and endline is used to assess Success Benchmark 5. Large and significant increases in QAACT market share were seen between baseline and endline in Ghana, Kenya, Nigeria, Tanzania mainland, Uganda and Zanzibar, ranging from 16 percentage points in Tanzania mainland to 48 percentage points in Zanzibar. Madagascar saw a significant increase in QAACT share in urban areas of 23 percentage points. There was a large decrease in the market share of nAT in all countries, except Madagascar, where the decrease was small, and Niger which saw an increase in the share of nAT and a corresponding fall in QAACT share. It should be noted that there are legitimate uses of nATs, such as use of SP for intermittent preventive treatment for pregnant women and infants, and quinine for management of severe malaria. It is therefore not a policy objective to reduce availability or market share of these products to zero. Ghana also saw a decrease in the share of non-quality-assured ACTs. Zanzibar saw a substantial decrease in the market share of oral AMT, from 12% to less than 1%, while the market share of oral AMTs fell by 4 percentage points to 4% at endline in Nigeria. These data are used to assess Success Benchmark 6, but this Benchmark is of limited relevance to other countries as the market share of oral AMT was already minimal at baseline. In Ghana, Kenya, Nigeria and Uganda, increases in QAACT market share were similar in rural and urban areas, while all of the increase in QAACT market share in Tanzania mainland occurred in rural areas, and in Zanzibar, urban areas saw the greater increase. In

Niger, there was a significant decrease in the QAACT share, with an equivalent increase in the share of nAT.

Figure 18: Market share of antimalarials by antimalarial type at baseline and endline, all sectors combined, and Success Benchmark 5 threshold (10 precentage points increase in QAACT market share)
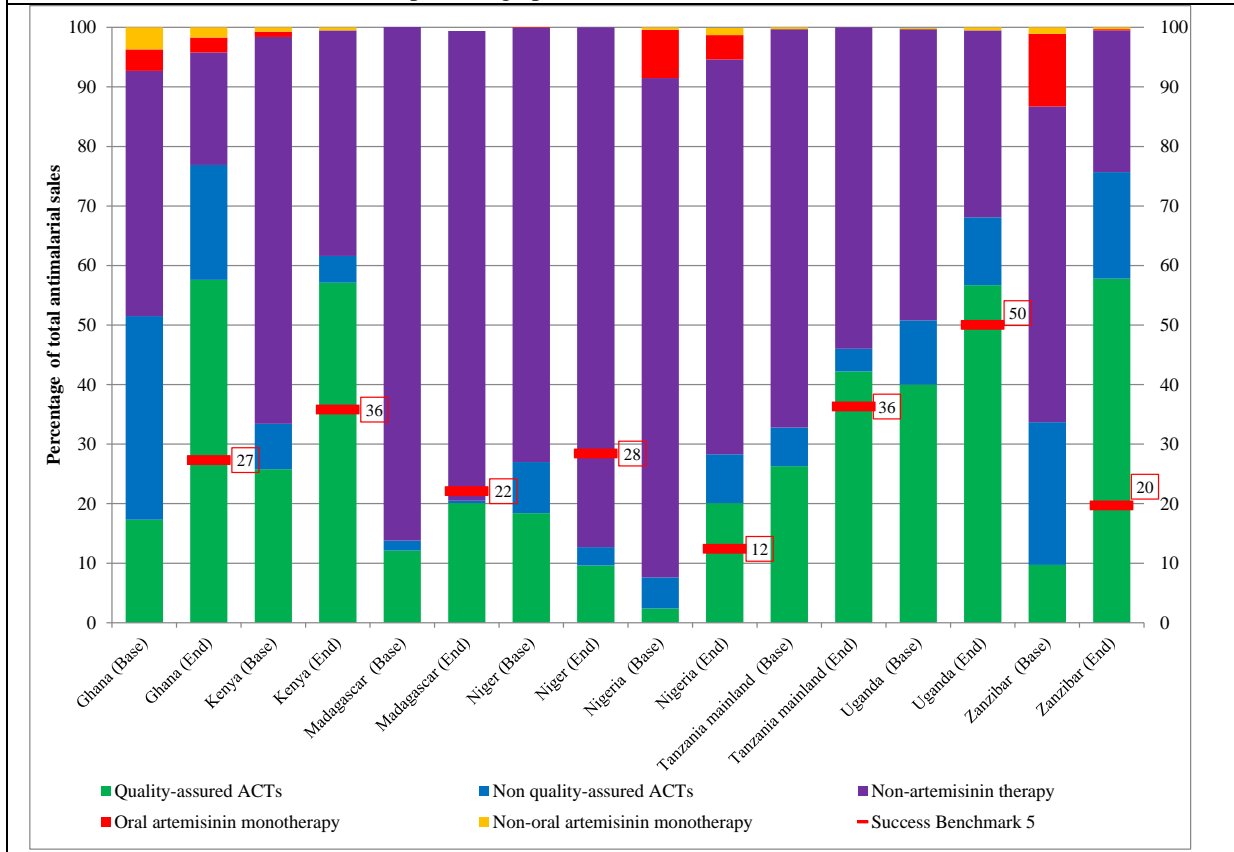
Considering the private for-profit sector alone, the results for QAACT market share were very similar to those for all outlet types combined. The exceptions were Tanzania mainland and Uganda, where the QAACT market share overall was higher than in the private for-profit sector (42% vs. 32% in Tanzania mainland and 57% vs. 39% in Uganda) (Figure 19).

The vast majority of QAACTs sold in the private for-profit sector bore the AMFm logo in all countries except Niger, where both product types had a very low market share (each less than 5%). In the public sector, the picture was more mixed. In this sector, the majority of QAACTs carried the logo in Ghana, Kenya, Madagascar, Uganda and Zanzibar, but similar levels of QAACTs with and without the logo were seen in Niger, and those without the logo predominated in Tanzania mainland and Nigeria.

Figure 19: Market share of antimalarials sold in private for-profit outlets by antimalarial type at baseline and endline
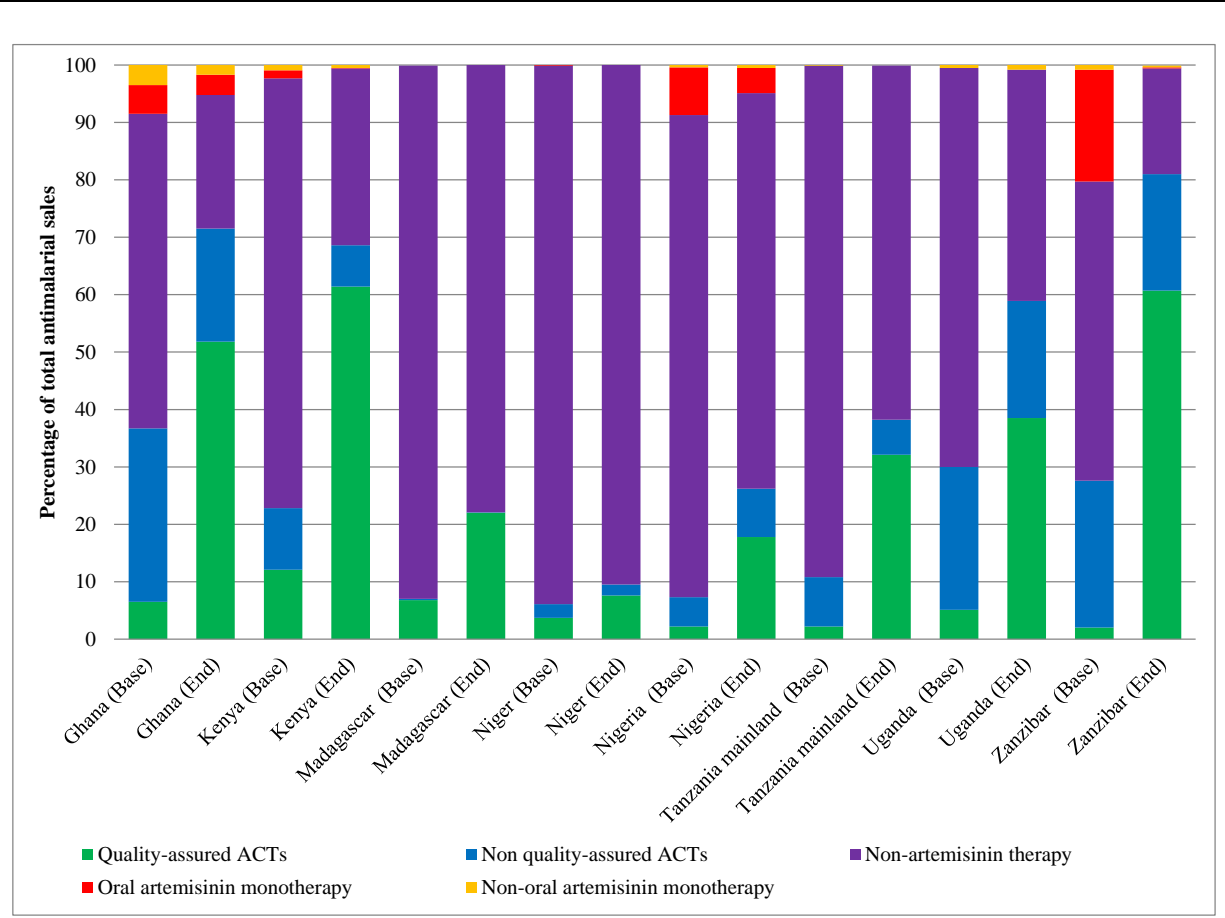
A key feature of the antimalarial markets was the predominance of the private for-profit sector, which had the largest market share in all countries at endline, ranging from 49% in Niger to 92% in Nigeria (Figure 20). No change in the private for-profit share was seen in Ghana, Kenya, Niger or Nigeria between baseline and endline. However, increases in the private for-profit sector share were seen in Uganda (from 40% to 53%), Tanzania mainland (from 45% to 59%) and in Zanzibar (from 62% to 87%). In Uganda this shift mainly took place in rural areas, while it took place in both rural and urban areas in Zanzibar. Madagascar saw a fall in the private sector share, from 82% to 70%.

Figure 20: Market share of all antimalarials by sector at baseline and endline

Y-axis: Percentage of total antimalarial sale volumes

Legend: ■ Public health facility ■ Private not-for-profit health facility ■ Private for-profit outlet ■ Community health worker

X-axis categories: Ghana (Base), Ghana (End), Kenya (Base), Kenya (End), Madagascar (Base), Madagascar (End), Niger (Base), Niger (End), Nigeria (Base), Nigeria (End), Tanzania mainland (Base), Tanzania mainland (End), Uganda (Base), Uganda (End), Zanzibar (Base), Zanzibar (End)

AMFm logo, recommended retail prices and provider knowledge

Provider recognition of the AMFm logo at endline was lowest in Niger (30%) and Madagascar (31%) and highest in Tanzania mainland (87%), Ghana and Zanzibar (both 93%) (Figure 21). Recognition of the logo was higher in urban areas than in rural areas in Ghana, Madagascar, Niger and Zanzibar. The most common responses on the meaning of the logo were that it meant an effective/quality antimalarial, an affordable antimalarial, an antimalarial or an ACT. Provider knowledge of the AMFm program was lower than recognition of the logo everywhere, but followed a similar pattern, with knowledge being lowest in Niger and Madagascar and highest in Tanzania mainland, Ghana and Zanzibar.

Figure 21: Percentage of outlets where the AMFm logo was recognised and respondents had knowledge of the AMFm program, endline only, all outlets combined
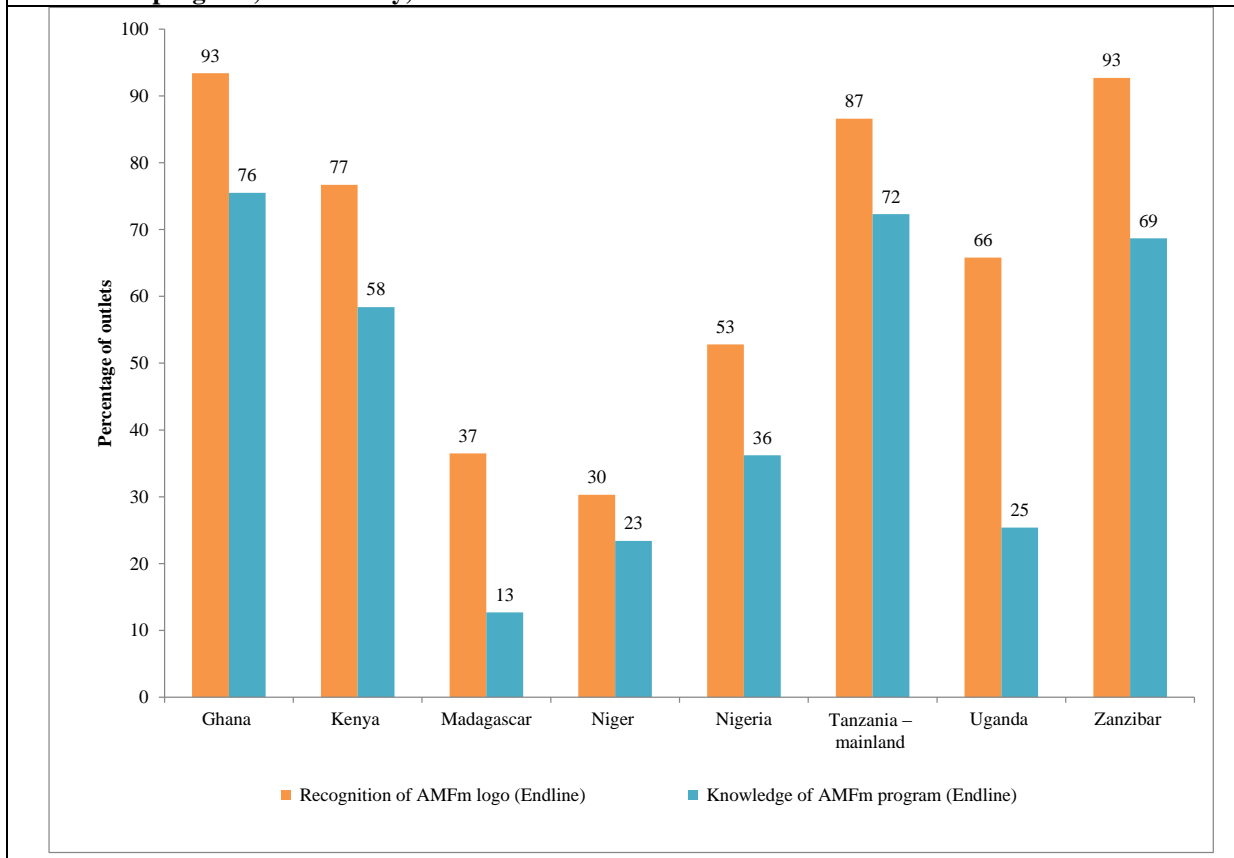
Recommended retail prices for copaid QAACTs were set in all countries except Madagascar. The percentage of respondents stating that there was an RRP for QAACTs bearing the green leaf logo varied from 13% in Niger to 84% in Ghana (Figure 22). Knowledge of the RRP was higher in urban areas than in rural areas in Ghana, Niger and Zanzibar. Of those that knew there was an RRP, the percentage of respondents stating the correct RRP for an adult dose was over 90% in Ghana, Kenya and Zanzibar, but as low as 5% in Uganda.

Figure 22: Percentage of outlets where the provider knew that there was a recommended retail price (RRP), and of those that knew there was an RRP, percentage where the provider knew the correct RRP, endline only, all outlets combined
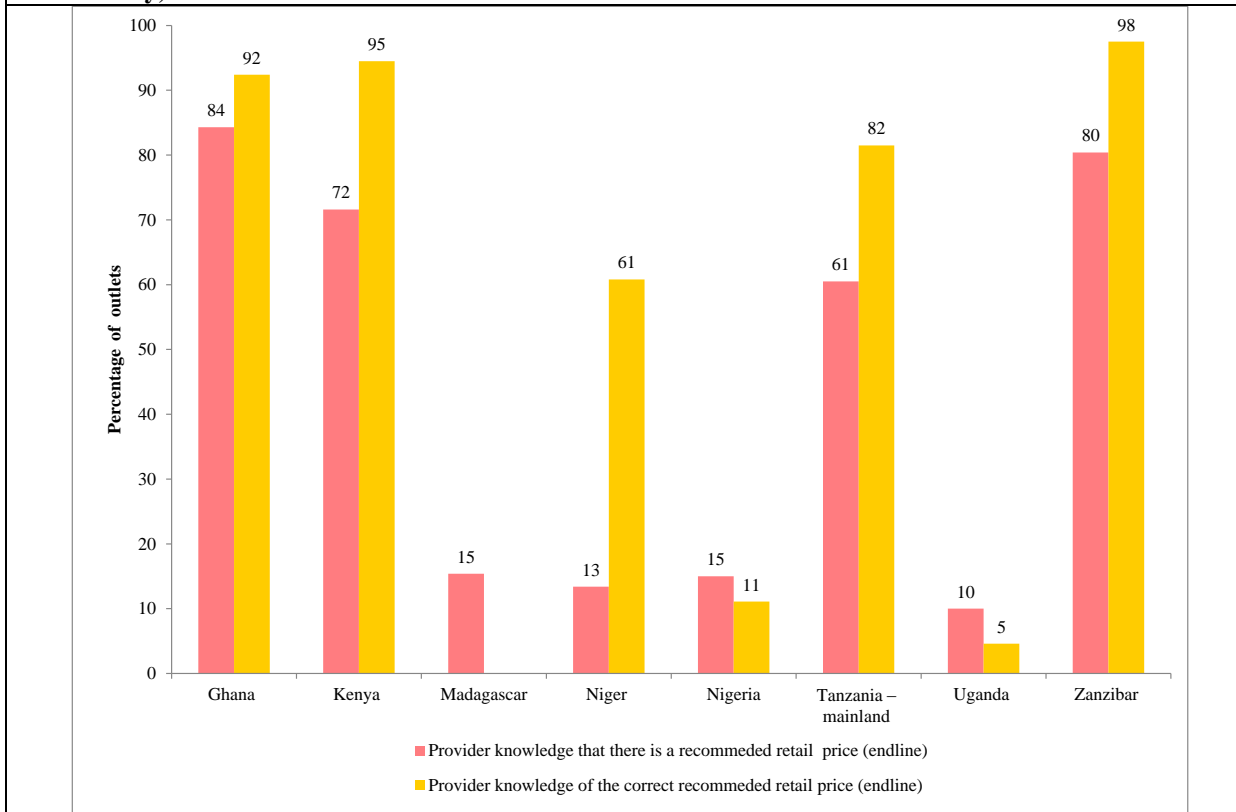
Note: No data are shown for Madagascar as an RRP was not set for copaid ACTs in this country

Malaria Diagnosis

Availability of any diagnostic test for malaria (microscopy or rapid diagnostic test (RDTs)) overall at endline varied from 6% in Nigeria to 56% in Zanzibar (Figure 23). Availability of diagnostics was significantly higher in the public sector than in private for-profit outlets in all countries. Kenya, Uganda and Zanzibar stand out as the only countries with substantial availability in the private for-profit sector, with diagnostics available in 14%, 21% and 32% of outlets, respectively.

Figure 23: Availability in public health facilities and private for-profit outlets of any diagnostic test for malaria at baseline and endline
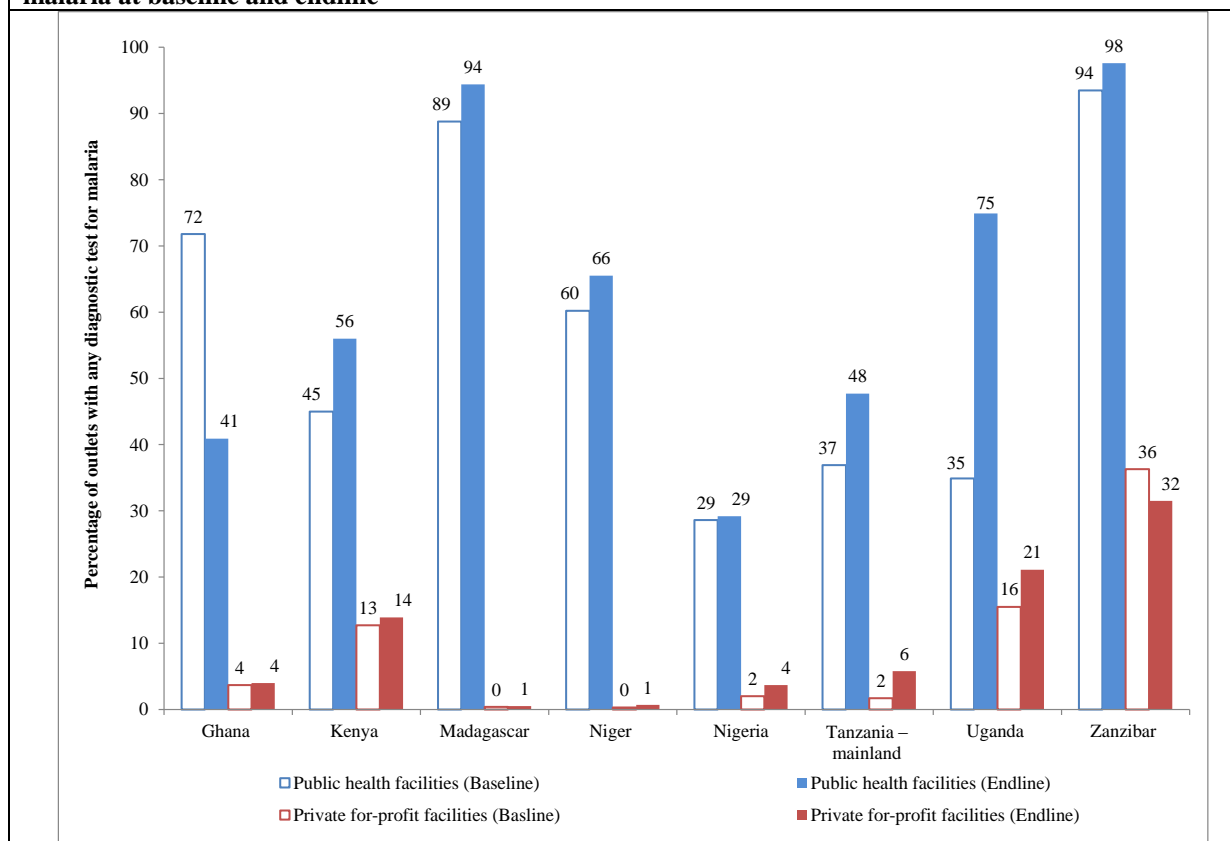
Key findings from the household surveys
[To be included when endline household survey results become available]

Key findings from the remote areas surveys

The remote area studies were conducted only at the endline so no baseline data were available to assess changes over time in availability, price and market share of QAACTs in these areas. However, using the baseline data from rural areas, we attempted to estimate changes in availability, assuming that the baseline estimates for remote areas were likely to have been the same or lower than estimates from rural areas. This is a conservative approach, but does not imply that baseline estimates from rural areas are statistically comparable with those from remote areas at endline.

The results show that QAACTs were widely available in remote areas in both Ghana and Kenya at endline. The availability of QAACTs was particularly high in public health facilities (96% in each country), but still substantial in private for-profit outlets (66% in Ghana and 45% in Kenya). Although the availability of QAACTs was lower in remote areas than in non-remote areas, there was a substantial increase in availability if we use the level of availability in rural areas at baseline as a reference (26% in Ghana and 27% in Kenya). In remote areas in both countries, QAACTs had a substantial market share (59% in Ghana and 48% in Kenya), and this was dominated by QAACTs with the AMFm logo. Overall, the findings suggest that

the AMFm program has been instrumental in making QAACTs more available in remote areas in these two countries.

The median price of QAACTs with the AMFm logo at endline was similar in remote and non-remote areas (about USD 1.00 in both areas in Ghana and USD 0.46 in both areas in Kenya). These median prices are very much in line with the recommended retail prices of USD 0.94 in Ghana and USD 0.46 in Kenya. The median prices of all QAACTs in private for-profit facilities in remote areas at endline (USD 1.25 in Ghana and USD 0.81 in Kenya) were much lower than the median prices of all QAACTs in rural areas at baseline (USD 2.74 in Ghana and USD 2.36 in Kenya).

The availability of diagnostic tests for malaria was very low in both remote and non-remote areas in both countries, especially in the private for-profit sector. When the tests were available, they were fairly inexpensive; however, due to the small number of cases, the price data should be interpreted with caution.

In both countries the majority of providers in the remote areas were able to recognize the AMFm logo, suggesting that IEC/BCC efforts were able to reach these areas. The majority of QAACTs in remote areas had the AMFm logo.

Despite the challenges in geographical access posed by remote areas, the results suggest that the AMFm intervention has been able to reach these areas in Ghana and Kenya. This contributed to making QAACTs more available and more affordable in these disadvantaged areas.

Key findings from the public awareness/logo studies

Exit interviews

These findings indicate that the promotion of ACTs as the main treatment for malaria is well underway in Kenya, and to a lesser degree in Ghana, but that the situation is much different in Nigeria and Madagascar. In Madagascar in particular, few people had heard of ACTs or seen the logo. More than half of those who had seen the logo in Madagascar did not know what it means, which is not surprising since the supporting interventions on the logo had not started in Madagascar by the time of the logo study survey. The reliance on the recommendations of health care personnel and pharmacists (respondents may have been referring to drug store staff) suggests that the promotion of ACTs through those channels will be crucial in encouraging the use of ACTs in the future. It should be noted that while this study provides interesting insights about the population-level awareness of the AMFm program, the results should be interpreted with caution because of the small number and the non-random selection process of participants. The results cannot be generalized to groups other than the participants. However, some of the keys issues raised can be the subject of further assessment to better understand the implications for the implementation of the AMFm program in these countries.

Focus group discussions

It should be noted that the findings of the focus group discussions (FGD) do not necessarily address the coverage or effectiveness of the awareness campaigns, but highlight some of the social perceptions about malaria medicine and the AMFm logo. The FGD revealed the following:

- FGD participants in Madagascar spoke more about the importance of consulting a health care professional for malaria treatment than did those from other countries.

- In all countries, individuals with experience of using ACTs find they are very effective in treating malaria.

- FGDs revealed a great deal of variation in whether or not participants knew about ACTs or had used them themselves.

- Most participants in these FGDs associate the AMFm logo with leaves or herbal medicine, although many of the participants had not seen the logo before or had not been exposed to accompanying communications. In part, this could be the result of the late introduction and limited reach of the supporting interventions on the AMFm logo, especially in Madagascar and Nigeria.

Summary of relevant operational research

During the Phase 1 timeframe, a number of operational research studies were conducted by other research groups alongside AMFm implementation in the pilot countries. These studies offer potential insights into the effects of additional or complementary interventions aimed at improving malaria case management. Results of projects for which results were available at the time of writing of this report are summarized here. These were all commissioned and managed by the Clinton Health Access Initiative (CHAI) through a grant from the Bill and Melinda Gates Foundation.

These studies cover a range of different types of interventions that have the potential to improve malaria case management and targeting of antimalarials, particularly in private for-profit outlets. They also provide important background information on the context in which the ACT subsidy is being introduced, such as the low level of adherence to ACT treatment and the generally high use of ACTs for treatment of non-malarial fevers, both of which are consistent with the evidence from the broader literature, and reflect the complex set of factors affecting both of these behaviors.

The interventions include studies which modify the core AMFm intervention by varying the subsidy level to examine the impact on both ACT use and targeting; and measures which could complement the AMFm subsidy on ACTs, such as providing subsidized RDTs to improve targeting of ACTs to those with malaria and increasing treatment adherence through text messaging. All of the studies show that such interventions are feasible to implement at a small scale (with the exception of the Cambodia study which took place against the backdrop of a national-level program). However, the evidence on their effectiveness is mixed, and

more evidence of the effectiveness and cost-effectiveness of such measures in large-scale programs is needed.

Evidence on such interventions should also be seen in the context of the broader literature on improving malaria case management. A number of review papers have found that medicine sellers are willing to participate in such interventions and that a range of interventions can be effective in improving provider knowledge and treatment practices. These include various forms of training; quality assurance programs such as accreditation, franchising and supervision; demand generation and consumer information; and adapting medicine packaging.

Interpretation of key findings based on success metrics in light of the AMFm implementation

In this section, we present the performance of each AMFm pilot against the Success Benchmarks (see Section 8). Results for all benchmarks, estimated from outlet and household survey data, are presented in a scorecard which allows for the achievements to be seen together. These results are then interpreted using the Theory of Change presented in Section 1.4, which provides a framework for integrating the description of progress in supply of AMFm copaid drugs, the implementation of supporting interventions (SI), and the effects of important contextual factors. This draws on the country case studies of implementation and context undertaken at the time of endline outlet survey implementation (Section 4) and the description of country context provided in the baseline IE report. Together with the results of the benchmarks, this integrated narrative is aimed at helping to assess progress of AMFm after periods of implementation which varied considerably across the different pilots, and to understand the extent to which observed changes in key outcomes can plausibly be attributed to AMFm.

Ghana

AMFm implementation: A total of 32 private for-profit FLBs were registered with the Global Fund as of January 31, 2012, of which 14 had placed orders by the end of 2011. The first orders for copaid QAACTs were placed in July 2010 by a private for-profit FLB and were delivered in August 2010. A total of 15.5 months elapsed between the date the first drugs arrived in Ghana (August 2010) and the midpoint of endline outlet survey fieldwork. Supporting interventions started in February 2011, giving nine months of effective SI implementation, and included public awareness and mass media campaigns; training of public sector workers, pharmacists, private practitioners and licensed chemical sellers; private sector monitoring; operational research; and the setting of the recommended retail price at USD 0.94. A total of 24.7 million copaid QAACT treatments were delivered between July 2010 and December 2011, amounting to 1.01 treatments per capita (the whole population of Ghana is considered at risk of malaria), of which 95% were delivered to private for-profit FLBs. The application of the Global Fund's demand levers in Ghana resulted in only 27% of treatments requested by FLBs in the second half of 2011 being approved.

Availability: QAACT availability across all outlets increased by 52 percentage points, from 31% at baseline to 83% at endline (Benchmark 1). Ghana has therefore easily met the benchmark of a 20 percentage point increase in QAACT availability. The largest rise was in private for-profit outlets, which saw an increase in QAACT availability of 58 percentage points. The urban-rural gap in QAACT availability that was observed at baseline overall and for private for-profit outlets was eliminated at endline. Even in remote areas, 78% of all outlets had QAACTs in stock at the time of the remote areas study (96% of public health facilities and 68% of private for-profit facilities).

Price: A dramatic decrease in median QAACT price was observed between baseline and endline. Across all outlets, the median price per AETD fell from USD 3.42 to USD 0.94. In public health facilities, the QAACT price fell from USD 2.74 to USD 0.94, while in the private for-profit sector, the median price of QAACTs fell from USD 3.42 to USD 1.13, which is slightly higher than the RRP of USD 0.94. At endline, QAACTs were slightly more expensive in urban than rural areas (USD 1.25 vs. USD 0.94), and no difference in price was observed between private for-profit outlets in remote and non-remote areas. The median price in private for-profit outlets for a QAACT carrying the AMFm logo was USD 0.94 per AETD. This is 3.0 times the median price of the most popular antimalarial which is not a QAACT in tablet form (SP) whether this is measured in tablet form or among all dosage types, and therefore Ghana appears to have just missed Benchmark 2, which states that the ratio should be less than 3. The price of copaid QAACTs in the private for-profit sector was lower than that of AMT tablets only (USD 1.88), strongly suggesting that Benchmark 3 was met.

Market share: The market share of QAACTs has more than tripled overall, from 17% to 58% of all antimalarials sold/distributed in the week preceding the survey. There was no difference in the market share between urban and rural areas, and QAACT market share reached the same level in remote areas. Benchmark 5 of a 10 percentage point increase in market share from baseline to endline has easily been achieved overall, with a 40 percentage point increase. The benchmark has also been met in each sector individually (with percentage point increases ranging from 23 to 61). The market share of oral AMTs was very low at baseline (4% in all types of outlets combined) and remained very low at endline (3%). The decrease between baseline and endline (Benchmark 6) is of borderline statistical significance but the relevance of this benchmark to Ghana is questionable given the low share for oral AMTs at baseline.

Context: Relevant contextual factors include the distribution of long-lasting insecticidal nets (LLINs) concurrent with AMFm implementation (5 million nets distributed by the end of 2011). ACTs had over-the-counter status.

Summary: The evidence about impressive changes in the availability and price of QAACTs, together with strong evidence of increased knowledge and awareness, the flow of copaid drug orders and the evidence on SI implementation, provide plausible evidence that AMFm is responsible for the substantial increase observed in QAACT market share. These changes are

unlikely to be due to other contextual factors. The high levels of availability and market share in remote areas underline the success of AMFm in reaching more vulnerable populations. The decrease in the market share of nAT in private for-profit outlets is consistent with AMFm crowding out nATs and not simply shifting demand from other ACTs. Although there was a large decrease in the price of QAACTs, the price benchmark appears to have just been missed. This may be because the relatively high RRP is acting as a floor for the QAACT price and stopping it from falling below this level. This could also be due to the very low price of the most popular antimalarial which is not a QAACT in tablet form (USD 0.31), making this quite a difficult benchmark to reach.

Kenya

AMFm implementation: Seven private sector FLBs registered and established relationships with manufacturers, of which six had placed orders by the end of 2011. The FLB for the public sector was the Kenya Medical Supplies Agency (KEMSA). The first orders for copaid QAACTs were placed in July 2010 by a private for-profit FLB and delivered in August 2010. A total of 15 months elapsed between the date the first drugs arrived in Kenya and the midpoint of endline outlet survey fieldwork. Supporting interventions mainly started in February 2011, giving nine months of effective SI implementation. The supporting interventions included a communication campaign, training of private sector health workers, pharmacovigilance activities and a recommended retail price set at USD 0.46 for all pack sizes. A total of 28.4 million copaid QAACT treatments were delivered between July 2010 and December 2011 (0.9 treatments per person at risk of malaria), half of which were delivered to the private for-profit sector. The application of the Global Fund's demand levers in Kenya resulted in only 56% of treatments requested by FLBs in the second half of 2011 being approved.

Availability: QAACT availability across all outlets increased by 34 percentage points, from 32% at baseline to 66% at endline (Benchmark 1). Kenya has therefore easily met the benchmark of a 20 percentage point increase in QAACT availability. The largest increase was in private for-profit outlets, which saw an increase in QAACT availability of 39 percentage points. Even in remote areas, QAACTs were available in 56% of outlets at the time of the remote areas study. QAACTs with the logo had also substantially penetrated remote areas, with 45% of private for-profit outlets stocking them.

Price: The median price of QAACTs in the private for-profit sector fell dramatically between baseline and endline, from USD 2.63 per AETD to USD 0.58, although the endline median price was still somewhat higher than the RRP of USD 0.46. The median price at endline for a QAACT with the AMFm logo was USD 0.52 in the private for-profit sector, exactly equal to the median price of the most popular antimalarial which is not a QAACT in tablet form (SP) in private for-profit outlets, strongly suggesting that Kenya comfortably met pricing Benchmark 2. It was not possible to compute Benchmark 3 for Kenya, as the number of AMT products audited at endline was fewer than 50. Copaid QAACT prices were slightly higher in remote than non-remote areas (USD 0.69 vs. USD 0.46), although the remote areas study

took place four months after the endline survey when the Global Fund's demand levers may have placed upwards pressure on QAACT prices.

Market share: The market share of QAACTs has increased overall, from 26% to 57% of all antimalarials sold/distributed in the week preceding the survey, with similar increases in urban and rural areas. Benchmark 5 of a 10 percentage point increase in QAACT market share from baseline to endline was achieved overall and within the private for-profit and private not-for-profit sectors. Even in remote areas, QAACT market share was 48% among all outlets (77% in public health facilities and 40% in private for-profit outlets). Overall market share of oral AMTs was negligible at baseline (0.9%) and almost zero at endline (0.05%).

Context: A predicted malaria epidemic led to an emergency response, although the epidemic did not arise. Mass distribution of LLINs took place. There was depreciation of the Kenya shilling. Political support for AMFm was high. ACTs did not have over-the-counter status.

Summary: Kenya has comfortably met Success Benchmarks 1 on QAACT availability, 2 on price, and 5 on market share. Data are not available to assess Benchmark 4 on use, and Benchmarks 3 and 6 on AMTs are not relevant given the negligible amounts of AMT in the market at baseline and endline. Substantial levels of QAACT availability and market share were also observed in remote areas. QAACT prices in private for-profit outlets were slightly higher in remote areas, although the demand levers may have placed upward pressure on prices by the time the remote areas survey was undertaken. The evidence about changes in the availability and price of QAACTs, together with strong evidence of increased knowledge and awareness, the flow of copaid drug orders and evidence on implementation of the IEC/BCC campaign, provide plausible evidence that AMFm is responsible for the substantial increase in QAACT market share observed. Contextual factors that could also have contributed to increased QAACT availability (PMI procurement and epidemic preparedness) operated mainly in the public sector where QAACT market share actually fell, and not in the private for-profit and private not-for-profit sectors, which saw substantial and significant increases. The decrease in the market share of nAT in private for-profit outlets is consistent with a view that AMFm is crowding out less effective antimalarials.

Madagascar

AMFm implementation: Eight private sector FLBs registered, all of whom placed orders with manufacturers, and the FLB for the public sector was the public sector procurement agency, the Unité de Gestion de Projet (UGP). The first orders for copaid QAACTs were placed in September 2010 by a private for-profit FLB, with small quantities being delivered in October and December 2010 and larger quantities in February 2011. A total of 14 months elapsed between the date the first drugs arrived in Madagascar and the midpoint of endline outlet survey fieldwork. Supporting interventions (SIs) started in January 2011. A radio and TV campaign was begun in April 2011, but terminated in May 2011 because it was deemed to contravene the law prohibiting advertising of prescription drugs to the general population.

Training activities focused on doctors, paramedics, lab technicians and CHWs, and there was an intervention involving medical representatives. There was no recommended retail price. By the end of December 2011, a total of 1.2 million treatment doses had been received by private sector FLBs, and 489,000 by the public sector, amounting to only 0.08 treatments per capita (the whole population of Madagascar is considered at risk of malaria), one treatment for every 12 people.

Availability: There was no significant difference in overall QAACT availability between baseline (23%) and endline (28%), meaning that Madagascar did not meet Benchmark 1. There was no change in QAACT availability in the private for-profit sector, which remained low (8% at baseline and 9% at endline). However, there was considerable variation within the private for-profit sector. QAACT availability at baseline and endline was much higher in private for-profit health facilities/pharmacies (47% at baseline and 63% at endline) and drug stores (56% at baseline and endline), than in general retailers (3% at baseline and 2% at endline) - although the latter were not licensed to stock or sell ACTs. A very high number of general stores were screened for the outlet surveys, of which antimalarials were stocked by 32% baseline and 21% at endline (principally cholorquine), meaning that general stores represented a high proportion of private for-profit antimalarial outlets, thereby pulling down average QAACT availability in the private for-profit sector as a whole. In public facilities, QAACT availability was already high at baseline (83%) and increased further to 94% at endline. This represents a significant increase from baseline. QAACT availability was high among community health workers (CHWs) at both baseline (99.8%) and endline (92%).

Price: In the public and private not-for-profit sectors, the median QAACT price remained USD 0.00 at baseline and endline, reflecting the policy of free ACT provision. However, the median price of QAACTs in the private for-profit sector increased significantly between baseline and endline, from USD 0.14 to USD 0.60 per AETD. This mainly reflected significant increases in prices in drug stores and general retailers, especially in rural areas. Low QAACT prices at baseline are due to the pediatric ACT subsidy program for Actipal (artesunate-amodiaquine) that PSI had been operating in Madagascar since 2008 with distribution through CHWs and authorized retailers (pharmacies and depots). The median price at endline for a QAACT with the logo in private for-profit outlets (USD 0.51) was 1.6 times the median price of the most popular antimalarial which is not a QAACT in tablet form (chloroquine) in private for-profit outlets. This suggests that Madagascar comfortably met price Benchmark 2. Benchmark 3 was not relevant in Madagascar as there were no price observations for oral AMT, reflecting its absence from the market.

Market share: Overall market share of QAACTs was 12% at baseline and 21% at endline, but this change did not meet Benchmark 5 of a 10 percentage point increase. However, the power to detect a 10 percentage point increase was below the usual minimum standard of 80%, so the p-value should be interpreted with caution. In the private for-profit sector, market share increased from 7% to 22%. This 15 percentage point change is significantly different from zero, but there is only weak evidence that the 10 percentage point threshold was met in this sector.

Context: ACTs did not have over-the-counter status, and their sale was not permitted in general stores. PSI had been distributing subsidized pediatric ACTs to CHWs and private retailers since 2008. IRS and mass distribution of LLINs were taking place. There were continued effects from the 2009 coup d'état, leading to political and economic deterioration.

Summary: Madagascar has not met success Benchmarks 1 on QAACT availability or 5 on QAACT market share. However, Benchmark 2 on the relative price of copaid QAACTs compared with the most popular antimalarial which is not a QAACT has been met, despite the lack of an RRP. Benchmarks 3 and 6 were not relevant because there was an almost complete absence of oral AMT in the market at baseline and endline. Data are not available to assess Benchmark 4 on use.

Although a significant increase in QAACT market share was observed from baseline to endline in the private for-profit sector, the increase was not sufficient to meet the market share benchmark, especially given the lack of improvement in the public sector. This limited improvement in market share was associated with the low level of copaid drugs delivered to Madagascar, at only one treatment for every 12 people, or 0.08 treatments per capita. This partly reflects long delivery times, but more importantly low copaid drug orders, which amounted to only one treatment for every 11 people, or 0.09 treatments per capita. Reasons for these low orders are likely to reflect low confidence by FLBs in ordering due to a lack of data on the unmet need for ACTs within the private sector and a fear of overstocking. The low level of provider and exit survey respondent awareness and understanding of the logo are no doubt due to the curtailment of the mass media campaign, which is likely to have had a substantial impact on consumer demand for QAACTs. However, the Madagascar experience should be seen in the light of the recent political instability and economic challenges, which provided a highly problematic context for both the public and private sectors during the period of AMFm Phase 1.

Niger

AMFm implementation: Seven first line buyers had registered with the Global Fund as of January 31, 2012, including five private for-profit firms, one UN agency and one public sector agency. Three of the private first line buyers had placed orders by the end of 2011. The first order to be placed by a private for-profit first line buyer (FLB) was in August 2010, and the medicines arrived in Niger in January 2011, giving 9.5 months of implementation between the arrival of the first drugs and the midpoint of endline outlet survey fieldwork. Supporting interventions began at the same time as the arrival of the first drugs, but only about 30% of planned communication activities took place due to delays in receiving funds, delays in the selection of communications firms to undertake the activities and the suspension of the Global Fund AMFm supporting intervention grant in the second half of 2011. An RRP was set at USD 0.40 for a child dose and USD 0.70 for an adult dose. Training activities started in December 2010, but not all planned training took place.

Availability: QAACT availability among all outlets increased by 10 percentage points between baseline and endline, from 9% to 19% (Benchmark 1). This was a statistically significant increase, but did not meet the AMFm benchmark of a 20 percentage point increase. There was a significant increase in public sector outlets (from 45% to 73%) and a smaller, but also significant, increase in private for-profit outlets from 6% at baseline to 14% at endline. A very high number of general stores and itinerant vendors were screened for the outlet surveys, and it was common for them to have antimalarials in stock (42% of general stores and 63% of itinerant vendors enumerated at baseline stocked antimalarials), meaning that they represented a high proportion of private for-profit antimalarial outlets. They had lower stocking rates of QAACTs at endline (13% compared with 62% in private health facilities/pharmacies and 65% in drug stores), which therefore pulled down average QAACT availability in the private for-profit sector as a whole.

Price: The median price per adult equivalent treatment dose (AETD) of QAACTs fell considerably between baseline and endline, from USD 2.06 to USD 0.79 among all outlets. The median price remained zero in public health facilities, and in private for-profit outlets the median price fell from USD 2.47 to USD 1.19, somewhat higher than the RRP of USD 0.69 for an adult treatment. The median price in private for-profit outlets for a QAACT carrying the AMFm logo was USD 1.19 per AETD. This is 2.5 times higher than the median price of the most popular antimalarial which is not a QAACT in tablet form (chloroquine), indicating that Niger achieved AMFm Benchmark 2 which states that the ratio should be less than 3. It was not possible to compute Benchmark 3for Niger, as the number of AMT products audited at endline was fewer than 50.

Market share: QAACT market share measured across all outlets fell from 18% at baseline to 10% at endline, although the change is not significantly different from zero; and there was a significant increase in the share of nAT, from 73% at baseline to 87% at endline. This means that Benchmark 5 of a 10 percentage point increase in QAACT market share from baseline to endline has not been achieved in Niger. In the private for-profit sector, the QAACT share doubled, but from a very low starting level of 4% at baseline to 8% at endline.

Context: The security situation in Niger continued to be challenging. Rainfall in 2011 was erratic and uneven. Fewer LLINs were distributed in 2011 than in previous years. Disbursement of the AMFm supporting intervention grant was suspended. ACTs did not have over-the-counter status.

Summary: Niger met Benchmark 2 relating to the price of copaid QAACTs, which specifies that the median price should be less than three times the price of the most popular antimalarial which is not a QAACT in tablet form. It has not, however, achieved Benchmark 1 on availability or Benchmark 5 on market share of QAACTs. The market share of oral AMT (Benchmark 6) was already so low that it is not relevant to assessing the impact of AMFm in Niger. The amount of time elapsed between the arrival of copaid drugs and the endline outlet survey was only around 9.5 months, so the short time for implementation could be responsible for the slow progress of the program. However, it also seems that the quantity

of copaid QAACTs ordered, particularly by private for-profit FLBs, was too low to have made much of an impact on availability and market share. The implementation of supporting interventions, which might have helped to increase demand for copaid QAACTs, and thereby might have stimulated private for-profit orders, was also derailed by delays and the suspension of disbursement of the Global Fund SI grant. Finally, the implementation context in Niger is challenging, with problems of adverse weather interrupting supply chains, difficult transport outside the main cities and problems of insecurity.

Nigeria

AMFm implementation: A total of 54 FLBs were registered with the Global Fund as of January 31, 2012 (51 private for-profit, 2 private non-profit and 1 public sector). Orders had been placed by 28 private first line buyers by the end of 2011. The first orders were placed by private for-profit sector FLBs in October 2010, and arrived in Nigeria in January 2011. Approximately 9.5 months elapsed between the arrival of the first copaid drugs and the midpoint of endline outlet survey fieldwork. Implementation of supporting interventions trailed the arrival of the first copaid drugs by approximately 3 months, giving about 6 months from the start of implementation of SIs before the midpoint of the endline outlet survey. Some delays in initiating communications activities were caused by problems of coordination among the Principal Recipients (PRs). In the interim, a number of activities were undertaken (albeit not at scale) by other stakeholders such as professional associations and pharmaceutical firms. Private sector BCC activities only started in August 2011, and some mass media activities did not start until September 2011. The range of activities implemented from April 2011 onwards included advocacy, mass media communications, community dramas and road shows, training, regulatory changes and an RRP. By the end of 2011, a total of 67,219,660 copaid ACT doses had been delivered to Nigeria (0.42 doses per capita, the whole population of Nigeria is considered at risk of malaria), of which 80% were to private for-profit FLBs, 12% to the public sector and 8% to private not-for-profit FLBs. Only 24% of treatments requested by Nigeria FLBs in the second half of 2011 were approved due to the application of the Global Fund's demand levers.

Availability: QAACT availability in all outlets increased from 28% to 54%, an increase of 26 percentage points ($p=0.14$) from baseline to endline (Benchmark 1). There is therefore some evidence that Nigeria has met the benchmark of a 20 percentage point increase in QAACT availability, although the large p-value means we do not have strong evidence for this. In public health facilities, availability was 46% at baseline and 57% at endline, but this increase was not statistically significant. The major contributor to the overall increase in availability was the private for-profit sector, in which availability increased significantly from 27% to 53%.

Price: There was a substantial fall in the price of QAACTs between baseline and endline. Among all outlets, the median price per AETD fell from USD 3.72 to USD 1.48 at endline. In private for-profit outlets the decline in median price of QAACTs is even larger, from USD 4.47 to USD 1.48. Despite this large decline in the price of QAACTs in private for-profit

outlets, the ratio of the median price of QAACTs with the AMFm logo to that of the most popular antimalarial which is not a QAACT in tablet form was 3.1, and therefore Nigeria appears to have just missed Benchmarks 2 which states that the ratio should be less than 3. The price of QAACTs with the AMFm logo was less than that of AMT tablets (USD 2.66), so Nigeria did meet Benchmark 3.

Market share: QAACT market share measured across all outlets increased from 2% at baseline to 20% at endline, with very similar results in urban and rural areas. Benchmark 5 of a 10 percentage point increase in market share from baseline to endline was therefore met, with an 18 percentage point increase. The QAACT share of all antimalarials sold increased even more dramatically in the public sector, from 6% at baseline to 48% at endline, while it increased in private for-profit outlets from 2% to 18%. The market share of AMTs decreased from 8% at baseline to 4% at endline, meaning that Nigeria also met Benchmark 6. The increase in QAACT share in both the public sector and the private for-profit sector was accompanied by a reduction in the share of nATs which fell in the public sector from 85% to 38% and in the private for-profit sector from 84% to 69%. The private sector accounted for 97% of all antimalarials distributed at baseline and 92% at endline.

Context: Important contextual factors include the distribution of LLINs and indoor residual spraying (IRS) in some states, introducing RDTs into public and private health facilities in 12 states, a large domestic pharmaceutical manufacturing sector that initially resisted AMFm, and elections in 2011. ACTs had over-the-counter status.

Summary: Nigeria fully met Success Benchmarks 3 (QAACT price relative to AMT), 5 (QAACT market share) and 6 (AMT market share). There is some evidence that Nigeria also met Benchmark 1 (availability). Nigeria just missed the threshold for Benchmark 2 (QAACT prices relative to the most popular antimalarial which is not a QAACT in tablet form). The price of SP tablets was quite low (USD 0.47), making this target difficult to meet, but there was also poor adherence to the RRP. This could reflect the relatively low awareness of the RRP or perhaps market pressures linked to the exercise of the Global Fund demand levers. Benchmark 4 could not be calculated. These results were achieved despite the context of instability caused by the post-election crisis and terrorist attacks, which may have affected supply in some areas. There have been impressive increases in knowledge of the first-line drug, particularly in public health facilities, but achievements in recognition of the AMFm logo and knowledge of the AMFm program are more modest, consistent with the relatively short period of implementation of SIs before the endline outlet survey was conducted.

Tanzania - mainland

AMFm implementation: A total of 10 private for-profit FLBs were registered with the Global Fund, and the Medical Stores Department (MSD) was registered as an FLB for the public sector. Five of the private first line buyers had placed orders by the end of 2011. The first orders for copaid QAACTs were placed in August 2010 by a private for-profit FLB and were delivered in October 2010. A number of delays affected the ordering process in the public sector, resulting in public sector stockouts during 2011. A total of 13.5 months elapsed

between the date the first drugs arrived in Tanzania (October 2010) and the midpoint of endline outlet survey fieldwork. Supporting interventions started in January 2011, giving only 10 months of effective SI implementation. These included a communications campaign; upgrading of drug stores to accredited drug dispensing outlets (ADDOs); pharmacovigilance activities; monitoring and evaluation; and the setting of the recommended retail price at USD 0.62. The start of the communications campaign was delayed, and took place only seven months before endline data collection. A total of 13,039,620 copaid QAACT treatments were delivered between October 2010 and December 2011, amounting to 0.31 treatments per capita, of which 62% were delivered to private for-profit FLBs. The application of the Global Fund's demand levers in Tanzania reduced the orders approved by a modest amount (90% of treatments requested by FLBs were approved in the second half of 2011).

Availability: QAACT availability across all outlets increased by 44 percentage points, from 26% at baseline to 70% at endline (Benchmark 1). Tanzania has therefore easily met the benchmark of a 20 percentage point increase in QAACT availability ($p<0.0001$). There has been no increase in availability in the public sector, which was already 80% at baseline. Rather, the increase was concentrated in private for-profit outlets, which saw an increase in QAACT availability of 56 percentage points, with QAACTs available at endline in 79% of private for-profit health facilities/pharmacies and 69% of drug stores.

Price: In public and private not-for-profit health facilities, the median QAACT price remained at USD 0.00 at baseline and endline, reflecting the policy of free provision of QAACTs. Dramatic decreases in median QAACT prices were observed in the private for-profit sector between baseline and endline, from USD 5.28 to USD 0.94 per AETD, although this was still somewhat higher than the RRP of USD 0.62. The median price in private for-profit outlets for a QAACT carrying the AMFm logo was USD 0.94 per AETD. This is the same as the median price of the dominant antimalarial which is not a QAACT in tablet form (SP), and therefore Tanzania met Benchmark 2, which states that the ratio should be less than 3. As the number of oral AMT products in the market was negligible, Benchmark 3 was not relevant to Tanzania.

Market share: The market share of QAACTs overall increased by 16 percentage points, from 26% at baseline to 42% at endline. The increase took place mainly in the private for-profit sector, which saw a 30 percentage point increase from 2% to 32%. By contrast the market share was unchanged in public health facilities, where a fall in QAACT market share in urban areas was not sufficiently offset by an increase in rural areas. The implications for Benchmark 5 (a 10 percentage point increase in market share from baseline to endline) are that, while the point estimate for all sectors combined was greater than 10, the evidence that the benchmark has been reached is not strong ($p=0.23$). However, the power to detect a 10 percentage point increase was below the usual minimum standard of 80%; so the p-values should be interpreted with caution. In the private for-profit sector alone, the increase was significantly greater than 10 percentage points ($p<0.0001$). Benchmark 6 was not relevant to Tanzania given the negligible market share of oral AMTs at both baseline and endline.

Context: AMFm was implemented against the background of a large-scale malaria control communications campaign funded by PMI and the Global Fund. RDTs were being distributed to public facilities. IRS and mass distribution of LLINs were taking place. The Tanzanian shilling depreciated over this period. ACTs did not have over-the-counter status.

Summary: There is strong evidence that Tanzania has met Success Benchmarks 1 (QAACT availability) and 2 (QAACT price relative to the most popular antimalarial which is not a QAACT). It is possible that Benchmark 5 (QAACT market share) was also met across all sectors, but the evidence is not strong. However, we can be confident that a 10 percentage point increase in market share was easily achieved in the private for-profit sector. Benchmarks 3 and 6 are not relevant to Tanzania given the negligible presence of oral AMT in the market at baseline and endline. Data were not available to assess Benchmark 4 on use. The evidence about impressive changes in the availability and price of QAACTs, together with strong evidence of awareness of AMFm, the flow of copaid drug orders and SI implementation, provide plausible evidence that AMFm is responsible for the increases observed in QAACT market share. These changes may have also been supported by the complementary malaria communications campaign funded by other sources. The decrease in the market share of nAT in private for-profit outlets suggests that AMFm may be crowding out nATs and not simply shifting demand from other ACTs.

Uganda

AMFm implementation: Fourteen FLBs were registered with the Global Fund as of January 31, 2012 (nine private for-profit FLBs, three private not-for-profit FLBs and two FLBs for the public sector). Four of the private for-profit FLBs had placed orders by the end of 2011. FLBs from both the private for-profit and private not-for-profit sector placed their first orders in March 2011. The first deliveries for the private sector arrived in April 2011. Delays receiving orders were reported in both the private for-profit and private not-for-profit sectors. In the public sector, a number of factors contributed to delays in the placement of the first order. The first shipment of copaid ACTs for the public sector arrived in July 2011, and no stockouts of the adult package size of AL at the National Medical Stores resulting from the delays were reported. However, stock levels of the adolescent and pediatric package sizes of AL were low by December 2010, and by March 2011 the NMS was out of stock of these pack sizes. A total of 28,226,700 copaid QAACT treatments were delivered between April 2011 and December 2011, amounting to 0.84 treatments per capita (all of the population of Uganda is considered at risk of malaria), of which 73% were delivered to the public sector, 25% to the private for-profit sector, and 2% to the private non-for-profit FLB. The application of the Global Fund's demand levers in Uganda resulted in only 57% of treatments requested by FLBs in the second half of 2011 being approved. Only seven months had elapsed between the date first drugs arrived in Uganda and the midpoint of the endline outlet survey fieldwork. Approximately USD 28.6 million was available from the Global Fund for supporting interventions. The first disbursement of these funds was delayed until November 2011, and none of this money was spent by the end of 2011.The only supporting interventions that occurred prior to the end of data collection were the National Launch, a small-scale AMFm pre-disbursement marketing campaign, and the establishment of

recommended retail prices. These activities likely had limited influence on AMFm outcomes, due to their scale.

Availability: QAACT availability across all outlets increased by 46 percentage points, from 21% at baseline to 67% at endline. Uganda therefore comfortably met the benchmark of a 20 percentage point increase of QAACT availability. The increase in availability in the public sector was not significant, meaning that most of the overall increase arose in the private for-profit sector. The increase was higher in urban areas than in rural areas (57 vs. 43 percentage points). Availability of QAACTs with the AMFm logo was much higher than that of QAACTs without the logo (58% vs. 16%). Availability of non-quality-assured ACTs decreased significantly, from 48% at baseline to 28% at endline. Availability of oral AMT was negligible at both baseline and endline.

Price: In the public and private not-for-profit sectors and for CHWs, the median price remained USD 0.00 at baseline and endline, reflecting the policy of free ACT provision. In the private for-profit sector, the median QAACT price at endline was USD 1.96 in urban and rural areas. In urban areas, this represented a fall of over 50% from the baseline median of USD 4.41, but in rural areas the decrease from USD 2.21 at baseline was not significant. The median price for QAACTs at endline was much higher than the RRP, which was USD 0.47. The median price in private for-profit outlets for a QAACT carrying the AMFm logo was USD 1.96 per AETD. This is 3.3 times the median price of the dominant antimalarial which is not a QAACT in tablet form (SP), and therefore Uganda did not meet Benchmark 2. The benchmark relating to the price of oral AMTs is not relevant for Uganda, due to negligible quantities of AMTs found in outlets in Uganda. There was no difference in the private for-profit sector between the median price of QAACTs with and without the AMFm logo.

Market share: The market share of QAACTs overall increased significantly from 40% to 57%, an increase of 17 percentage points (95% CI 7.1-26.5). This represents a significant increase from baseline, and provides some evidence that the benchmark of a 10 percentage point increase in QAACT market share had been met, although this evidence is not strong (p=0.08). However, the power to detect a 10 percentage point increase was below the usual minimum standard of 80%, so the p-values should be interpreted with caution. The benchmark of the market share of AMTs was not relevant for Uganda, as the overall market share of oral AMTs was close to zero at both baseline and endline.

Context: ACTs were recently granted over-the-counter status. There was no significant increase in the availability of microscopy between baseline and endline, but availability of RDTs increased significantly in public health facilities (4% to 53%) and in private not for-profit outlets (9% to 51%). There was also a substantial depreciation of the Ugandan shilling against the US dollar between the baseline and endline outlet surveys.

Summary: There is strong evidence that Uganda met the availability benchmark (Benchmark 1), and some evidence that the indicator related to QAACT market share (Benchmark 5) was met. Benchmark 2 comparing the median price of QAACTs to the median price of the most

popular antimalarial which is not a QAACT in tablet form was not met. The price and market share indicators related to AMTs are not relevant for Uganda, as these products are rare. The improvements in QAACT availability and market share were achieved despite the relatively short time between first arrival of copaid drugs and the endline outlet survey (seven months) and the lack of AMFm supporting interventions.

Zanzibar

AMFm implementation: One private for-profit FLB was registered, together with two international FLBs. The first order of copaid QAACTs was placed by the private for-profit FLB in February 2011 and these drugs were delivered in April 2011. A public sector order was placed in July 2011 and delivered in September 2011. By the end of 2011, a total of 241,075 treatments had been delivered, amounting to 0.19 treatments per capita (the entire population of Zanzibar is considered at risk of malaria). Only 6.5 months elapsed between the arrival of the first copaid drugs in Zanzibar (April 2011) and the midpoint of endline outlet survey fieldwork (October 2011). Supporting interventions started one month later, in May 2011, with a media campaign, so that only 5.5 months of SI implementation had occurred before the midpoint of the endline outlet survey. SIs included public awareness and mass media; limited training of public and private health workers; increased enforcement of the AMT ban; and the setting of the recommended retail price of USD 0.58 for an adult dose and USD 0.47 for a child dose.

Availability: QAACT availability across all outlets increased by 39 percentage points, from 46% at baseline to 85% at endline (Benchmark 1), easily meeting the benchmark of a 20 percentage point increase in QAACT availability. Availability was slightly higher in rural than in urban areas at endline (90% vs. 82%). Virtually all of the increase in QAACT availability occurred in private for-profit outlets, as availability in public sector health facilities was already 92% at baseline and increased only marginally to 94% at endline. Within the private for-profit sector, QAACT availability increased by 71 percentage points from 9% at baseline to 80% at endline.

Price: Because nearly all the QAACTs at baseline were in public health facilities (and therefore free), the increased availability in the private for-profit sector led to an increase in the overall median price from USD 0.00 at baseline to USD 0.58. However, there was a very substantial decrease in the median price of QAACTs in private for-profit outlets, from USD 5.99 at baseline to USD 1.17 at endline. The endline median price is 83% higher than the recommended retail price (RRP) of USD 0.58 for an adult dose. The median price of QAACTs with the AMFm logo in private for-profit outlets at endline was USD 1.17 per AETD. This is 1.5 times higher than the price of the most popular antimalarial which is not a QAACT in tablet form which in Zanzibar was amodiaquine (with a price of USD 0.79 per AETD). Zanzibar has therefore clearly met Benchmark 2, which states that the ratio of median prices should be less than 3. The median price of QAACTs with the logo was also much lower than the price of AMT tablets (USD 7.46), so Benchmark 3 was also met.

Market share: Zanzibar has seen a nearly six-fold increase in the market share of QAACTs from baseline to endline, from 10% of all antimalarial AETDs sold/dispensed at baseline to 58% at endline. Benchmark 5 of a 10% increase in QAACT market share has therefore been easily achieved. In public sector outlets, the QAACT share has increased by 15 percentage points, from 23% to 38%, with the main shift being away from non-quality-assured ACTs, from 21% at baseline to only 3% at endline. In private for-profit sector outlets, the increase in QAACT market share is even more dramatic, with a 59 percentage point increase, from 2% at baseline to 61% at endline. Benchmark 6 has also been achieved, with the market share of AMTs measured in all outlets falling by 12 percentage points, from 12% to nearly 0 at endline.

Context: Contextual factors included early adoption of ACTs as the first-line drug (in 2003); enforcement of AMT ban; allowing ACTs to be sold in drug stores with over-the-counter status; scale up of diagnostics; IRS and distribution of LLINs; and a dramatic reduction in the number of malaria cases.

Summary: Zanzibar has met all of the Success Benchmarks that could be assessed. These very substantial improvements in QAACT availability and market share; reductions in QAACT prices; and reductions in availability and market share of nATs, AMTs and non-quality-assured ACTs have occurred despite less than seven months of effective implementation of AMFm, and with a relatively limited flow of copaid antimalarials into the country (0.19 treatments per capita delivered as of the end of 2011). It seems appropriate to conclude, therefore, that in Zanzibar AMFm has met with a highly supportive and conducive environment. Key regulatory steps to support OTC sales of QAACTs and to intensify enforcement of the ban on AMT are likely to have played an important role in the achievement of the benchmarks, in addition to core AMFm interventions of the supply of copaid QAACTs and the strong communication campaign. Although information on appropriate use of ACTs was not collected as part of the IE, the relatively high availability of diagnostic testing in the public sector should contribute to rational use of QAACTs, providing another supporting contextual factor. In this light, the shift in market share toward the private for-profit sector, where diagnostic testing is not universally available, should be seen with some concern, and efforts to improve availability of RDTs especially in drug stores are needed.

Conclusions

A number of key findings can be distilled on the process and impact of AMFm:

1. **Achievement of success benchmarks** – Figure 24 provides an overview of the performance of each pilot against the AMFm success benchmarks. Of the 8 pilots, success benchmarks were clearly met in 5 pilots for availability, 5 pilots for QAACT price relative to the most popular antimalarial that is not a QAACT, and 4 pilots for QAACT market share (all shaded green). It is also possible that benchmarks were met in

a one additional pilot for availability and price, and in 3 additional pilots for market share, although the evidence is not as strong (shaded amber). The success benchmarks related to AMT price and market share were met in all pilots with sufficient AMTs in the market to make these benchmarks relevant.

2. **AMFm and the private for-profit sector** – AMFm has been a "game changer" in the private for-profit sector for all pilots except Niger and Madagascar, with a dramatic impact on the antimalarial market, through large increases in QAACT availability, decreases in QAACT prices, and increases in QAACT market share. These changes were substantial and achieved in only a few months, demonstrating the power of tapping into the distributional capacity of the private sector. The changes are very likely to be largely attributable to AMFm. The private for-profit sector response was similar in rural and urban areas, in some cases reducing or closing a rural-urban gap in availability and market share. There was considerable penetration of copaid QAACTs even in remote areas in Ghana and Kenya, where this was evaluated.

3. **AMFm and the public sector** – AMFm led to fewer fundamental changes to public sector antimalarial supply, where QAACT supply continued to be hindered by problems with procurement and grant requirements, leading to substantial delays in ordering. Increases in QAACT market share were seen in the public sector in four pilots (Ghana, Nigeria, Uganda and Zanzibar), although in Nigeria most QAACTs distributed through the public sector were not copaid. QAACTs were available in less than 80% of all public facilities at endline in five pilots, and there was generally no change in public sector QAACT prices as most countries already provided QAACTs for free at baseline (except Ghana where public sector QAACT prices fell).

4. **Limited impact in Madagascar and Niger** – The impact of AMFm on the private for-profit sector was limited in Madagascar and Niger, where orders of copaid ACTs were very low. Explanations may include (i) the lack of full-scale mass media campaigns; (ii) the structure of the private for-profit antimalarial sector, which had a much higher proportion of general stores, and in Niger itinerant vendors, who are not allowed to stock QAACTs; and (iii) an unfavourable context of political and/or economic instability and severe weather conditions.

5. **Effect of duration of implementation** – Longer duration of implementation appears to be positively correlated with performance, if the combined presence of copaid ACTs and the operation of a large-scale sustained IEC/BCC campaign is considered a proxy for full AMFm implementation. With the exception of Zanzibar, pilots with earlier start dates achieved more success benchmarks. No large-scale sustained IEC/BCC campaign was in place by the end of 2011 in Madagascar, Niger or Uganda, and these pilots achieved fewer benchmarks. However, it is possible that delayed start dates reflect weaker implementation capacity in general, and therefore one should be cautious in attributing performance to duration of implementation alone.

6. **Prices and markups in the private for-profit sector** – The price of copaid QAACTs in the private for-profit sector at endline was very variable across pilots, ranging from USD 0.51 in Madagascar to USD 1.96 in Uganda. Reasons for this variability are unclear but may include (i) variations in the RRP and its promotion through national IEC/BCC campaigns; (ii) guidelines on markups (in Madagascar); (iii) differences in cost structure including tax components; and (iv) time since copaid ACTs first arrived in each country. The median retail gross markup on copaid QAACTs was less than 70% in all pilots (which can be considered reasonable for the retail sector), except Uganda (133%) and Zanzibar (100%).

7. **Crowding out oral artemisinin monotherapy** – Even at baseline, market share for oral AMT was less than 4% in Ghana and less than 1% in Kenya, Madagascar, Niger, Tanzania Mainland and Uganda. In Nigeria and Zanzibar where oral AMT market share was somewhat higher at baseline, large and significant falls were observed, likely reflecting a combination of the AMFm subsidy and complementary regulatory measures with particularly strong enforcement of the latter in Zanzibar.

8. **Availability and market share of non-artemisinin therapies** – nAT availability fell in some countries, but remained very high in most countries. However, the increases in QAACT market share were accompanied by decreases in nAT market share.

9. **Market structure** – The private sector was a major player in the antimalarial market in all pilots, accounting for between 40% and 97% of antimalarial sales volumes at baseline, and between 49% and 92% at endline. There was no clear pattern across pilots in the change in private for-profit market share between baseline and endline.

10. **Availability of malaria diagnosis** – Diagnostic availability (RDT or microscopy) varied substantially in the public sector, from 29% in Nigeria to 98% in Zanzibar at endline. However, in private for-profit outlets, only three pilots had substantial availability at endline (Kenya - 14%, Uganda – 21%, Zanzibar - 32%). In this sector, health facilities/ pharmacies have higher availability of diagnostics than drug and general stores.

11. **Results of operational research** – Results from studies of interventions to enhance the implementation of antimalarial subsidies by improving targeting and/or drug use show that implementation of such interventions is feasible on a small scale, but more evidence on effectiveness and cost-effectiveness of large-scale programs is needed to inform policy.

12. **Issues not covered by the Independent E**valuation – A number of important issues related to AMFm policy decisions were beyond the scope of the Independent Evaluation, including the impact on targeting copaid ACTs to persons with parasitemia; advice provided to patients; adherence to dosing regimens; global artemisinin supply and prevalence of counterfeit products.

13. **Possible hindering factors for AMFm in some countries include**:
    - Delays in the public sector procurement process for copaid ACTs
    - Issues with Global Fund grants and delays in procurement of supporting interventions, meaning that implementation of most SIs lagged behind the arrival of copaid ACTs by several months
    - Suspension of Global Fund disbursements or grants interrupting implementation of supporting interventions
    - Application of Global Fund demand levers to ration orders
    - Political and/or economic instability
    - An antimalarial provider market dominated by highly informal outlets operating outside of regulated distribution channels (in Madagascar and Niger)

14. **Possible facilitating factors for AMFm in some countries include**:
    - Strong AMFm governance structures (including steering committees), involvement of the private sector and technical assistance from the Clinton Health Access Initiative
    - Generally smooth operation of the registration process for first-line buyers and ordering through the copayment mechanism
    - Strong, large-scale mass media campaigns, including promotion of the AMFm logo
    - Longer duration of implementation
    - Establishment and promotion of an RRP set at an appropriate level
    - Complementary regulatory changes, such as giving ACTs over-the-counter status, and implementation of the AMT ban
    - AMFm training in some countries (although only Ghana and Zanzibar had over 20% training coverage)

Figure 24: Overview of the achievement of the AMFm Success Benchmarks by county, indicating benchmarks achieved (in green), nearly or possibly achieved (in amber) and not achieved (in red), (point estimate, and p-value for statistical test of whether the level stated in the benchmark was achieved)

Benchmark	Ghana	Kenya	Madagascar	Niger	Nigeria	Tanzania mainland	Uganda	Zanzibar*
1. 20 percentage point increase in QAACT availability	52 ($p<0.01$)	35 ($p<0.01$)	4.6 ($p=0.99$)	10 ($p=0.99$)	26 ($p=0.14$)	44 ($p<0.01$)	46 ($p<0.01$)	39
2. Median price of QAACTs with AMFm logo is <3 times the median price of the most popular antimalarial in tablet form that is not a QAACT (ratio)	3.0 ($p=0.81$)	1.0 ($p<0.01$)	1.6 ($p<0.01$)	2.5 ($p<0.01$)	3.1 ($p=0.99$)	1.0 ($p<0.01$)	3.3 ($p=0.99$)	1.5
3. Median price of QAACTs with AMFm logo is less than the median price of AMT tablets (difference, QAACT – AMT)	-0.94 ($p<0.01$)				-1.17 ($p<0.01$)			-6.3
4. 5 percentage point increase in percentage of children with fever who received ACT treatment	na	na	na	na	na	na	na	na
5. 10 percentage point increase in market share of QAACTs	40 ($p<0.01$)	31 ($p=0.01$)	8.6 ($p=0.61$)	-8.8 ($p=0.99$)	18 ($p<0.01$)	16 ($p=0.23$)	17 ($p=0.08$)	48
6. Decrease in market share of oral AMTs (percentage point change)					-3.9 ($p=0.03$)			-12

Notes: Green shading = the benchmark was achieved, with strong statistical evidence (generally $p<0.01$); Amber shading = either the benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak ($p\geq0.05$). However, the power to detect a 10 percentage point increase in market share was only 35% in Tanzania, 66% in Uganda and 70% in Madagascar, compared with the usual minimum standard of 80%; therefore, p-values should be interpreted with caution. Red shading = the benchmark was not met; Grey shading for Benchmarks 3 and 6 = not relevant because the number of AMT products was very low at baseline. * p-values not shown for Zanzibar because a complete census of antimalarial stocking outlets was undertaken; na = not available; ACT= artemisinin-based combination therapy; AMT= artemisinin montherapy; QAACT= quality-assured artemisinin-based combination therapy

1   Background and Methods

1.1   Evaluation background

The success of malaria control efforts depends on a high level of coverage in the use of effective antimalarials such as artemisinin-based combination therapies (ACTs). Although these antimalarials have been procured in large amounts by countries, evidence suggests that ACT use still remains far below target levels. Reasons suggested for the low uptake of ACTs include interruptions in public sector supply; limited availability outside major urban centers; the high prices of the drugs, particularly in the private sector; lack of provider adherence to new recommendations; and patient self-treatment with other more common and cheaper antimalarials (Sabot et al. 2009). Lowering the cost of ACTs to the end user through a subsidy mechanism could be an effective way to increase their uptake (Arrow et al. 2004).

In response to this issue, the Affordable Medicines Facility – malaria (AMFm) hosted by the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) was set up. As described by Adeyi and Atun (2010), AMFm is a financing mechanism designed to incorporate three elements: (1) price reductions through negotiations with manufacturers of ACTs; (2) a buyer subsidy, via a co-payment at the top of the global supply chain by AMFm on behalf of eligible buyers from the public, private for-profit and private not-for-profit sectors; and (3) support of interventions to promote appropriate use of ACTs. Examples of these "supporting interventions" include training providers and outreach to communities to promote ACT use. AMFm is being tested in a first phase that includes nine pilots in eight countries: Cambodia, Ghana, Kenya, Madagascar, Niger, Nigeria, Republic of Tanzania (mainland and Zanzibar) and Uganda.

The Independent Evaluation (IE) is part of a multi-faceted monitoring and evaluation framework developed for Phase 1 of AMFm. It was commissioned by the Global Fund and is intended to assess whether, and to what extent, AMFm Phase 1 achieves its four main objectives: (i) to increase ACT affordability, (ii) to increase ACT availability, (iii) to increase ACT use, including among vulnerable groups, and (iv) to "crowd out" oral artemisinin monotherapies, chloroquine and sulfadoxine-pyrimethamine by gaining market share. It is expected that in the last quarter of 2012, the Global Fund Board will make a decision regarding the future of AMFm on the basis of evidence gathered during Phase 1. This report presents the findings of the IE.

Through a competitive bid, the Global Fund contracted ICF International and the London School of Hygiene and Tropical Medicine (LSHTM) to conduct the IE. The IE was carried out in all of the currently operational Phase 1 pilots (Ghana, Kenya, Madagascar, Niger, Nigeria, Tanzania mainland, Uganda, and Zanzibar)[1]. In addition, the Global Fund contracted with Data Contributors (DCs) that were responsible for in-country fieldwork, data analysis and country

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[1] In March 2011 the AMFm Ad Hoc Committee decided to drop Cambodia from the evaluation due to the lack of an eligible ACT for subsidy.

reports. These institutions are Population Services International (PSI), Drugs for Neglected Diseases initiative (DNDi) and Centre de Recherche pour le Développement Humain (CRDH). DNDi subcontracted with the Komfo Anokye Teaching Hospital, Kumasi, to undertake the work in Ghana. CRDH subcontracted with the Centre International d'Etudes et de Recherches sur les Populations Africaines (CIERPA) to undertake the work in Niger. PSI was responsible for the work in Kenya, Madagascar, Nigeria, Uganda, Tanzania mainland (which was subcontracted to the Ifakara Health Institute) and Zanzibar. For the surveys in Madagascar, Nigeria and Uganda, the IE has drawn on outlet surveys commissioned prior to AMFm and carried out by PSI's ACTwatch Project (www.actwatch.info) through a grant from the Bill and Melinda Gates Foundation, which either partially or fully funded outlet survey rounds in these Phase 1 pilots. ACTwatch adapted its methodologies to help meet the needs of the IE.

1.2   Overview of AMFm[2]

1.2.1   Origins of the AMFm

The Affordable Medicines Facility – malaria has its origins in the 2004 report of the Institute of Medicine (IOM) committee chaired by Professor Kenneth Arrow, Nobel Laureate in economics, published in *Saving Lives, Buying Time: Economics of Malaria Drugs in an Age of Resistance* (Arrow et al. 2004). The committee called for a "sustained global subsidy of artemisinins coformulated with other antimalarial drugs" to address the challenge that older and cheaper medicines, such as chloroquine and sulfadoxine-pyrimethamine, were increasingly less effective against *Plasmodium falciparum*, and ACTs, recommended by WHO for uncomplicated *Plasmodium falciparum* malaria, were too expensive for many seeking treatment in the private sector. The committee recognized that low coverage with ACTs and persistent use of oral artemisinin monotherapies (AMTs) were increasing the risk of widespread parasite resistance to artemisinin, the only widely effective first-line treatment. The committee recommended a global subsidy approach as the most economically and biomedically sound means to meet the dual challenge of increasing access to artemisinins while preserving their effectiveness as long as possible, and a key feature of the recommendation included that both public sector and private sector channels that already exist to deliver antimalarials to consumers be utilized to achieve maximum reach.

While the IOM report recognized that efforts to improve drug delivery must continue, for example, by utilizing better information, technology (including rapid diagnostic tests) and supporting health systems more generally, it also recognized that those improvements will realistically be implemented over a longer time frame and there was an urgent need to move treatment-seekers away from artemisinin monotherapies and ineffective treatments to ACTs. Subsequent analyses supported this recommendation with studies concluding that a subsidy for

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[2] The majority of the content of this section was drafted by the Global Fund and reviewed by the IE team.

ACTs was likely to slow the rate of the emergence of resistance to artemisinin and partner drugs, even if such a subsidy were to increase the use of ACTs significantly (Laxminarayan et al. 2006). The conclusion was robust to alternative assumptions regarding the responsiveness of demand to the lower price of ACTs and a wide range of epidemiological and economic parameters.

1.2.2 Technical Design of the AMFm

In 2006, the Finance and Resources Working Group of the Roll Back Malaria (RBM) Partnership, chaired by the World Bank, initiated a work program to translate the IOM recommendation into a reality. With financing from the Bill and Melinda Gates Foundation, the RBM Partnership convened and fostered a multi-institutional process which resulted in a technical design approved by the RBM Board in November 2007 (Laxminarayan and Gelband 2009; Roll Back Malaria Partnership 2007).

1.2.3 Global Fund's Hosting and Management of the AMFm

In late 2007, RBM and the Institutional Founders of the AMFm invited the Global Fund Board to consider hosting and managing the AMFm, and over the next two Board meetings, a business plan was developed as well as a policy framework and implementation plan for integrating the proposed new AMFm business line into existing Global Fund systems and policies.[3] As described in the Board meeting documents, due to concerns that the AMFm was an unproven intervention, the Policy and Strategy Committee of the Global Fund Board recommended, instead of a global rollout, that the AMFm be launched in a small first phase in order to prove the concept and learn lessons; this constituted a key difference from the original IOM recommendation, introducing the risk of cross-border price arbitrage. In November 2008, the Global Fund Board requested the Secretariat to begin operations of AMFm Phase 1.

As approved by the Global Fund Board, the AMFm has the following three elements:

(i) *Price reductions through negotiations with ACT manufacturers.* The immediate objective of these negotiations was to reduce the ex-manufacturer prices of ACTs for private-sector importers (i.e., first-line buyers) to the same level as the prices for public-sector buyers.

(ii) *A buyer subsidy through a 'co-payment' at the top of the global supply chain.* This is the mechanism through which the AMFm further reduces the ex-manufacturer price that is paid by first line buyers,[4] whether in the public or the private sector.

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[3] For example, see Global Fund Board decision point GF/B17/DP16 available at: http://www.theglobalfund.org/documents/board/17/BM17_BoardMeeting_Decisions_en/ and GF/B18/DP7 available at: http://www.theglobalfund.org/documents/board/18/BM18_BoardMeeting_Decisions_en/.

[4] First line buyers for AMFm include international, regional and national buyers from the public, private not-for-profit and private for-profit sectors who purchase ACTs directly from the manufacturer, or procurement agents buying on their behalf. To be eligible, a first line buyer must sign an undertaking with the Global Fund that sets out several conditions of participation. The undertaking is available at: http://www.theglobalfund.org/documents/amfm/AMFm_FirstLineBuyerUndertakingExecution_Form_en/

(iii) *Supporting interventions to promote appropriate use of ACTs.* In their applications, countries were encouraged to propose the following activities:

- Public education and awareness campaigns;
- Training, monitoring and supervision for ACT providers;
- Planning for national policy and regulatory preparedness;
- Planning for monitoring of drug quality; and
- Interventions to reach poor people and other vulnerable groups.

The key innovation in the AMFm is the combined approach to significantly reduce prices through negotiations with ACT manufacturers and a *global-level* subsidy to further reduce prices. This involves financing by AMFm to pay a large part of the post-negotiation price (the 'co-payment') on behalf of eligible first line buyers from the public, NGO and private sectors who purchase ACTs directly from the manufacturer. The first two elements had never been combined at the supra-national level in the financing of access to antimalarials. Examples of other approaches to subsidies do exist, including social marketing and franchises that operate at the country or sub-country levels; however, none was designed explicitly to achieve country-wide scale in all eligible countries, and none was explicitly open to all service delivery channels. The Global Fund's Technical Evaluation Reference Group (TERG) considered this 'co-payment' at the top of the global supply chain to be the innovative aspect of the mechanism.[5]

Following the November 2008 Board decision, the Secretariat began operations of AMFm Phase 1. Negotiations with qualified manufacturers were initiated, and select countries with existing Global Fund malaria grants were invited to submit applications, in which AMFm pilots proposed how savings from the lower purchase price of ACTs would be reprogrammed for the implementation of key supporting interventions. Following invited applications by 12 countries, the evaluation of those applications, the approval of 10 of them by the Global Fund Board and the withdrawal of one of the countries, AMFm Phase 1 includes nine pilots in eight countries (Cambodia, Ghana, Kenya, Madagascar, Niger, Nigeria, Tanzania mainland, Uganda and Zanzibar). Of these, all but Cambodia were fully operational as of May 2012.

Following the Global Fund Board decision of November 2009, Principal Recipients and the Secretariat advanced negotiations to revise the existing grant agreements, and when implementation letters were signed for the grant amendments, eligible first line buyers, including Principal Recipients, could place requests for copaid ACTs.

It should be noted that the AMFm is a financing mechanism that works with the existing supply chain in the public, private not-for-profit and private for-profit sectors, inheriting both the

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[5] The Global Fund's Technical Evaluation Reference Group's Position Paper on the Independent Evaluation of the AMFm is available as Attachment 2 at:
http://www.theglobalfund.org/documents/board/21/BM21_07AMFmAdHocCommitteeAttachments1And2_Report_en/.

strengths and weaknesses of each. Per its design, as AMFm is a demand-driven financing mechanism involving a multitude of private sector actors, a definitive prediction of requests for copaid ACTs under AMFm could not be known in advance. Per the implementation plan, with respect to ACT orders, eligible first line buyers place an order with an eligible manufacturer, after confirmation that they hold all necessary licenses, waivers or documentation to allow them to export, import, sell and/or distribute copaid ACTs in the AMFm pilot countries. The manufacturer then forwards the order (including the request for co-payment), and estimated carriage and insurance costs to the Global Fund Secretariat for approval. The manufacturer proceeds with filling the order once the Global Fund Secretariat gives its approval. An invoice for co-payment from the manufacturer is then sent to the Secretariat after drugs are delivered to the country's first point of entry. In parallel, the first line buyer proceeds with payment of their portion to the manufacturer for the purchased ACTs.

1.2.4 Funding sources

AMFm Phase 1 is funded by two streams of funding. There were initial contributions to the AMFm Phase 1 Co-payment Trust Fund of USD 216 million by the Bill and Melinda Gates Foundation, the Government of the United Kingdom and UNITAID, which covered the period July 2010 to February 2012. The AMFm Co-payment Trust Fund was replenished in 2012 with an additional USD 120 million from the Government of Canada, the Government of the United Kingdom and UNITAID, to cover the period March 2012 to December 2012. The Co-payment Trust Fund, which is managed in a sub-account separate from regular Global Fund grants, covers the costs of high-level subsidies for ACTs to be financed by the AMFm. The second funding source is through regular Global Fund grants and consists of up to USD 127 million to finance supporting interventions at the country level. The interventions include, for example, expanded use of diagnostics, training and supervision of health workers, pharmacovigilance, monitoring, operational research and additional activities intended to deliver services to vulnerable populations such as the poorest and those living in remote locations.

1.2.5 Negotiations with eligible manufacturers

In order to be eligible to supply ACTs under AMFm, a manufacturer must meet the criteria set out in the Global Fund's Quality Assurance Policy (see text box below).[6] In keeping with the AMFm objective of countering resistance to artemisinin, manufacturers must also commit to not market oral artemisinin monotherapies for the treatment of patients. Participating manufacturers sign a contract, the Master Supply Agreement (MSA), with the Global Fund which sets out the conditions of supplying ACTs under AMFm and includes the agreed maximum selling prices. As stipulated in the MSA, the Global Fund may review prices at least once per year.

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[6] For more information, see: http://www.theglobalfund.org/en/procurement/quality/pharmaceutical/

Global Fund Quality Assurance Policy for Pharmaceutical Products

For any pharmaceutical products to be eligible for purchase with the Global Fund resources, its compliance with quality standards must be assured. All pharmaceutical products should meet at least one of the following criteria:

- products are prequalified by the WHO Prequalification Programme
- products are approved or authorized for use by a stringent regulatory authority (a member, observer or associate of the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH)
- products are permitted for time limited-use by the Expert Review Panel (ERP)

The AMFm negotiation of maximum prices with the eligible manufacturers of ACTs was intended to reduce the ex-works[7] manufacturer ACT prices paid by the private sector to the same level as the public sector. It is important to note that the maximum prices are ceiling prices and manufacturers can sell below those prices. The maximum prices established by AMFm were intended to preserve competition among eligible manufacturers and provide incentives for continuous cost/price reduction.

Negotiations were informed by data on markets for artemisinin and active pharmaceutical ingredient (API), cost structures for each ACT formulation, ACT prices in the public and private sector, exchange rate variations, and other market intelligence. Maximum prices were first agreed in 2009, and incorporated into MSAs in 2010, reducing the ex-works manufacturer prices paid by private for-profit first-line buyers to approximately the same levels paid by the public sector. For private for-profit first-line buyers, this resulted in a reduction of up to 80% from prices they had paid in 2008/2009 before the AMFm.[8]

Maximum prices were increased in March 2011,[9] with co-payment levels also increased to even further reduce the prices paid by first-line buyers and to favor pediatric packs. In 2012 no further adjustments were made, despite higher artemisinin prices in 2011. This reflected financial constraints within the co-payment fund, which meant that the co-payment levels could not be further increased, and the importance attached to avoiding increases in the first line buyer purchase prices during AMFm Phase 1.

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[7] The ex-works price is the price at the manufacturer warehouse excluding all transportation and export/import costs.
[8] See
http://www.theglobalfund.org/en/mediacenter/newsreleases/Agreements_reduce_prices_of_malaria_medicines_by_up_to_80_/
[9] See: http://www.theglobalfund.org/documents/partners/rbm/RBM_ACTPricing_FactSheet_en/

1.2.6 AMFm copayments processed and volume of copaid ACTs delivered

Table 1.2.1 shows the quantity of copaid QAACTs requested, approved and delivered between the start of AMFm and December 2011. The total number of doses delivered by the end of 2011 was 155.8 million. Just over one-third of these doses (57.3 million) were delivered to Nigeria. Ghana, Kenya and Uganda were the next largest recipients, with 28.5 million doses in Kenya, 28.2 million doses in Uganda and 24.7 million doses in Ghana. Tanzania mainland received 13.0 million doses and mMuch smaller amounts were delivered to Niger (2.2 million doses), Madagascar (1.7 million doses) and Zanzibar (0.2 million doses). The majority were delivered to private for-profit FLBs in Ghana, Madagascar, Nigeria, Tanzania mainland and Zanzibar. In Kenya, the public sector received similar quantities as the private for-profit sector, and in Niger and Uganda the public sector was the main recipient. Table 1.2.2 shows the quantity of copaid QAACTs requested, approved and delivered between January and September 2012.

Table 1.2.1: Quantity of copaid quality-assured ACTs requested, approved, and delivered, July 2010 – December 2011

Indicator 4.2: Quantity of quality-assured ACT treatments requested by first line buyers, approved by the Global Fund, and delivered to countries, by sector, according to country

Country/Sector	3rd quarter 2010	4th quarter 2010	1st quarter 2011	2nd quarter 2011	3rd quarter 2011	4th quarter 2011	Total
Ghana							
New requests for co-payments received (Number of treatments) – Total	4,265,620	2,297,000	5,614,080	10,096,060	27,680,147	5,014,321	54,967,228
Public	0	0	0	0	4,610,347	1	4,610,348
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	4,265,620	2,297,000	5,614,080	10,096,060	23,069,800	5,014,320	50,356,880
Orders approved (Number of treatments) – Total	4,265,620	2,297,000	5,614,080	10,096,060	4,003,025	8,307,243	34,583,028
Public	0	0	0	0	3,206,035	1,404,313	4,610,348
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	4,265,620	2,297,000	5,614,080	10,096,060	796,990	6,902,930	29,972,680
Orders delivered* (Number of treatments) – Total	395,000	1,515,620	3,753,242	3,888,620	7,178,780	7,942,464	24,673,726
Public	0	0	0	0	0	1,404,325	1,404,325
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	395,000	1,515,620	3,753,242	3,888,620	7,178,780	6,538,139	23,269,401
Kenya							
New requests for co-payments received (# treatments) – Total	3,427,300	2,047,500	3,115,100	15,581,330	9,642,370	2,041,000	35,854,600
Public	0	0	0	12,161,340	4,420,050	0	16,581,390
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	3,427,300	2,047,500	3,115,100	3,419,990	5,222,320	2,041,000	19,273,210
Orders approved (Number of treatments) – Total	3,427,300	2,047,500	3,115,100	15,581,330	5,709,820	2,781,230	32,662,280
Public	0	0	0	12,161,340	4,420,050	0	16,581,390
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	3,427,300	2,047,500	3,115,100	3,419,990	1,289,770	2,781,230	16,080,890
Orders delivered* (Number of treatments) – Total	734,990	1,662,780	2,561,968	4,326,080	7,840,970	11,329,850	28,456,638
Public	0	0	0	1,407,120	3,754,110	9,186,180	14,347,410
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	734,990	1,662,780	2,561,968	2,918,960	4,086,860	2,143,670	14,109,228
Madagascar							
New requests for co-payments received (Number of treatments) – Total	231,600	316,275	130,248	895,695	265,824	51,230	1,890,872
Public	0	211,275	0	277,775	0	0	489,050
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	231,600	105,000	130,248	617,920	265,824	51,230	1,401,822
Orders approved (Number of treatments) – Total	231,600	316,275	130,248	895,695	265,824	51,230	1,890,872
Public	0	211,275	0	277,775	0	0	489,050
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	231,600	105,000	130,248	617,920	265,824	51,230	1,401,822
Orders delivered* (Number of treatments) – Total	0	21,600	451,275	357,324	157,090	700,889	1,688,178
Public	0	0	211,275	0	0	277,775	489,050
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	0	21,600	240,000	357,324	157,090	423,114	1,199,128
Niger							
New requests for co-payments received (Number of treatments) – Total	425,000	0	1,245,050	96,480	508,640	434,960	2,710,130
Public	0	0	1,015,050	0	368,460	0	1,383,510
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	425,000	0	230,000	96,480	140,180	434,960	1,326,620
Orders approved (Number of treatments) – Total	425,000	0	1,245,050	96,480	508,640	434,960	2,710,130
Public	0	0	1,015,050	0	368,460	0	1,383,510
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	425,000	0	230,000	96,480	140,180	434,960	1,326,620
Orders delivered* (Number of treatments) – Total	0	0	1,002,470	632,870	90,160	499,620	2,225,120
Public	0	0	977,470	437,550	0	368,460	1,783,480
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	0	0	25,000	195,320	90,160	131,160	441,640

Table 1.2.1: *Cont.*							
Country/Sector	**3rd quarter 2010**	**4th quarter 2010**	**1st quarter 2011**	**2nd quarter 2011**	**3rd quarter 2011**	**4th quarter 2011**	**Total**
Nigeria							
New requests for co-payments received (Number of treatments) – Total	0	14,507,840	16,971,410	27,494,810	45,738,870	21,796,888	126,509,818
Public	0	0	3,914,400	0	5,869,990	0	9,784,390
Private not-for-profit	0	4,953,120	502,000	0	0	670,000	6,125,120
Private for-profit	0	9,554,720	12,555,010	27,494,810	39,868,880	21,126,888	110,600,308
Orders approved (Number of treatments) – Total	0	14,507,840	16,971,410	27,494,810	8,344,990	12,849,600	80,168,650
Public	0	0	3,914,400	0	5,869,990	0	9,784,390
Private not-for-profit	0	4,953,120	502,000	0	0	670,000	6,125,120
Private for-profit	0	9,554,720	12,555,010	27,494,810	2,475,000	12,179,600	64,259,140
Orders delivered* (Number of treatments) – Total	0	0	8,209,875	14,138,928	13,932,799	22,620,474	58,902,076
Public	0	0	0	3,914,400	0	5,042,565	8,956,965
Private not-for-profit	0	0	2,563,950	1,164,940	1,660,940	0	5,389,830
Private for-profit	0	0	5,645,925	9,059,588	12,271,859	17,577,909	44,555,281
Tanzania - mainland							
New requests for co-payments received (Number of treatments) – Total	210,000	1,655,050	2,200,150	8,192,770	1,613,200	3,159,000	17,030,170
Public	0	0	0	4,917,780	0	0	4,917,780
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	210,000	1,655,050	2,200,150	3,274,990	1,613,200	3,159,000	12,112,390
Orders approved (Number of treatments) – Total	210,000	1,655,050	2,200,150	8,192,770	635,210	3,636,990	16,530,170
Public	0	0	0	4,917,780	0	0	4,917,780
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	210,000	1,655,050	2,200,150	3,274,990	635,210	3,636,990	11,612,390
Orders delivered* (Number of treatments) – Total	0	210,000	1,345,150	1,863,150	8,408,370	1,212,950	13,039,620
Public	0	0	0	0	4,917,600	0	4,917,600
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	0	210,000	1,345,150	1,863,150	3,490,770	1,212,950	8,122,020
Uganda							
New requests for co-payments received (Number of treatments) – Total	0	0	3,550,050	17,102,327	7,884,215	5,084,167	33,620,759
Public	0	0	0	14,662,475	4,683,225	3,101,277	22,446,977
Private not-for-profit	0	0	300,000	0	500,000	250,000	1,050,000
Private for-profit	0	0	3,250,050	2,439,852	2,700,990	1,732,890	10,123,782
Orders approved (Number of treatments) – Total	0	0	3,550,050	17,102,327	6,737,105	2,259,990	29,649,472
Public	0	0	0	14,662,475	4,683,225	1,359,990	20,705,690
Private not-for-profit	0	0	300,000	0	500,000	250,000	1,050,000
Private for-profit	0	0	3,250,050	2,439,852	1,553,880	650,000	7,893,782
Orders delivered* (Number of treatments) – Total	0	0	0	3,566,240	18,319,670	6,340,790	28,226,700
Public	0	0	0	0	16,840,740	3,864,750	20,705,490
Private not-for-profit	0	0	0	299,950	0	299,950	599,900
Private for-profit	0	0	0	3,266,290	1,478,930	2,176,090	6,921,310
Zanzibar							
New requests for co-payments received (Number of treatments) – Total	0	0	150,000	0	136,105	-45,030 **	241,075
Public	0	0	0	0	91,075	0	91,075
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	0	0	150,000	0	45,030	-45,030 **	150,000
Orders approved (Number of treatments) – Total	0	0	150,000	0	91,075	0	241,075
Public	0	0	0	0	91,075	0	91,075
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	0	0	150,000	0	0	0	150,000
Orders delivered* (Number of treatments) – Total	0	0	0	150,000	91,075	0	241,075
Public	0	0	0	0	91,075	0	91,075
Private not-for-profit	0	0	0	0	0	0	0
Private for-profit	0	0	0	150,000	0	0	150,000

* Manufacturers must provide proof of delivery to the Global Fund with all invoices for co-payment. Due to the delay between delivery and submission of an invoice by manufacturers, the actual treatment quantities delivered may be higher than what is officially reported in this table.** Negative figures for Zanzibar reflect withdrawal of a request after approval was not granted by AMFm.

Source: Global Fund data base

Table 1.2.2: Quantity of copaid quality-assured ACTs requested, approved, and delivered, January 2012 – September 2012				
Indicator 4.2: Quantity of quality-assured ACT treatments requested by first line buyers, approved by the Global Fund, and delivered to countries, by sector, according to country				
Country/Sector	**1st quarter 2012**	**2nd quarter 2012**	**3rd quarter 2012**	**Total**
Ghana				
New requests for co-payments received (Number of treatments) – Total	13,689,480	13,861,720	942,000	28,493,200
Public	0	0	0	0
Private not-for-profit	0	0	0	0
Private for-profit	13,689,480	13,861,720	942,000	28,493,200
Orders approved (Number of treatments) – Total	3,123,300	6,125,660	4,623,260	13,872,220
Public	0	0	0	0
Private not-for-profit	0	0	0	0
Private for-profit	3,123,300	6,125,660	4,623,260	13,872,220
Orders delivered* (Number of treatments) – Total	5,673,480	4,906,930	3,118,080	13,698,490
Public	1,801,710	0	0	1,801,710
Private not-for-profit	0	0	0	0
Private for-profit	3,871,770	4,906,930	3,118,080	11,896,780
Kenya				
New requests for co-payments received (# treatments) – Total	18,087,240	14,254,000	18,468,580	50,809,820
Public	0	0	11,957,580	11,957,580
Private not-for-profit	0	0	0	0
Private for-profit	18,087,240	14,254,000	6,511,000	38,852,240
Orders approved (Number of treatments) – Total	2,824,400	6,579,500	7,940,440	17,344,340
Public	0	0	4,185,540	4,185,540
Private not-for-profit	0	0	0	0
Private for-profit	2,824,400	6,579,500	3,754,900	13,158,800
Orders delivered* (Number of treatments) – Total	4,719,040	2,202,920	5,048,680	11,970,640
Public	2,233,980	0	0	2,233,980
Private not-for-profit	0	0	0	0
Private for-profit	2,485,060	2,202,920	5,048,680	9,736,660
Madagascar				
New requests for co-payments received (Number of treatments) – Total	463,100	631,380	139,770	1,234,250
Public	218,100	0	0	218,100
Private not-for-profit	0	0	0	0
Private for-profit	245,000	631,380	139,770	1,016,150
Orders approved (Number of treatments) – Total	463,100	631,380	45,360	1,139,840
Public	218,100	0	0	218,100
Private not-for-profit	0	0	0	0
Private for-profit	245,000	631,380	45,360	921,740
Orders delivered* (Number of treatments) – Total	187,632	464,132	130,000	781,764
Public	0	218,100	0	218,100
Private not-for-profit	0	0	0	0
Private for-profit	187,632	246,032	130,000	563,664
Niger				
New requests for co-payments received (Number of treatments) – Total	1,220,000	381,390	1,761,915	3,363,305
Public	0	381,390	1,661,915	2,043,305
Private not-for-profit	0	0	0	0
Private for-profit	1,220,000	0	100,000	1,320,000
Orders approved (Number of treatments) – Total	670,000	931,390	395,325	1,996,715
Public	0	381,390	295,325	676,715
Private not-for-profit	0	0	0	0
Private for-profit	670,000	550,000	100,000	1,320,000
Orders delivered* (Number of treatments) – Total	284,960	619,900	726,890	1,631,750
Public	0	0	381,390	381,390
Private not-for-profit	0	0	0	0
Private for-profit	284,960	619,900	345,500	1,250,360

Country/Sector	1st quarter 2012	2nd quarter 2012	3rd quarter 2012	Total

Table 1.2.2: *Cont.*

Country/Sector	1st quarter 2012	2nd quarter 2012	3rd quarter 2012	Total
Nigeria				
New requests for co-payments received (Number of treatments) – Total	89,834,000	14,618,912	28,834,000	133,286,912
Public	1,956,690	0	0	1,956,690
Private not-for-profit	25,539,520	0	0	25,539,520
Private for-profit	62,337,790	14,618,912	28,834,000	105,790,702
Orders approved (Number of treatments) – Total	13,133,681	12,078,720	13,785,850	38,998,251
Public	1,048,110	908,580	0	1,956,690
Private not-for-profit	2,368,421	0	0	2,368,421
Private for-profit	9,717,150	11,170,140	13,785,850	34,673,140
Orders delivered* (Number of treatments) – Total	12,866,054	8,584,440	11,820,750	33,271,244
Public	0	827,425	0	827,425
Private not-for-profit	0	2,368,420	667,720	3,036,140
Private for-profit	12,866,054	5,388,595	11,153,030	29,407,679
Tanzania - mainland				
New requests for co-payments received (Number of treatments) – Total	15,471,780	10,614,800	9,207,600	35,294,180
Public	4,917,780	0	0	4,917,780
Private not-for-profit	0	0	0	0
Private for-profit	10,554,000	10,614,800	9,207,600	30,376,400
Orders approved (Number of treatments) – Total	5,520,620	8,146,510	4,804,450	18,471,580
Public	2,739,420	2,178,360	0	4,917,780
Private not-for-profit	0	0	0	0
Private for-profit	2,781,200	5,968,150	4,804,450	13,553,800
Orders delivered* (Number of treatments) – Total	962,760	10,541,160	4,039,168	15,543,088
Public	0	4,848,660	69,120	4,917,780
Private not-for-profit	0	0	0	0
Private for-profit	962,760	5,692,500	3,970,048	10,625,308
Uganda				
New requests for co-payments received (Number of treatments) – Total	14,655,433	5,275,000	10,559,400	30,489,833
Public	5,850,033	0	0	5,850,033
Private not-for-profit	500,000	620,000	0	1,120,000
Private for-profit	8,305,400	4,655,000	10,559,400	23,519,800
Orders approved (Number of treatments) – Total	6,519,120	4,691,600	5,078,100	16,288,820
Public	2,241,320	1,500,000	0	3,741,320
Private not-for-profit	500,000	220,000	0	720,000
Private for-profit	3,777,800	2,971,600	5,078,100	11,827,500
Orders delivered* (Number of treatments) – Total	2,945,940	4,764,580	2,511,800	10,222,320
Public	1,640,130	0	526,230	2,166,360
Private not-for-profit	0	500,000	0	500,000
Private for-profit	1,305,810	4,264,580	1,985,570	7,555,960
Zanzibar				
New requests for co-payments received (Number of treatments) – Total	134,000	0	0	134,000
Public	0	0	0	0
Private not-for-profit	0	0	0	0
Private for-profit	134,000	0	0	134,000
Orders approved (Number of treatments) – Total	0	0	0	0
Public	0	0	0	0
Private not-for-profit	0	0	0	0
Private for-profit	0	0	0	0
Orders delivered* (Number of treatments) – Total	0	0	0	0
Public	0	0	0	0
Private not-for-profit	0	0	0	0
Private for-profit	0	0	0	0

* Manufacturers must provide proof of delivery to the Global Fund with all invoices for co-payment. Due to the delay between delivery and submission of an invoice by manufacturers, the actual treatment quantities delivered may be higher than what is officially reported in this table..

1.2.7 Typical ordering behavior: Differences between public and private sector buyers

During AMFm Phase 1, some systematic differences between the purchasing behavior of public and private sector first-line buyers became evident. Table 1.2.3 summarizes some of these key differences. For the public sector, typically there is a single first-line buyer that places a single order (with staggered deliveries) to cover the public sector need for a full year, following a competitive tender process. In contrast, to cover the private sector needs, several private sector first-line buyers place multiple, relatively smaller orders periodically throughout the year, after directly contacting a manufacturer and reaching an agreement.

For example, in Kenya, between June 2010 and December 2011, one public sector first-line buyer placed 2 orders for a total of 16.5 million co-paid ACTs, and six private sector first-line buyers placed 34 orders for a total of 16 million ACTs (see Table 1.2.4).

Table 1.2.3: Differences between public and private sector buyers		
Item	**Public sector buyers**	**Private sector buyers**
Number of buyers	Often only one public sector first-line buyer places an order for the entire public sector needs	Several private sector first-line buyers typically cover the private sector needs
Frequency of orders	Single order placed for entire year (with staggered deliveries)	Several orders placed throughout the year
Order size	Public sector need is addressed in one single order	Part of private sector need addressed through multiple smaller orders
Competition	Competitive tender required	Can (and may be obliged to) engage directly with preferred suppliers
Source: Global Fund		

Table 1.2.4: Number of first-line buyers which received deliveries* of quality-assured ACT treatments through AMFm

Country	June 2010 - December 2011			January 2012 - September 2012			June 2010 - September 2012		
	Public	Private for-profit	Private not-for-profit	Public	Private for-profit	Private not-for-profit	Public	Private for-profit	Private not-for-profit
Cambodia	0	0	0	0	0	1	0	0	1
Ghana	1	14	0	1	12	0	1	15	0
Kenya	1	6	0	1	7	0	1	7	0
Madagascar	1	8	0	1	3	0	1	8	0
Niger	2	3	0	1	3	0	2	3	0
Nigeria	1	25	2	1	23	2	1	26	2
Tanzania mainland	1	6	0	1	8	0	1	9	0
Uganda	2	4	2	2	3	1	3	4	2
Zanzibar	1	1	0	0	0	0	1	1	0
Total	**10**	**67**	**4**	**8**	**59**	**4**	**11**	**73**	**5**

* Manufacturers must provide proof of delivery to The Global Fund with all invoices for co-payment. Due to the delay between delivery and submission of an invoice by manufacturers, the actual number of first-line buyers which received deliveries may be higher than what is officially reported in this table.

Source: Global Fund

1.2.8 Implementation and country-level effects of demand-shaping levers

Up until July 2011, all orders made by FLBs were approved by the Global Fund in the same quarter. However, for several reasons, including that co-payment costs for covering actual orders placed were initially higher than anticipated, it became apparent that the demand for AMFm copaid ACTs was greater than the resources available for co-payment during Phase 1. In order to ensure the availability of co-payment funding until additional resources might be secured, the AMFm Secretariat developed a framework for rationing co-payment. Since August 2011, each request for co-payment received is evaluated on the basis of several criteria (for example, the ratio of cumulative approved orders to estimated demand, relative proportion of pediatric formulations/pack sizes, and sector) and approved within the constraint of USD 8-10 million per month. Further details on the framework for rationing and demand-shaping levers applied are available in Appendix A.

The immediate result of the application of these levers was a drastic reduction in the proportion of orders approved for co-payment, particularly for the private sector as all public sector requests for co-payment received in 2011 were approved for co-payment. Table 1.2.5 shows the quantity of copaid quality-assured ACTs requested by private not-for-profit and private for-profit first-line buyers and approved by the Global Fund in the last two quarters of 2011. In the 3rd and 4th quarters of 2011, AMFm approved only 32% of the private not-for-profit and private for-profit sector requests for co-payment received; Nigeria, Ghana, Kenya and Uganda were the most affected, with only 24%, 27%, 56% and 57% of private sector orders, respectively, approved during this period. By contrast, all requests were approved for Madagascar and Niger and relatively few orders were pending or cancelled in Tanzania mainland or Zanzibar.

Given that the quantities of ACTs approved by the AMFm were significantly smaller than the demand from first-line buyers, it is reasonable to expect the imbalance to lead to pockets of low stocks at the level of the first-line buyer and potentially decreased availability and increased prices at the retail level in affected countries following application of the levers. Although orders take several months to arrive in country and be distributed, it is likely that application of demand levers, particularly in the 3rd quarter of 2011, may have influenced QAACT availability by the time of the endline outlet surveys. Key informants in some countries reported problems of delayed and reduced order approvals, and the AMFm Secretariat frequently received feedback from first-line buyers and manufacturers expressing frustration with the partial fulfillment of ACT orders.

Table 1.2.5: Quality-assured ACT treatments requested by private not-for-profit and private for-profit first-line buyers and approved by the Global Fund, 3rd quarter and 4th quarter of 2011

Country	Quantity of quality-assured ACT treatments requested by first-line buyers	Quantity of quality-assured ACT treatments approved by the Global Fund	Percentage of quality-assured ACT treatments approved by the Global Fund
Ghana	28,084,120	7,699,920	27
Kenya	7,263,320	4,071,000	56
Madagascar	317,054	317,054	100
Niger	575,140	575,140	100
Nigeria	62,665,768	15,324,600	24
Tanzania mainland	4,772,200	4,272,200	90
Uganda	5,183,880	2,953,880	57
Zanzibar	0	0	Na
Total	**108,861,482**	**35,213,794**	**32**
na = Not applicable			
Source: Global Fund			

Table 1.2.6: Quality-assured ACT treatments requested by private not-for-profit and private for-profit first-line buyers and approved by the Global Fund, 1st quarter, 2nd quarter and 3rd quarter of 2012

Country	Quantity of quality-assured ACT treatments requested by first-line buyers	Quantity of quality-assured ACT treatments approved by the Global Fund	Percentage of quality-assured ACT treatments approved by the Global Fund
Ghana	28,493,200	13,872,220	49
Kenya	50,809,820	17,344,340	34
Madagascar	1,234,250	1,139,840	92
Niger	3,363,305	1,996,715	59
Nigeria	133,286,912	38,998,251	29
Tanzania mainland	35,294,180	18,471,580	52
Uganda	30,489,833	16,288,820	53
Zanzibar	134,000	0	0
Total	**283,105,500**	**108,111,766**	**38**
Source: Global Fund			

1.2.9 Evolution of adult versus child pack orders over time

The relative percentage of child[10] versus adult packs of AL, which represents 85% of all copaid ACTs approved, has evolved over time (Figure 1.2.1). In March 2011, the co-payment structure was revised to favor child packs, which began to have an effect, with child packs of AL increasing from 32% to 49% of approved orders in the period March to July 2011. Following implementation of the demand-shaping levers, this resulted in further increases in the relative proportion of child packs, to 65% for the period August to December 2011 and to 69% for the period January to August 2012.

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[10] Child packs include all sizes other than the highest weight band

In contrast, the relative shares of child versus adult packs of ASAQ and AS+AQ (co-blister packs) were more in favor of child packs from the beginning and have remained stable over time (see Figure 1.2.2), likely related to the fact that ASAQ tablets come in different formulations for child and adult packs.

For all copaid ACTs together, the percentage of all packs approved that were child packs was 51% between June 2010 and December 2011, and 69% between January and September 2012. For the same periods, the child pack share of copaid ACTs delivered to Phase 1 countries was slightly lower (48% and 66%, respectively). Overall, for the June 2010 to September 2012 period, 57% of ACTs approved for copayment were for child packs, and 55% of copaid ACTs delivered to Phase 1 countries were child packs.

Figure 1.2.1: Artemether-lumefantrine: Relative percentage of pack sizes, pre- and post-revision of co-payment structure and introduction of levers

AL: Artemether-Lumefantrine, fixed-dose combination tablets (traditional and dispersible)
Adult (35 kg or more): 6x4 20/120 mg
Child (25 kg up to 35 kg): 6x3 20/120 mg; Child (15 kg up to 25 kg): 6x2 20/120 mg
Infant/Toddler (5 kg up to 15 kg): 6x1 20/120 mg
Source: Global Fund

Figure 1.2.2: Artesunate-Amodiaquine: Relative percentage of pack sizes, pre- and post-revision of co-payment structure and introduction of levers

ASAQ: Artesunate-Amodiaquine, fixed-dose combination tablets
Adult: 3x2 100/270 mg
Child: 3x1 100/270 mg
Toddler: 3x1 50/135 mg
Infant: 3x1 25/67.5 mg
Source: Global Fund
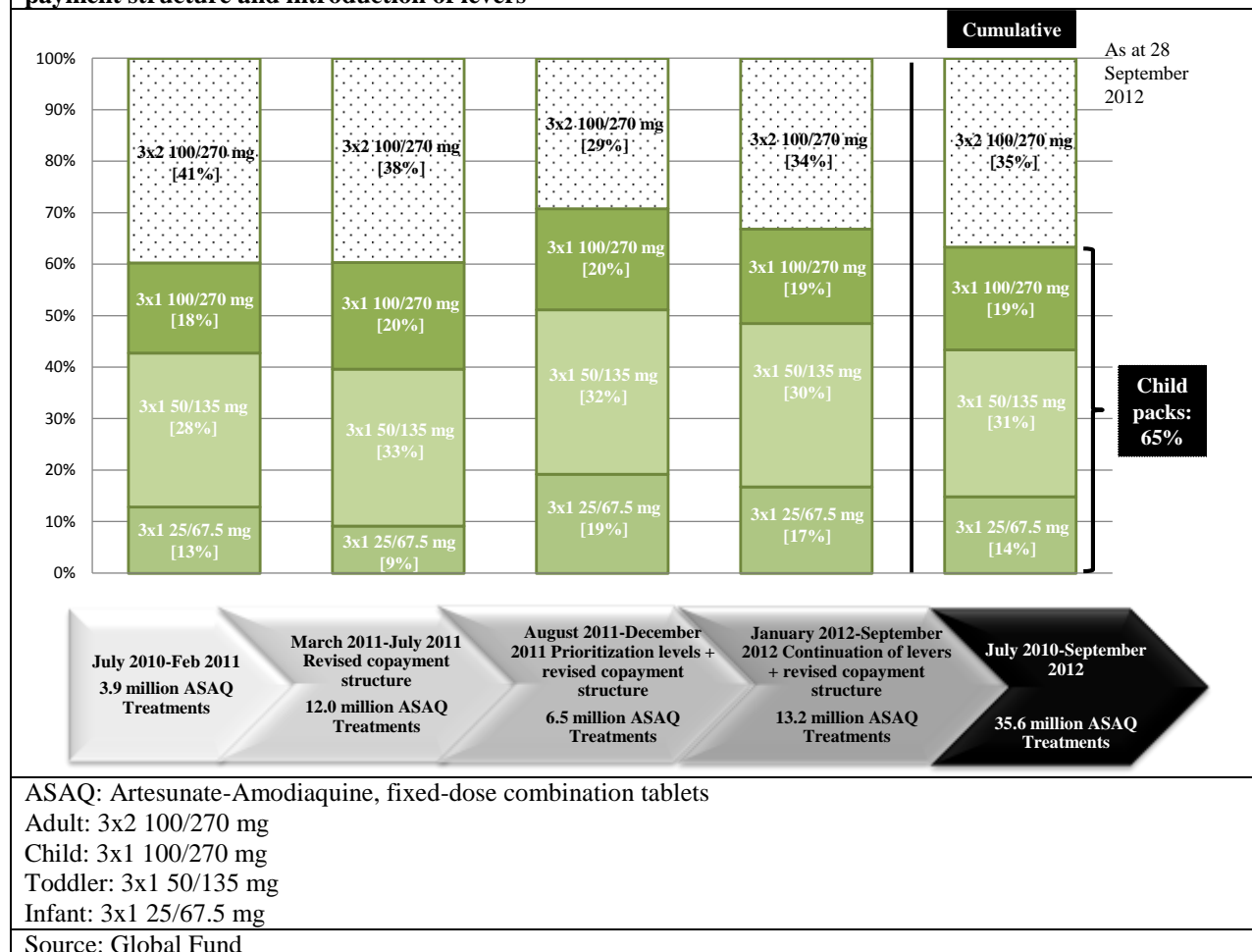
1.2.10 Disbursement delays for supporting interventions

Due to a wide variety of factors at both the global and country levels, the timely disbursement of Global Fund grant funds to AMFm pilot countries remained a major challenge throughout Phase 1. This resulted in delayed implementation of supporting interventions with critical elements, particularly public awareness and provider training, lagging behind distribution of copaid ACTs in the private sector. Late disbursement also hindered procurement of copaid ACTs by the public sector. These disbursement delays are discussed in greater detail in the country case studies. To be noted is that in some instances stop-gap activities were undertaken by partners to address the delays.

1.2.11 Overview of timing of AMFm implementation

Figure 1.2.1 provides an overview of the timeline of AMFm implementation in each pilot, from the signing of the grant amendment to grant disbursements, arrival of copaid drugs, and implementation of the IEC/BCC campaign (this supporting intervention has been highlighted as

it is a key intervention included in all pilot AMFm proposals). The figure also shows the timing of the implementation of demand levers and the dates of the Independent Evaluation baseline and endline outlet survey data collection. Further details on timing in specific pilots and reasons for any delays can be found in Section 4.

Figure 1.2.3: **Timeline of AMFm Phase 1 Independent Evaluation data collection; grant amendments and disbursements; arrival in-country of copaid QAACTs; launch events; IEC/ BCC implementation; and application of demand levers by the Global Fund**

		2010									2011													2012		
		Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Ghana	IE outlet survey data collection																								
	Grant amendment and disbursement			X			$																		
	Copaid ACTs in-country (private sector)					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Copaid ACTs in-country (public sector)																			+			+		+
	IEC/BCC implementation											L													
	Application of demand levers by the Global Fund																								
Kenya	IE outlet survey data collection																								
	Grant amendment and disbursement				X	$																			
	Copaid ACTs in-country (private sector)						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Copaid ACTs in-country (public sector)																+	+	+	+	+	+	+		
	IEC/BCC implementation						L																		
	Application of demand levers by the Global Fund																								
Madagascar	IE outlet survey data collection																								
	Grant amendment and disbursement		X	$																					
	Copaid ACTs in-country (private sector)						+		+		+		+		+	+	+			+		+			
	Copaid ACTs in-country (public sector)										+	+							+						
	IEC/BCC implementation										L														
	Application of demand levers by the Global Fund																								
Niger	IE outlet survey data collection																								
	Grant amendment and disbursement			X			$																		
	Copaid ACTs in-country (private sector)											+		+		+	+		+		+			+	+
	Copaid ACTs in-country (public sector)											+	+		+				+						
	IEC/BCC implementation											L													
	Application of demand levers by the Global Fund																								
Nigeria	IE outlet survey data collection **																								
	Grant amendment and disbursement					X						$													
	Copaid ACTs in-country (private sector)										+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Copaid ACTs in-country (public sector)													+	+				+						
	IEC/BCC implementation											L													
	Application of demand levers by the Global Fund																								
Tanzania-mainland	IE outlet survey data collection																								
	Grant amendment and disbursement			X		$								$											
	Copaid ACTs in-country (private sector)						+		+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+
	Copaid ACTs in-country (public sector)															+		+							
	IEC/BCC implementation										L*		L												
	Application of demand levers by the Global Fund																								
Uganda	IE outlet survey data collection																								
	Grant amendment and disbursement										X							$							
	Copaid ACTs in-country (private sector)												+	+	+	+	+	+	+	+	+	+		+	+
	Copaid ACTs in-country (public sector)																+	+	+			+			
	IEC/BCC implementation										L*														
	Application of demand levers by the Global Fund																								
Zanzibar	IE outlet survey data collection																								
	Grant amendment and disbursement						X										$								
	Copaid ACTs in-country (private sector)													+											
	Copaid ACTs in-country (public sector)																		+						
	IEC/BCC implementation											L													
	Application of demand levers by the Global Fund																								

Notes: ■ = Baseline and endline data collection for Independent Evaluation outlet surveys. ▨ = Signing of grant amendment and Global Fund grant disbursements for implementation of Supporting Interventions. ▨ = Copaid QAACTs in-country (although not necessarily in continuous supply); + = copaid QAACTs delivered, ▨ = Implementation of AMFm public awareness (IEC/BCC) campaign at scale. ▨ =Interim AMFm public awareness (IEC/BCC) campaign i.e. Ghana: talk shows only; Niger: activities not at scale; Nigeria: stop-gap soft launch; Uganda: stop-gap radio. ▨ = Application of Global Fund demand levers. GA= grant amendment; $= disbursement for implementation of SIs; L= launch; L *= "Soft" Launch; in Tanzania- mainland a "soft" launch was held with a press conference on January 25, 2011; in Uganda a "soft" launch was held on April 29, 2011- linked to World Malaria Day celebrations, however no IEC/BCC or trainings began until after endline data collection. **Nigeria: Baseline data collection completed Sept-Nov 2009

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1.2.12 Summary of AMFm implementation

Table 1.2.3 summarizes key elements of AMFm implementation across the eight pilots, including the number of doses of copaid ACTs delivered in relation to the population at risk of malaria; the percentage of copaid ACTs delivered that were purchased by private for-profit first line buyers; the timing of the midpoint of the endline outlet surveys from the arrival of copaid ACTs in the country and from implementation at scale of IEC/BCC activities; and whether or not demand levers on orders were applied by the Global Fund, with corresponding percentages of requested private not-for-profit and private for-profit sector orders that were approved during the second half of 2011.

In three pilots (Ghana, Kenya and Uganda), between 0.84 and 1.01 doses of copaid ACTs were delivered per person at risk of malaria. In Zanzibar, Tanzania mainland and Nigeria, the range was between 0.19 and 0.42 doses per person at risk, while in Madagascar and Niger, only 0.08 and 0.14 doses of copaid ACTs per person at risk of malaria were delivered.

In most pilots, the majority of copaid ACTs delivered were purchased by private for-profit FLBs, with five pilots having over 62% purchased by FLBs. In Niger and Uganda, on the other hand, less than 25% of copaid ACTs were purchased by FLBs in this sector.

The time elapsed between arrival of copaid ACTs in the country and the midpoint of endline outlet surveys was over 12 months in 4 pilots (Ghana, Kenya, Madagascar and Tanzania mainland). The elapsed time was 9-1/2 months in Nigeria and Niger, and 7 and 6-1/2 months in Uganda and Zanzibar, respectively.

In Madagascar, Niger and Uganda, no sustained IEC/BCC campaign had been implemented at scale at the time of endline outlet survey fieldwork. In the other pilots between three and nine months elapsed between implementation of IEC/BCC activities at-scale and the midpoint of endline outlet surveys, illustrating that these activities lagged behind the arrival of copaid ACTs by between one and a half and seven months.

Five of the eight pilots experienced application of Global Fund demand levers during the second half of 2011, with between 24% and 90% of orders requested by private not-for-profit and private for-profit FLBs approved. The demand levers had the greatest effect in Ghana and Nigeria.

Table 1.2.7: Summary of AMFm implementation

Country	Doses of copaid ACTs delivered per person at risk of malaria (2010-2011)*	Percentage of copaid ACTs delivered to private for-profit sector first line buyers*	Months from arrival of copaid ACTs to midpoint of endline outlet survey*	Months from IEC/BCC implementation at scale to midpoint of endline outlet survey**	Application of Global Fund demand levers (percentage of private not-for-profit and private-for-profit sector orders approved in 2nd half of 2011)***
Ghana	1.01	94.3%	15-1/2	9	Yes (27%)
Kenya	0.90	49.6%	15	9	Yes (56%)
Madagascar	0.08	71.0%	14	†	No
Niger	0.14	19.8%	9-1/2	†*	No
Nigeria	0.42	76.9%	9-1/2	3	Yes (24%)
Tanzania mainland	0.31	62.3%	13-1/2	7	Yes (90%)
Uganda	0.84	24.5%	7	0	Yes (57%)
Zanzibar	0.19	62.2%	6-1/2	5	No

Note: Population at risk of malaria obtained from World Malaria Report (2011), which states that 100% of the population was considered at risk in all countries except Kenya (where it was 76%).

† Some implementation of IEC/BCC activities, but these activities were suspended prior to endline data collection.

Source:

* Information collated from Global Fund orders database (additional detail available in Table 1.2.1). Population at risk of malaria obtained from World Malaria Report (2011), which states that 100% of the population was considered at risk in all countries except Kenya (76%).

** Information from country case studies (see Chapter 4)

***Global Fund (see Section 1.2.6)

1.3   Overview of AMFm Phase 1 Countries

The seven AMFm Phase 1 countries in which the IE has taken place are located in sub-Saharan Africa. Of these countries, three are in West Africa (Ghana, Niger and Nigeria), three are in East Africa (Kenya, Uganda and the United Republic of Tanzania) and one is in southern Africa (Madagascar) (Figure 1.2.1). An overview of each country (with separate summaries for Tanzania mainland and Zanzibar) is given below.

Figure 1.3.1: Location of the AMFm Phase 1 countries
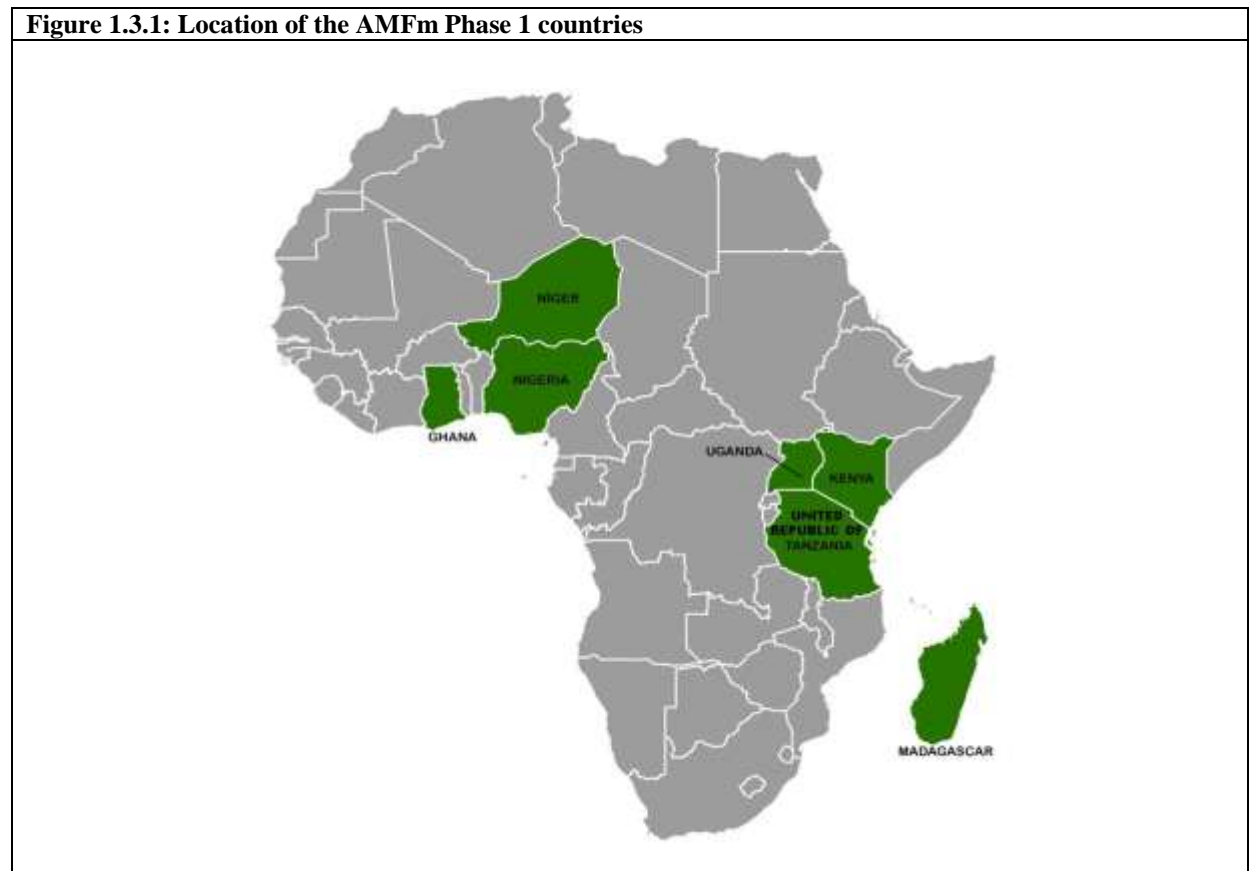
1.3.1   Ghana

Ghana has a population of approximately 24 million, of which 46% are 15 years or younger. The population of Ghana is growing and expected to double in 26 years. Due to the recent discovery of oil, Ghana is also a growing economy, with one of the highest Gross Domestic Products (GDPs) per capita in Africa (USD 1,325 in 2010).

Malaria is a public health concern in Ghana with 100% of the population at risk of malaria. Transmission occurs year round and is higher in rural and peri-urban areas than in urban areas. The Ghana Health Service (GHS) estimates that 3 million cases of clinical malaria are reported from government health facilities annually, of which about 900,000 are in children less than 5

years of age. The majority of cases are caused by *Plasmodium falciparum*, but *Plasmodium malariae* and *Plasmodium ovale* cases are also found.

Facilities considered part of the private health sector in Ghana include private for-profit institutions (such as privately owned hospitals/clinics, maternity homes, pharmacies and licensed chemical shops) and private not-for-profit facilities (such as those run by faith-based organizations and nongovernmental organizations). As part of the private sector, the Christian Health Association of Ghana (CHAG) operates under the umbrella of the Private Medical and Dental Practitioners Association of Ghana.

The Ministry of Health (MOH) oversees the entire health system in Ghana. Under the MOH, the Ghana Health Service (GHS) ensures health service delivery in the public sector and implements health programs and policies. The National Health Insurance Scheme was introduced in 2004, and presently covers about 60% of the population. Beneficiaries of the scheme typically pay a card processing fee, an annual premium and a renewal fee, and the service covers about 95% of all illnesses including diagnostics and treatment costs, including the cost of diagnosis and treatment of malaria.

The National Malarial Control Programme (NMCP) is responsible for providing technical leadership and coordination of all malaria control activities in Ghana. In 2002, the MOH revised Ghana's malaria treatment policy and recommended that ACTs be used as the first line of treatment for uncomplicated malaria instead of chloroquine. Artesunate-amodiaquine (ASAQ) is the recommended first-line drug, and for those who cannot tolerate ASAQ, artemether-lumefantrine (AL) and dihydroartemisinin-piperaquine (DHAP) are alternative first-line therapies. In addition to this recommended change, all ACTs have been declassified from prescription only to over-the-counter medicines, so that all health providers are able to stock, prescribe and supply ACTs.

1.3.2   Kenya

Kenya is an East African country located across the equator and bordered by five countries (Ethiopia, Sudan, Uganda, Tanzania and Somalia). The population of Kenya is 38.6 million, of which almost 43% is below 15 years of age. Approximately two-thirds of the population lives in rural areas, where 49% live below the poverty line, compared with 39% in urban areas. As of 2010, the per capita GDP in Kenya was USD 795.

Seventy-six percent of the population lives at risk of malaria infection. Kenya has four distinct malaria transmission zones: 1) endemic areas with intense transmission throughout the year, 2) seasonal transmission areas which have intense transmission during the rainy season, 3) epidemic-prone areas with seasonal and unstable transmission and 4) low risk areas where the

temperature is too low for the parasite to complete its life cycle in the vector. *Plasmodium falciparum* is the most prevalent parasite species at 96%, of which 16% comprises mixed infections with *Plasmodium ovale*, *Plasmodium malaria*e or both.

The health care system in Kenya is made up of more than 6,700 facilities from the public and private sectors. Approximately half of these facilities are public sector facilities, which employ 60% of the health care personnel in Kenya. The Ministry of Medical Services (MOMS) and the Ministry of Public Health and Sanitation (MOPHS) are jointly responsible for health care services and delivery in Kenya. The public sector health system operates on a multi-tiered system, starting with community-level health units to district level facilities to regional facilities and finally to national referral hospitals. Most of the private not-for-profit facilities are operated by faith-based organizations. In both the public sector and the private not-for-profit sector, children under five years should receive free medical care, and there is a system of exemptions for all others who cannot afford care. In addition, medicines for malaria, HIV/AIDS and TB should be provided for free to everyone. The private for-profit health sector accounts for approximately 33.4% of the health facilities in Kenya and provides services and medicines on a full cost basis. Retail sector drug provision is through registered and unregistered pharmacies, with the latter believed to make up at least 50% of retail pharmacy outlets.

In 2004, the National Malaria Control Program (NMCP) adopted artemether-lumefantrine (AL) as the first-line treatment and dihydroartemisinin-piperaquine as the second-line treatment for uncomplicated malaria. In addition, the NMCP updated its policy guidelines in 2010 to recommend that all suspected cases of malaria have parasitological diagnosis using microcopy or rapid diagnostic tests. ACTs in Kenya are considered prescription only medicines, with distribution supposed to be limited to government facilities, private clinics and registered pharmacies. The sale of oral artemisinin was banned in 2006.

The funding for malaria control activities primarily comes from the government and international donors, including the Global Fund, PMI, DfID and UN agencies. The Global Fund provides the most substantial amount of funding to Kenya for malaria control activities.

1.3.3   Madagascar

Madagascar is the fourth largest island in the world with a population of approximately 21 million. GDP per capita was USD 421 in 2010. Approximately 68% of Madagascar's population lives below the poverty line. Since February 2009, Madagascar has been experiencing a political crisis which has affected the economic growth of the country. Madagascar's GDP decreased by 4.6% in 2009 after increasing by 7.1% in 2008, according to the World Bank. Due to this political crisis, a considerable proportion of official aid, which makes up 40% of Madagascar's budget, has been on hold.

While 100% of the population of Madagascar is at risk of malaria, malaria transmission occurs at varying levels throughout the island. In the north, malaria transmission occurs year round. On the east and west coasts, transmission is stable and perennial. In contrast, malaria transmission in the south and central highlands is seasonal and unstable and sometimes prone to epidemics. Approximately 75% of the population lives in low and unstable transmission regions, and 25% lives in areas of high and intense transmission. In all, 299,094 clinical malaria cases were reported in 2009.

The public sector health system is the main source of health care, particularly in rural areas, accounting for 70% of primary contacts in rural areas and 40% of primary contacts in urban areas. The public health care system operates at four functional levels: central, regional, district and community. The system comprises a total of 138 hospitals, 1,335 secondary health centers, 1,059 primary health centers, and 14,989 community health workers (CHW). CHWs have historically been a key distribution channel for malaria medicines. The central medical store is the sole importer and distributor of drugs to the public sector health facilities, except for ACTs which are purchased by UGP, a principal recipient of the Global Fund, and distributed by the National Malaria Program. The private sector health system includes 44 hospitals, 724 private health centers and 1,500 doctors. In addition, there is a network of 22 pharmaceutical wholesalers, 200 pharmacies and more than 1,000 rural pharmacies.

In 2006, the NMCP adopted ASAQ as the first-line treatment and AL as the second-line treatment for uncomplicated malaria. ASAQ is provided for free at public health facilities. Malaria treatment requires a prescription and can be stocked at legally registered pharmacies and drugstores. Children with uncomplicated malaria are treated free of charge. As part of case management training by the NMCP, training on the use of microscopic diagnosis and the use of rapid diagnostics was initiated in 2005, and PMI has supported a program to train CHWs to use RDTs. From 2008, ACTs have also been distributed through a social marketing project (funded by the Global Fund and implemented by PSI) that at the time of the endline outlet survey provided subsidized artesunate-amodiaquine in the form of a branded product (ACTipal®) to CHWs, pharmacies and drug stores.

Funding for malaria control activities has steadily increased over the last several years from about $25 million in 2009 to $89 million in 2011. This funding primarily comes from the Global Fund, UN agencies and the President's Malaria Initiative (PMI).

1.3.4   Niger

Located in West Africa, Niger is bordered by Algeria, Burkina Faso, Benin, Chad, Libya, Mali and Nigeria. The estimated population of 15.2 million persons in 2010 lives in an area of

1,267,000 km². Niger remains one of the poorest countries in the world, with a GDP per capita in 2010 of USD 358. About 63% of the population lives below the poverty line.

Malaria is a major public health problem in Niger. The burden of malaria was estimated at 7.59 million episodes (suspected cases) in 2010 (WHO 2012). These numbers place malaria in first place, ahead of acute respiratory infections (ARI) and diarrheal diseases. Malaria accounts for an average of 20% of the causes of consultations during the dry season and 80% during the rainy season. The disease affects all age groups, but particularly children under five years and pregnant women.

In Niger, the public sector is the main health care provider and is structured in three levels. The first level, referred to as the central level, comprises national referral hospitals (3) and national specialized hospitals. The second level, called the regional level, includes six regional hospitals and three referral maternities. The peripheral level of the health care system is the district health system, which includes district hospitals and a network of 578 primary health care facilities called integrated health care centers (Centres de Santé Intégrés or CSI) and 1,201 operational health posts (Cases de Santé). The private sector includes 201 clinics and health care centers providing different level of health care; two-thirds of them (68%) are located in the capital of Niamey.

The National Malaria Control Program is responsible for implementing the malaria control strategies, which are organized around the following areas: malaria case management, prevention of malaria during pregnancy, integrated vector control, forecasting, prevention and management of epidemics, communication and social mobilization on the dangers of malaria, and advocacy and action at the individual and community levels. The Global Fund is the major source of funding for malaria control activities in Niger.

With high levels of resistance to chloroquine observed in 2003, the country adopted an ACT as a first-line treatment for uncomplicated malaria cases in adults and children. Since January 2005, artemether-lumefantrine (AL) has been the recommended first-line drug for uncomplicated malaria (replacing chloroquine), and artesunate-amodiaquine (ASAQ) has been the second-choice treatment. Artemisinin monotherapy is banned for the treatment of uncomplicated malaria, and through 2011 quinine was the recommended antimalarial for the treatment of severe and complicated malaria. From 2008, Niger introduced a pediatric form for ACT. For prevention of malaria in pregnant women, sulfadoxine-pyrimethamine (SP) is recommended for intermittent preventive treatment (IPTp), in addition to insecticide-treated bednets (ITNs). Quinine and ACTs are the recommended drugs for treatment of malaria in pregnancy (in the 2nd and 3rd trimesters). ACTs are registered as prescription only medicines, and the national policy is that all presumed malaria cases should be parasitologically confirmed before treatment with ACTs. In practice,

however, due to a lack of RDTs, only 24% of fever cases are tested (23% using RDTs and 1.5% using microscopy).

The coverage of insecticide-treated nets (ITNs), including long-lasting insecticide-treated nets (LLINs), has increased substantially in Niger in recent years, with an estimated 2,530,809 million ITNs distributed or sold in 2010 (WHO 2012). A similar number of ITNs was sold or distributed in 2009. In 2010, it was estimated that 50-60% of the population at risk of malaria was protected by ITNs or IRS and that ITN coverage in the general population was 33% (WHO 2012).

1.3.5 Nigeria

Nigeria is the most populous country in Africa with a population of 158 million. The country is made up of 36 states (plus the Federal Capital Territory) and 774 Local Government Areas (LGAs). Nigeria's gross domestic product per capita was USD 1,278 in 2010. Despite a rapid increase in GDP per capita in the last 10 years, primarily due to oil revenues, 55% of the population is below the poverty line.

Malaria is a major public health issue in Nigeria, with 100% of the population at risk of malaria. Nigeria has five ecological strata from north to south, resulting in varying malaria transmission intensities and seasonality. The north has intense transmission during the 3-month wet season, whereas the south experiences intense and stable transmission throughout the year. Malaria accounts for about 50% of the total disease burden and total health expenditures in Nigeria. The National Malaria Control Program (NMCP) estimates that malaria causes 300,000 deaths in children under the age of five years each year.

The public health care system in Nigeria operates on a three-tiered system with the Federal Ministry of Health (FMOH) at the top, followed by the State Ministries of Health (SMOH) and Local Government Areas (LGAs). The FMOH is responsible for providing policy and technical guidance, and manages tertiary level care, research and academic centers of excellence. The SMOHs manage state hospitals and training of health care staff for primary and secondary health care facilities. The LGAs are responsible for managing and implementing primary health care (PHC) services. The private sector provides 65% of health care in Nigeria, and many Nigerians, particularly the poor, use the proprietary patent medicine vendors (PPMVs) as the first choice for health care.

In 2005, the NMCP adopted AL as the first-line treatment for uncomplicated malaria and ASAQ as the alternative first-line treatment. Both AL and ASAQ were declassified from prescription medicines to over-the-counter medicines in 2006. Oral artemisinin monotherapies were banned in 2006, and their importation and local manufacturing are prohibited by law. The National

Agency for Food and Drug Administration and Control (NAFDAC) regulates both the public and private sector drug supply chains.

1.3.6 Tanzania – mainland

The population of Tanzania - mainland is estimated to be 41.9 million, with an annual growth rate of 2.9%. The majority of the population (75%) lives in rural areas. Tanzania mainland has maintained a GDP growth of 7% for the last 10 years. The per capita income in 2010 was USD 524. Despite the growth in per capita income, 38% of households in rural areas and 24% of households in urban areas continue to fall below the poverty line.

One hundred percent of Tanzania's population is at risk of malaria infection, although transmission varies across the country, with the highest prevalence in Northern Tanzania. Many malaria deaths go unreported, yet of all deaths recorded at health facilities, 44% and 26% are attributed to malaria in children under five and those aged five years and above, respectively.

Health services are provided by both the government and the private sector, and they are overseen by the Ministry of Health and Social Welfare (MoHSW). Public health care is provided through a network of hospitals, health centers and dispensaries, with many similar facilities owned by faith-based organizations. Private retail sector providers include Part II drug stores (known as Duka la Dawa Baridi - DLDB), Accredited Drug Dispensing outlets (ADDOs) and Part One pharmacies (POPs), which should all be licensed by the Tanzania Food and Drug Authority (TFDA). DLDBs are allowed to stock a limited range of over-the-counter medicines. ADDOs are upgraded DLDBs after undergoing TFDA training, and they are allowed to sell a limited range of prescription only medicines. POPs should be staffed by a pharmacist, and are allowed to sell a wider range of medical supplies than ADDOs and DLDBs.

The ACT artemether-lumefantrine (AL) was introduced as first-line antimalarial in 2006, with quinine as a second–line antimalarial. Amodiaquine and SP are over-the-counter medicines, whereas quinine and artemisinin based drugs, including ACTs, are prescription only. Artemisinin monotherapies were banned in 2008, but some are still present in the market. Until 2010, most malaria cases were treated based on clinical symptoms alone, with very partial coverage with microscopy, but the MoHSW is now in the process of rolling out rapid diagnostic tests (RDTs) in public health facilities.

Prior to AMFm, subsidized ACTs had been made available in the private sector through two projects in 2007-9 (through ADDOs in the Morogoro and Ruvuma regions and through DLDB in Maswa District in the Shinyanga region and Kongwa District in the Dodoma region). However, it was expected that only minimal quantities of these subsidized ACTs remained in the market by the start of the AMFm rollout.

1.3.7 Uganda

Uganda is bordered by Sudan to the north, Kenya to the east, Tanzania and Rwanda to the south and the Democratic Republic of Congo to the west. The country has a population of approximately 33.4 million, 18.6% of whom are children under five years of age. From 2009-2010, the GDP increased by 5.8% and reached USD 509 in 2010; however, 35% of the population continues to live below the poverty line.

Most parts of Uganda experience perennial malaria transmission, and 99% of malaria cases are caused by *Plasmodium falciparum*. Malaria is the most frequently reported disease in both public and private health facilities, making it a major public health problem in Uganda. Indeed, clinical malaria is the leading cause of morbidity and mortality, accounting for 9-14% of all hospital deaths. In addition, about half of all deaths in children less than five years of age are attributed to malaria. Currently, it is estimated that malaria accounts for 70,000-110,000 deaths annually in Uganda.

Uganda's National Health System (NHS) is comprised of both public and private sector health care systems. The public sector health system is decentralized, and it is made up of five levels of service: hospitals, including National Referral Hospitals, Regional Referral Hospitals and district-level hospitals; sub-district-level health centers (health center IV), subcounty-level health centers (health center III), parish-level health centers (health center II) and Village Health Teams.

Procurement of medicines in the public sector health system occurs through the National Medical Stores (NMS). In 2010, NMS and the Ministry of Health (MOH) changed the policy under which lower level health facilities receive supplies; now each health center II and health center III receives a standard kit of drugs and commodities, including ACTs. Facilities are supposed to receive the kits bimonthly, the composition of which is determined by the facility type, irrespective of catchment population or case mix. Health center IVs and hospitals continue to order essential medicines from a budget line at the NMS.

The private health system consists of private not-for-profit providers, private for-profit providers, and traditional and complementary practitioners. Private not-for-profit facilities are predominantly faith-based organizations that are coordinated by national bureaus and diocesan boards. Across Uganda, private not-for-profit facilities were reported to provide 1.5 million outpatient services, 360,000 hospital admissions and 70,000 deliveries in 2008. The Joint Medical Stores procures and warehouses drugs and other medical supplies for the private not-for profit sector.

Private for-profit providers are an important source of care for treatment for malaria, and they are commonly the first avenue for seeking treatment during an episode of fever in children. Private for-profit providers include health facilities, which mainly provide primary and secondary care, retail pharmacies, licensed drug shops, and an unknown number of unregistered drug shops that operate illegally. Pharmacies should be supervised by a registered pharmacist, and they are permitted to dispense prescription only medicines. Drug shops, which outnumber pharmacies by a ratio of 10:1, should be located at least 1.5 km away from the nearest licensed retail pharmacy, and they should be supervised by a professional with an approved medical or pharmaceutical qualification. Drug shops are only permitted to sell over-the-counter medicines.

Private for-profit providers purchase medicines through the private commercial sector distribution chain. The distribution chain has a pyramidal structure, and includes approximately 250 wholesale pharmacies, 70 drug importers and distributors and 15 local manufacturers. In December of 2010, the Quality Chemicals Industries Limited (QCIL) manufacturing site in Kampala became pre-qualified to produce AL under license from Cipla Limited. QCIL is the first African manufacturer to receive WHO pre-qualification to manufacture ACTs.

In 2004, Uganda's NMCP adopted AL as the first-line treatment and ASAQ as the alternative first-line treatment for uncomplicated malaria. Treatment of uncomplicated malaria is provided free of charge to all age groups in public health facilities. Oral artemisinin monotherapies were banned in 2007.

Funding for malaria control activities in Uganda has come from multiple sources including the Global Fund, PMI, UNICEF, DFID and the Bill and Melinda Gates Foundation.

Prior to AMFm, the Consortium for ACT Private Sector Subsidy (CAPSS), led by the Ministry of Health Uganda and Medicines for Malaria Venture (MMV), piloted the distribution of subsidized ACTs through the private sector in four districts (Budaka, Pallisa, Kaliro and Kamuli). The pilot took place in 2008-2010. The ACT distributed through CAPSS was Coartem repackaged with a green leaf logo that was the prototype for the AMFm logo. It is likely that stock of the CAPSS-subsidized ACTs remained in the market at the time of the baseline outlet survey in Uganda.

1.3.8 Zanzibar

Zanzibar is a series of islands, which are part of the United Republic of Tanzania, located 36 km off the coast in the Indian Ocean. There are two main islands, Pemba and Unguja (with areas of 900 km^2 and 1,500 km^2, respectively), and several sparsely populated islets. Based on the 2002 census, the total population of Zanzibar is 981,754 with an annual growth rate of 3.1%. The enumerated population was 620,957 in Unguja and 360,797 in Pemba. Tourism accounts for one-

fifth of the total GDP in Zanzibar. Despite the growth in tourism, 50% of the population still lives below the poverty line.

One hundred percent of Zanzibar's population is at risk of malaria, which is primarily caused by *Plasmodium falciparum* infection. Each of the main islands has different transmission patterns. Unguja has two-peak transmission seasons, one during the long rainy season from March to June and one during the shorter rainy season from October to December. Pemba has only a one-peak transmission season during the long rainy season. Historically, malaria has been a leading cause of morbidity in Zanzibar. However, in recent years the incidence of malaria has been substantially reduced due to consolidated and scaled-up effective malaria control interventions. In 2005, malaria prevalence was reported to be 20% in many parts of Zanzibar; however, after six years of scale up, the prevalence is now below 1%.

The public health system in Zanzibar is administered through the directorates of the Ministry of Health and Social Welfare (MOHSW) and is focused on using district health services as the foundation. The public health system is comprised of primary, secondary and tertiary levels of care and specialized hospitals. The primary level of care consists of 113 first-line and 26 second-line Primary Health Care Units (PHCUs). The secondary level of care consists of Primary Health Care Centers (PHCC) and District Hospitals which provide some surgical services, emergency obstetric care and emergency referrals. There are two PHCCs on each island and three district hospitals, all on Pemba. The tertiary level of care is a national-level hospital with 400 beds. There are two specialized hospitals, the Mwembeladu Maternity Hospital and the Kidongechekundu Mental Hospital. These two hospitals, in addition to their specific services, offer case management of malaria, and the Mwembeladu Maternity Hospital also provides IPTp.

The private sector health system is well established in Zanzibar with three hospitals (all in Zanzibar Town), 100 outpatient clinics, 60 registered pharmacies and 200 over-the-counter (OTC) outlets. The majority of private facilities are located in and around Zanzibar Town.

In 2003, the Government of Zanzibar implemented a new policy to use artemisinin-based combination therapy (ACTs) for malaria treatment, being one of the first in the region to adopt this policy. Artesunate-amodiaquine (ASAQ) is the first-line treatment for uncomplicated malaria and artemether-lumefantrine (AL) is the alternative first-line treatment. ACT treatment is provided free of charge in public health facilities. In 2008, Zanzibar banned artemisinin monotherapy for treatment of malaria, and the ban was further enforced in 2011 within the framework of the AMFm program. Since January 2011, OTC outlets have been able to sell first-line antimalarial medicines, including copaid ACTs.

The Zanzibar Malaria Control Program (ZMCP) coordinates and implements malaria control strategies. Zanzibar aims to reduce malaria incidence by 70% by 2012 by focusing on effective

case management, preventing and controlling malaria in pregnancy, integrated vector control, and epidemic preparedness and response. Effective case management is based on providing prompt diagnosis by microscopy or a rapid diagnostic test (RDT) and treatment with ACTs. To prevent malaria in pregnancy, all pregnant women are provided intermittent preventive treatment (IPTp) with two doses of SP for free in public health facilities. Integrated vector control involves the distribution of long-lasting insecticide-treated nets (LLINs) and regular indoor residual spraying (IRS). In 2008, the ZMCP, in collaboration with the President's Malaria Initiative (PMI), established a malaria early epidemic detection system (MEEDS) in which weekly data are reported to ZMCP, allowing for early identification of epidemics for appropriate intervention.

Zanzibar receives funds for malaria control activities primarily from the Global Fund and PMI. With the goal of further expanding coverage of effective treatment for malaria, in November 2010, the Government of Zanzibar signed a two-year grant with the Global Fund to implement the Affordable Medicines Facility – malaria (AMFm) pilot.

1.4 Evaluation framework

The purpose of the Independent Evaluation is to assess how AMFm has evolved in each pilot and estimate changes between the baseline and endline surveys in the values of key measures (availability, price, market share and use of quality-assured ACTs[11]) to inform decisions regarding the future of AMFm beyond Phase 1. The IE is based on the AMFm (Phase 1) Monitoring and Evaluation (M&E) Results Framework, but with a focus on Outputs and Outcomes (Figure 1.4.1). The IE is therefore designed to answer four questions related to the availability, affordability, market share and use of ACTs. These questions are formulated as follows:

1. **Question 1**: Has the AMFm mechanism helped increase the availability of quality-assured ACTs to patients across the public, private for-profit and not-for-profit sectors, in rural/urban areas?
2. **Question 2:** Has the AMFm mechanism helped to reduce the cost of quality-assured ACTs to patients at public, private for-profit and not-for-profit outlets in rural/urban areas to a price comparable to the price of the most popular antimalarial?
3. **Question 3:** Has the AMFm mechanism helped increase use of quality-assured ACTs, including among vulnerable groups, such as poor people, rural residents and children?
4. **Question 4:** Has the AMFm mechanism helped increase the market share of quality-assured ACTs relative to all antimalarial treatments in the public, private for-profit and not-for-profit sectors in rural/urban areas?

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[11] Quality-assured ACTs are defined as those ACTs that meet the requirements of the Global Fund's quality assurance policy.

Figure 1.4.1: AMFm Phase 1 Results Framework

ACTs: Artemisinin-based combination therapies; IEC: Information Education and Communication; GF: Global Fund; AMTs: artemisinin monotherapies; SP: Sulfadoxine-pyrimethamine, CQ: Chloroquine; TA: Technical assistance, SIVs: Supporting interventions

Source: Global Fund, AMFm Phase 1 Monitoring and Evaluation Framework, 2009
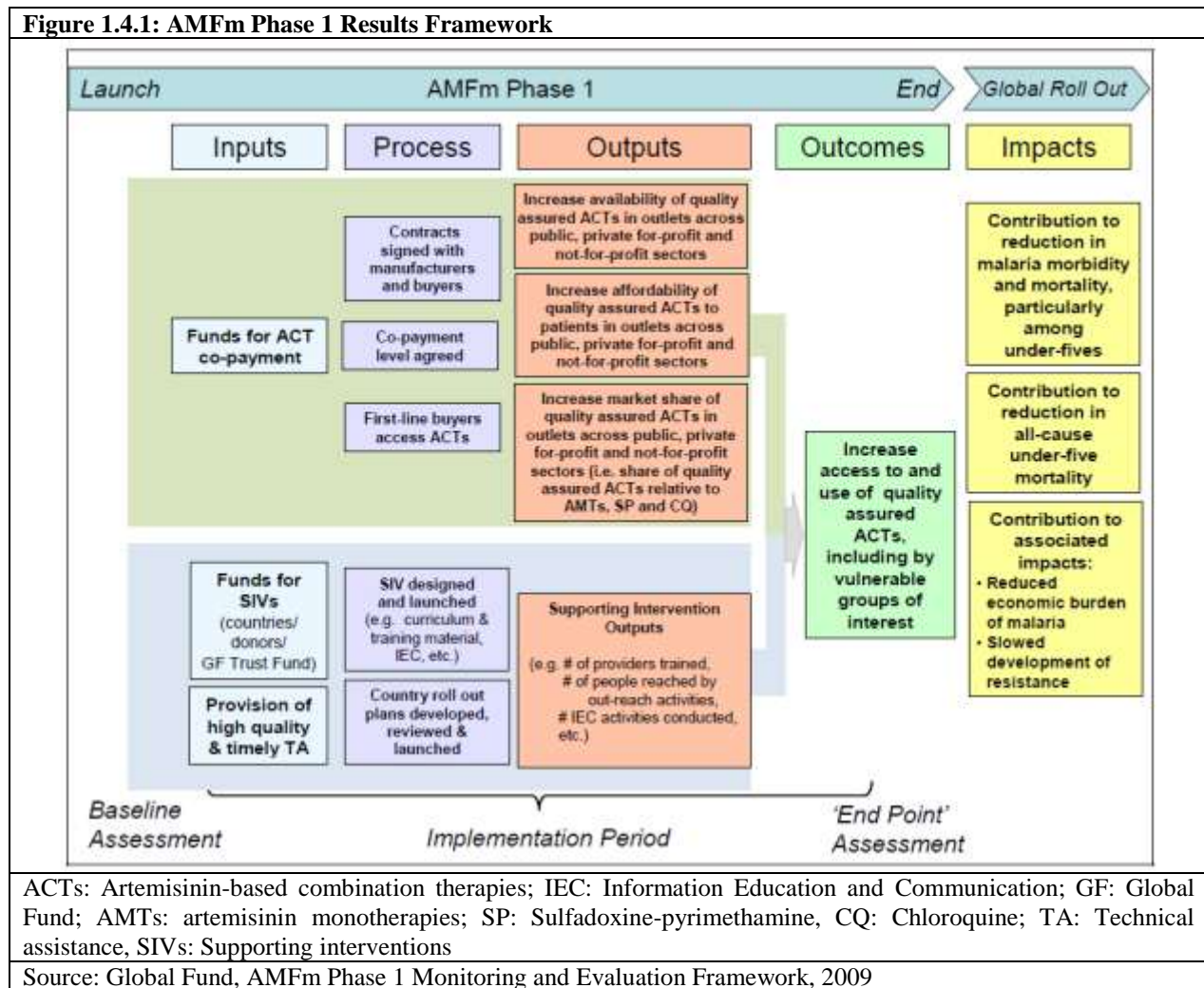
1.4.1   Impact model

The IE theory of change depicts our conceptualization of how AMFm is intended to work. It proposes a causal pathway which runs from the inputs of the AMFm intervention, including the supporting interventions, through the intermediate outputs measured by the IE, outcomes and the final impacts which are the ultimate objective of AMFm. The theory of change makes explicit how far down the causal pathway the IE is able to measure directly, and those outcomes and impacts which are not measured in the IE. It locates the potential influence of key elements of the implementation process on program outputs, including the volume and tempo of QAACTs ordered, approved and delivered. It identifies the different types of supporting interventions that have been implemented across the eight pilots, and where on the causal pathway they are expected to operate. Finally, it considers the main contextual factors with potential to influence AMFm outputs and outcomes. It is intended to serve as an aid to interpretation of the AMFm

indicators in each of the eight pilots and to the challenge of attributing observed changes to the AMFm program.

The theory of change is shown in Figure 1.4.2, which shows how two of the main inputs of the AMFm program (manufacturer price negotiations and application of the global subsidy) flow through to the volume of copaid QAACTs that are ordered, approved, delivered and made available in country. In distinguishing these different steps in the delivery process, the theory of change allows for blockages in any of these individual processes to influence impact. It also explicitly identifies the application by the AMFm Secretariat of "demand levers" to mediate the quantities of copaid QAACTs approved for each country.

The IE indicators are shown in blue boxes: these are QAACT availability, relative prices, market share and use. In the language of program evaluation, these are most appropriately described as outputs rather than outcomes. There is a direct relationship between the volume of drugs that arrive in a country and availability. Relative prices will also influence availability (which will in turn influence price), and we also identify demand side factors, not directly investigated in the IE, as an important influence on availability. QAACT use and its proxy, QAACT market share, are shown as following from availability. We also indicate overall antimalarial market size as a separate outcome, not directly measured by the IE. Even further downstream from QAACT use and market share is *appropriate* treatment of malaria (which might reflect the extent to which ACTs are targeted to those with malaria parasites, to those in the most vulnerable age groups and to the most economically vulnerable). Finally, AMFm would be expected to influence the outcomes of reduction in malaria burden and slowed growth of resistance to artemisinins. Neither appropriate treatment nor malaria burden/resistance are within the scope of the IE.

Supporting interventions, which are a core AMFm input, are shown in green. They include the presence of a recommended retail price (RRP) (which would influence both relative prices of QAACTS and their availability); AMFm communications, including the application of the ACTm logo and any communication around an RRP (which would influence relative prices, availability and demand for QAACTS); regulatory interventions, including changes to prescription only status, the range of outlets that are allowed to sell QAACTS, a ban on AMT, and the enforcement of all of these measures; and training of providers (which, through provision of new knowledge about ACTs, will impact prices and availability of QAACTS, but also the more downstream output of appropriate treatment).

The impact of AMFm will also be influenced by contextual factors, which are identified in red. These include the influences of the broader macroeconomic and political climate, including exchange rates, on prices, availability and demand; overall health system financing, which will affect prices; and the role of taxes and market structure on prices and markups. These would affect relative prices, availability and demand, and through these channels influence market share

and use. The presence of large public sector purchases of QAACTs through other donor-funded programs would directly influence availability of QAACTs; as would other donor investments in IEC/BCC on case management. Communication can also have a negative effect, such as media scare stories about ACTs negatively influencing demand for QAACTS and thereby availability and market share. The availability and widespread use of diagnostics such as RDTs could reduce demand for QAACTS, the overall size of the market for antimalarials, and effective targeting of QAACTs to those with malaria.

Figure 1.4.2: AMFm Theory of Change
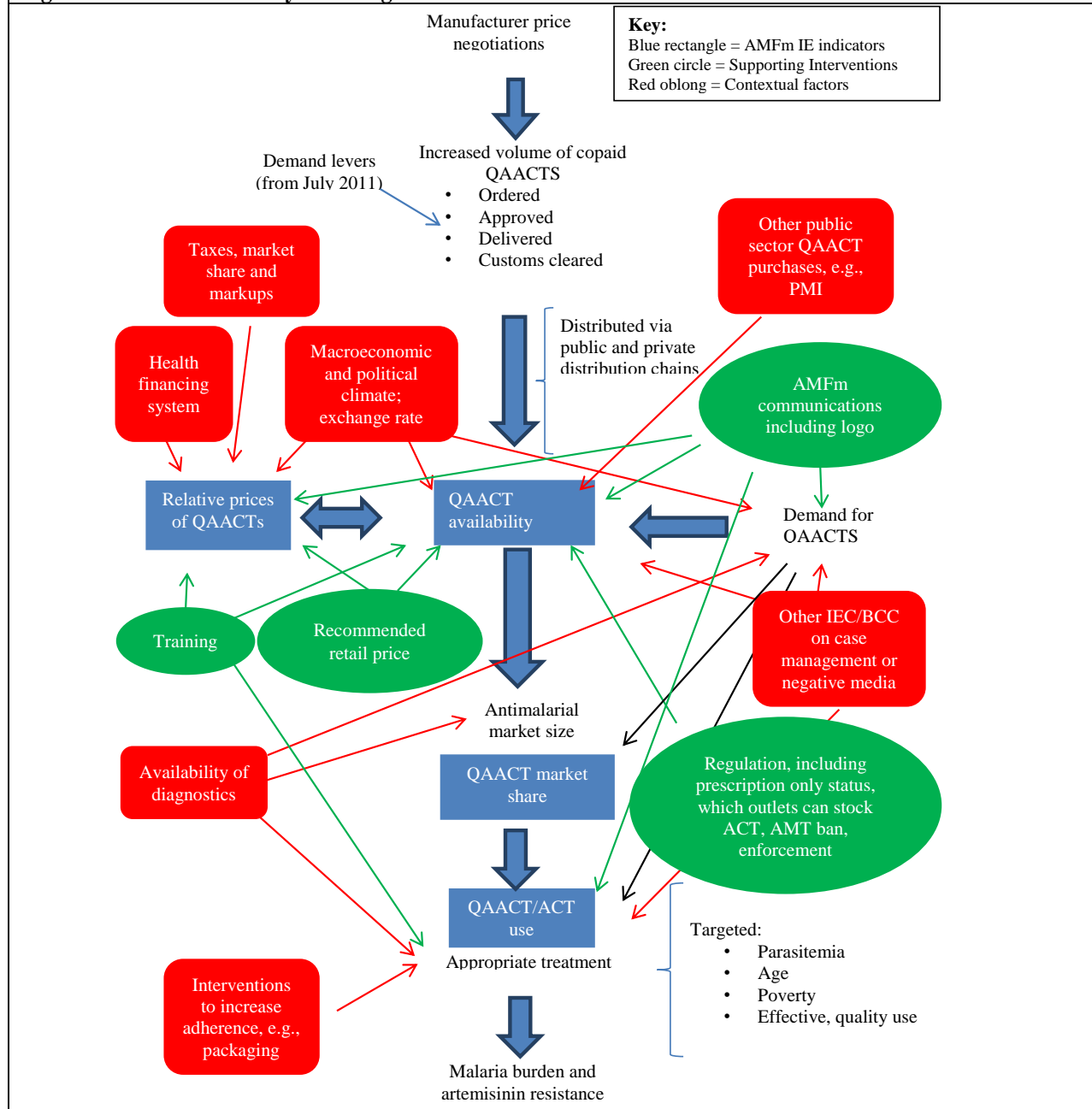
1.4.2 Evaluation design

While an evaluation based on a quasi-experimental design would have provided stronger evidence to attribute any change in primary outcomes to the intervention, it is challenging to execute such a study design for an evaluation of a complex public health program such as AMFm that is implemented on a national scale with multiple players. Comparison groups could not be created within the pilots because AMFm was implemented on a national scale; furthermore, it would have been infeasible with an intervention using private sector distribution channels to restrict implementation to certain parts of the country.

The possibility of including other countries as comparators for AMFm pilots was also considered at an early stage of the evaluation. However, for a number of reasons this approach was not adopted. Due to the wide variety of country contexts represented among the AMFm pilots, it would have been necessary to include a set of comparator countries, reflecting a similar mix of antimalarial market conditions, malaria transmission levels, and other key features of country context. Because of the challenges of reproducing this mix, it is likely that only weak inferences could have been made on the basis of comparison of AMFm countries with such a set of comparators. Moreover, as resources were not available to undertake a new set of nationally representative outlet surveys in an additional group of countries, in practice the only potential comparators were the ACTwatch countries with appropriately timed outlet surveys that were not part of AMFm Phase 1: Benin, Cambodia and Zambia. In each case, there would have been important challenges in making such comparisons. Benin is a small country bordering a number of AMFm countries and therefore potentially affected by cross-border leakage of AMFm copaid antimalarials. Zambia has a very different market structure, with a much smaller role played by the private for-profit sector. Cambodia is different in a number of important ways, including the structure of antimalarial supply and regulation, the history of interventions in the ACT market and differences in malaria species mix. For these reasons, the IE did not include an explicit comparison of outcomes in the AMFm countries with non-AMFm countries.

Considering these challenges, the IE team therefore adopted a non-experimental design with a pre-test and post-test intervention assessment (Figure 1.4.3) in which each participating country is treated independently as a case study. As the literature suggests (Craig et al. 2008, deSavigny and Adam 2009, Habicht et al. 1999), evaluation of such a complex intervention should supplement measurement of changes in key indicators pre-intervention and post-intervention with an assessment of the implementation process (to provide a check that the intervention has been implemented as planned, and to help determine whether any lack of impact reflects implementation failure or genuine ineffectiveness) and a comprehensive documentation of the context both to inform assessments about causality and to aid in generalizability to other contexts.

The evaluation, therefore, includes two major components: (1) a pre-intervention and post-intervention study of key outcomes through outlet surveys and use of secondary household survey data, and (2) documentation of key features of the context at baseline and endline and the implementation process in each country to facilitate interpretation of the changes in outcomes over the implementation period and to judge whether any observed changes are likely to be due to AMFm. These data sources are supplemented by additional primary data on outlets in remote areas in Ghana and Kenya; on user views of the AMFm logo in four pilots (Ghana, Kenya, Madagascar and Nigeria); and by operational research conducted by other groups.

Figure 1.4.3: The Independent Evaluation Design

Baseline Assessment → Intervention (*Financing platform in place and functional*) → Endline Assessment

ACT availability, price, market share and use

ACT availability, price, market share and use
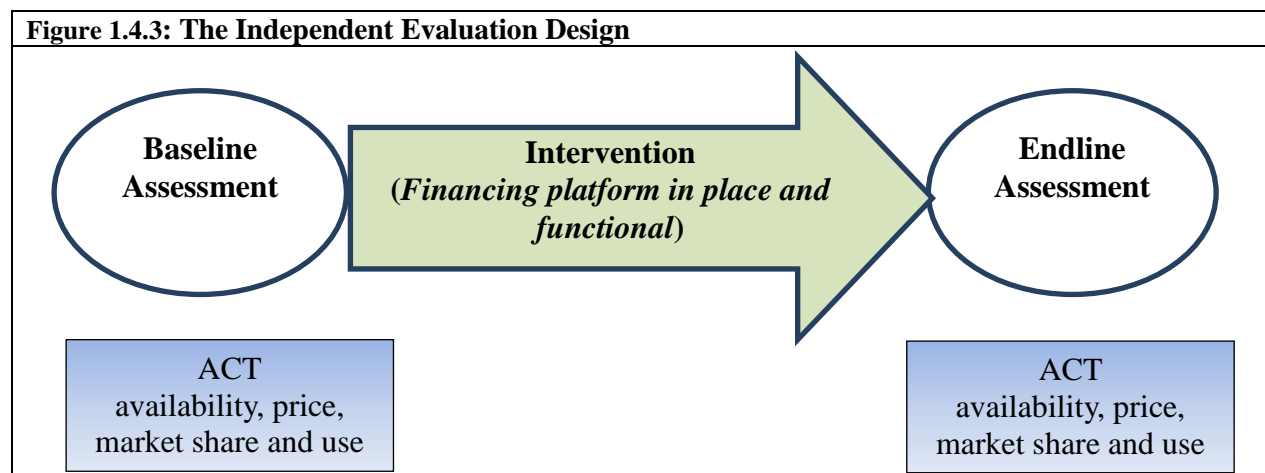
For each country, relevant indicators have been computed for the baseline and endline from the outlet surveys. For secondary data from existing national household surveys, appropriate indicators have been extracted from existing reports. To assess change, the IE has calculated the percentage point change or the percent change (whichever is relevant for each indicator) between the baseline and the endline. The results have been compared to the AMFm "success metrics" for availability, cost, market share and use (Schäferhoff et al. 2010).

These findings on changes in key indicators have then been synthesized with the process and context data collected for each country and the other studies outlined above to assess the performance of AMFm in each operational pilot, and to help learn how and why this new model unfolds in a variety of contexts, while drawing lessons that can help future operations.

1.4.3 Additional studies

In addition to the main study, on the request of the Global Fund, two additional studies were conduted to 1) to assess uptake of AMFm Phase 1 in remote locations (Remote area study) and 2) to understand how well AMFm Phase 1 achieved the intended effects of the AMFm logo (Logo study).

1.4.3.1 Remote area study

In most cases, remote areas have the worst indicators of access to health care. AMFm aims to ensure that this disadvantage is leveled out, at least as a far as access to effective malaria treatment is concerned, by making copaid ACTs available in outlets in remote areas. The remote area study, therefore, was designed to examine the availability, price and market share of ACTs in areas considered remote and non-remote areas at the end of the main endline outlet survey. The study was not designed to assess changes because of a lack of baseline data. The remote area study was carried out in only two of the phase 1 countries considered fast moving in the implementation process of the AMFm intervention. Such countries were expected to have received the copaid drugs, started the intervention and implemented the supporting intervention about 12 months before the endline survey. At the time of the decision on countries, from all indications, Kenya and Ghana were seen as fulfilling these criteria.

1.4.3.2 AMFm logo study (exit interviews and focus group discussions)

For easy identification and marketing purposes of AMFm Phase 1 copaid ACTs, a logo (Figure 1.4.4) was created. This logo includes a green leaf and the word ACTm. The logo has been printed on all copaid ACT packages and blisters and is supposed to help in marketing and public awareness campaigns through displays in newspapers, posters, television and billboards. In addition to its marketing purpose, the logo may facilitate the identification of leakage to neighboring countries where the program is not being implemented. The AMFm logo study assessed whether or not the logo achieved the intended effect with respect to public awareness and marketing. The leakage component was not addressed in this study as all data collection took place only in Phase 1 countries. The study was carried out at endline in four fast-moving countries (Ghana, Kenya, Madagascar and Nigeria) using qualitative (focus group discussion) and quantitative (exit interview) methods.

Figure 1.4.4: AMFm logo

1.5   Key evaluation questions and indicators

The indicators for the IE were initially defined by the AMFm monitoring and evaluation framework, which was included as an appendix in the request for proposals for the Independent

Evaluation. After a review of the initial indicators, the IE team proposed some revisions to clarify or operationalize the indicators in the Inception Report (ICF Macro and London School of Hygiene and Tropical Medicine 2010), which was approved by the Global Fund. In this section, we list the core indicators approved by the Global Fund. For further details about the changes compared to the initial formulation of the indicators, please refer to the IE Inception Report. The 21 indicators are grouped according to the four evaluation questions, which address availability, affordability, use and market share of ACTs (Table 1.5.1).

Table 1.5.1: List of key indicators for the independent evaluation

Question 1: ACT availability indicators

1.1 Proportion of enumerated outlets in rural/urban areas that have any antimalarials in stock at the time of the survey visit

1.2 Proportion of outlets in rural/urban areas that have non-artemisinin monotherapy or non-artemisinin combination therapy in stock among outlets with any antimalarials in stock at the time of survey visit

1.3 Proportion of outlets in rural/urban areas that have artemisinin monotherapy in stock among outlets with any antimalarials in stock at the time of survey visit

1.4 Proportion of outlets in rural/urban areas that have non-quality-assured ACTs in stock among outlets with any antimalarials in stock at the time of the survey visit

1.5 Proportion of outlets in rural/urban areas that have quality-assured ACTs in stock among outlets with any antimalarials in stock at the time of the survey visit

1.6 Proportion of outlets in rural/urban areas with any quality-assured ACTs in stock at the time of the survey visit or in the 4 weeks preceding the survey visit that have been out of stock of all quality-assured ACTs for at least 1 day in the last 7 days

1.7 Proportion of the population living in a rural/urban "subdistrict" where there is at least one outlet that had a quality-assured ACT in stock at the time of survey visit

Question 2:ACT affordability indicators

2.1 Median cost to patients of one adult equivalent treatment dose (AETD)/pediatric dose of quality-assured ACTs for a two-year old child in rural/urban outlets

2.2 Median cost to patients of one adult equivalent treatment dose (AETD) of non-quality-assured ACTs in rural/urban outlets

2.3 Median cost to patients of one adult equivalent treatment dose (AETD) of artemisinin monotherapy in rural/urban outlets

2.4 Median cost to patients of one adult equivalent treatment dose (AETD) of non-artemisinin monotherapy or non-artemisinin combination therapy in rural/urban outlets

2.5 Median percentage markup between purchase price and retail selling price of quality-assured ACTs

2.6 Median total markup from first-line buyer purchase price to retail selling price for quality-assured ACTs*

Question 3: ACT use indicators

3.1 Proportion of children under five years with fever in the two weeks preceding the survey who received ACT treatment

3.2 Proportion of children under five years with fever in the two weeks preceding the survey who received ACT treatment the same day/next day after the onset of the fever

3.3 Proportion of children under five years with fever in the two weeks preceding the survey who received any antimalarial treatment

3.4 Proportion of children under five with fever in the two weeks preceding the survey in the two lowest wealth quintile(s) who received ACT treatment

3.5 Proportion of children under five with fever in the two weeks preceding the survey in the two lowest wealth quintile(s) who received ACT treatment the same day/next day after the onset of the fever

3.6 Proportion of children under five years with fever in the two weeks preceding the survey in the two lowest wealth quintile(s) who received any antimalarial treatment

Question 4: ACT market share indicators

4.1 Total volume of quality-assured ACTs sold or distributed in the last week, as a proportion of the total volume of all antimalarials sold or distributed in the last week via outlets included in the outlet survey, in rural/urban areas

4.2 Quantity of quality-assured ACTs procured by first-line buyers ('unit' = boxes of ACTs by type and dosage)*

*Since the baseline surveys in most countries took place before the arrival of copaid drugs, Indicators 2.6 and 4.2 were not calculated at baseline.

1.6   Evaluation approach

This section begins with an overview of the IE methods and tools, and is followed by details of the methods for each data source, a discussion of the operationalization of the success metrics, and a description of ethical approval obtained.

1.6.1 Overview of methods and tools

The evaluation is based on six data sources:

- Primary data collected from outlet surveys conducted at baseline and endline (for questions related to availability, affordability and market share of quality-assured ACTs)
- Secondary data from national household surveys (for question related to use of ACTs), such as Demographic and Health Surveys (DHS), Malaria Indicators Surveys (MIS), Multiple Indicator Cluster Surveys (MICS) and ACTwatch household surveys
- Process and context data from in-depth interviews with key country-level stakeholders involved in AMFm implementation and malaria control more generally, and a review of country documents
- Additional primary data from a sample of outlets in remote areas in Kenya and Ghana, to assess differences in availability, price and market share of quality-assured ACTs in remote and non-remote areas
- Primary data from exit interviews with persons visiting outlets and focus group discussions to assess understanding of the AMFm logo in four pilots (Ghana, Kenya, Madagascar and Nigeria)
- Review of operational research on interventions to enhance AMFm implementation in Phase 1 pilots.

The link between the outlet and household survey data and the key evaluation questions are mapped in Table 1.6.1. The other sources of data are used to provide additional information on AMFm rollout, facilitate the interpretation of outlet and household data, and contribute to the identification of potential strategies for enhancing AMFm implementation.

Table 1.6.1: Link between outlet and household surveys and the evaluation questions		
Evaluation measures	Outlet survey (primary data)	Nationally representative household surveys (secondary data/reports)
ACT availability	X	
ACT affordability	X	
ACT use		X
ACT market share	X	X

1.6.2 Outlet surveys

Baseline and endline outlet surveys were carried out in each participating country with the objectives of assessing availability, cost and market share of quality-assured ACTs in outlets across the public, private for-profit and private not-for-profit sectors in rural and urban areas, before and after implementation of AMFm. The methods for the IE outlet surveys were built on the outlet survey study design developed for the ACTwatch project (O'Connell et al. 2011). For the baseline surveys in Madagascar, Nigeria and Uganda the IE has drawn on outlet surveys commissioned prior to AMFm and carried out by PSI's ACTwatch Project (www.actwatch.info) through a grant from the Bill and Melinda Gates Foundation (Shewchuk et al. 2011). ACTwatch adapted its methodologies to help meet the needs of the IE.

Table 1.6.2 presents the timing of the baseline and endline outlet surveys in each country, as well as the time between the midpoint of fieldwork and the first arrival of copaid drugs in each country. For example, in Uganda the midpoints of baseline and endline fieldwork were, respectively, 4-1/2 months before and 7 months after the first arrival of copaid drugs in country. In most pilots, the baseline data collection was well-timed in relation to the first arrival of copaid drugs. Baseline data collection took place between August and December 2010 in most pilots. However, for Nigeria and Madagascar fairly recent ACTwatch outlet surveys were already available at the time of planning for the baseline surveys (www.actwatch.info), so those surveys were used as the IE baseline. The survey methodologies for ACTwatch and the IE are very similar, but there are some differences in the questionnaires, so a few of the Independent Evaluation indicators cannot be calculated for Nigeria and Madagascar at baseline (see the analysis section and country-specific baseline reports available on the Global Fund website). Endline outlet survey data collection was conducted under the IE in all operational pilots between October 2011 and January 2012. In four of the pilots, the time between the first arrival of copaid drugs and the midpoint of the endline outlet survey was 13-1/2 to 15-1/2 months. In Niger and Nigeria, the interval was 9-1/2 months and it was 7 months in Uganda. The shortest interval was 6-1/2 months in Zanzibar.

Table 1.6.2: Timing of data collection for outlet surveys and arrival of copaid ACTs by country				
	Start date	**End date**	**Date of first arrival of copaid drugs in country**	**Time between midpoint of fieldwork and first arrival of copaid drugs**
Baseline				
Ghana	Aug 1, 2010	Aug 19, 2010	Aug 2, 2010	0 months
Kenya	Sep 13, 2010	Nov 19, 2010	Aug 10, 2010	(2 months)*
Madagascar**	Apr 27, 2010	Jun 21, 2010	Oct 14, 2010	5 months
Niger	Aug 17, 2010	Oct 10, 2010	Feb 3, 2011	5 months
Nigeria**	Sep 14, 2009	Nov 2, 2009	Jan 25, 2011	15 months
Tanzania - mainland	Sep 16, 2010	Nov 11, 2010	Oct 10, 2010	0 months
Uganda	Nov 15, 2010	Dec 31, 2010	Apr 23, 2011	4-1/2 months
Zanzibar	Sep 4, 2010	Oct 5, 2010	Apr 21, 2011	7 months
Endline				
Ghana	Nov 7, 2011	Nov 28, 2011	Aug 2, 2010	15-1/2 months
Kenya	Oct 7, 2011	Dec 10, 2011	Aug 10, 2010	15 months
Madagascar	Nov 7, 2011	Jan 7, 2012	Oct 14, 2010	14 months
Niger	Nov 9, 2011	Dec 14, 2011	Feb 3, 2011	9-1/2 months
Nigeria	Oct 14, 2011	Nov 30, 2011	Jan 25, 2011	9-1/2 months
Tanzania - mainland	Oct 11, 2011	Jan 14, 2012	Oct 10, 2010	13-1/2 months
Uganda	Nov 8, 2011	Dec 12, 2011	Apr 23, 2011	7 months
Zanzibar	Oct 1, 2011	Dec 7, 2011	Apr 21, 2011	6-1/2 months
* In Kenya the first arrival of copaid drugs in country was two months before the midpoint of baseline fieldwork. ** Surveys conducted by ACTwatch were used as the IE baseline in Madagascar and Nigeria.				

1.6.2.1 Sampling

For all outlet surveys under the IE, the sample size was estimated for each country to be able to detect a 20 percentage point change between the baseline survey and the endline survey in Indicator 1.5 (proportion of outlets with antimalarials in stock that have quality-assured ACTs in stock at the time of the survey visit), separately for rural and urban domains, pooling across outlet types and sectors.[12] The required sample size was calculated based on the following parameters:

- The value of Indicator 1.5 at baseline was set to 40%, which was used to achieve the required sample size and ensure that a 20 percentage point difference between the baseline and the endline could be detected, as the true value of the indicator was unknown
- 95% significance and 80% power were chosen
- A design effect of 4 was assumed, to account for the clustered survey design

Based on these parameters, at least 305 outlets stocking antimalarials per domain (rural/urban) were required in each country. To translate this into the required number of urban and rural

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[12] The sampling approach used for Madagascar and Nigeria is described elsewhere (O'Connell et al. 2011).

clusters, we estimated the proportion of enumerated outlets that stock antimalarials and the number of outlets enumerated per cluster using ACTwatch data (averaged across three countries). To illustrate the approach: assuming that 35% of enumerated outlets have antimalarials in stock in urban clusters and 23% in rural clusters, a total of 872 (305/0.35) outlets must be enumerated in the urban domain and 1,327 (305/0.23) outlets in the rural domain. To convert this into the number of clusters required, given an average of 41.6 outlets enumerated per urban cluster and 52.6 outlets enumerated per rural cluster, the minimum number of clusters would be 21 (872/41.6) in the urban domain (rounded up) and 26 (1,327/52.6) in the rural domain for total of 47 clusters in this country. At endline, the number of clusters was adjusted drawing on the baseline findings on the level of Indicator 1.5, the number of outlets per cluster and the degree of clustering in each country. Table 1.6.3 provides details of the number of clusters required in each country at baseline and endline. In Zanzibar, a full census of all outlets was conducted, given the small number of outlets overall. It was not possible to power the surveys to detect a similar change in Indicator 2.1 (median cost to patients of quality-assured ACTs) because the small number of quality-assured ACTs at baseline would have resulted in the need for a very large sample size.

Table 1.6.3: Number of clusters by domain for each country						
Country	Baseline			Endline		
	Urban	Rural	Total	Urban	Rural	Total
Ghana	25	30	55	24	30	54
Kenya	23	34	57	26	34	57
Madagascar	19	19	38	18	28	46
Niger	30	45	75	30	34	64
Nigeria	43	71	114	39	85	124
Tanzania – mainland	9	39	48	20	29	49
Uganda	5	34	39	18	26	44
Note: Zanzibar is not shown as, given the small number of outlets nationwide; a full national census was conducted. In Uganda, the baseline sample was stratified by malaria endemicity, with 19 high endemicity and 20 low endemicity clusters.						

The sampling approach was based on that used in the ACTwatch outlet surveys (O'Connell et al. 2011). The surveys include outlets in the public, private for-profit and not-for-profit sectors. Given that there were no reliable lists of all outlets stocking antimalarials in any country, the IE team adopted a cluster sampling approach, with all outlets found in selected clusters included in the sample. Clusters are generally administrative units such as subdistricts, with an average of 10,000-15,000 inhabitants. In each country, a predetermined number of clusters was selected with probability proportional to size (PPS), a sampling technique in which the probability that a particular subdistrict was selected is proportional to its population. The clusters were selected randomly for each country using the most up-to-date available national sampling frame. Independent samples of subdistricts were drawn at baseline and endline. Additional details about the sampling methodology can be found in Appendix B.

Two outlet types, public health facilities (PHFs) and Part One pharmacies (POPs), are especially important because these facilities typically serve a large number of patients and they may be the main providers of quality-assured ACTs. However, few of these outlet types were expected to be found in any given cluster. PHFs and POPs were therefore oversampled. The oversampling was carried out according to the following general approach: for each sampled subdistrict, PHFs and POPs found within the district within which the subdistrict was located were censused. There were differences among countries in how oversampling was implemented (e.g., in Tanzania, only POPs were oversampled). We refer to the PHFs and POPs oversampled in this way as the "booster sample". The details of country-specific variations can be found in the country baseline and endline outlet survey reports.

1.6.2.2 Data collection

All outlets in the selected subdistricts that could potentially stock manufactured medicines were considered as "eligible" for the outlet survey and were visited by the survey team. The final classification of outlets in each country is shown in Appendix C, which also indicates which outlet types are permitted to stock ACTs. Eligible outlets were identified by using official lists, by consulting with local officials and leaders, and by asking staff at outlets surveyed to identify other neighboring outlets stocking antimalarials. Outlets included in the booster sample (public health facilities and Part One pharmacies) were identified through official lists updated with local health care managers.

At the start of the interview, fieldworkers recorded the outlet's basic details and then asked the following screening question about the availability of antimalarials: "Do you have any antimalarial medicines in stock today?" If the outlet did not currently have any antimalarials in stock, the interviewer asked "Have you stocked any antimalarials in the last three months?" If the interviewee answered no to both questions, the interview was terminated at that point. If the interviewee answered yes to either screening question, the fieldworker requested permission to conduct the full interview.

The field teams used a structured questionnaire (Appendices D, E, F, G and H) directed to a senior person at the outlet to collect data on outlet identification, outlet characteristics, provider knowledge, antimalarials and rapid diagnostic tests (RDTs) stocked, stockouts of quality-assured ACTs, and at endline, experience of AMFm supporting interventions. They recorded information on all antimalarials and RDT products stocked in terms of their price and volume sold in the past week on "audit sheets."

The IE team developed the generic questionnaire in consultation with the DCs, the Global Fund and other key stakeholders. The questionnaire is based on the ACTwatch outlet survey questionnaire, and wherever possible the questions have been kept the same to permit

comparability with data collected in ACTwatch surveys in Nigeria and Madagascar (ACTwatch 2010a). The IE team made several adaptations to the ACTwatch tool to ensure that the IE indicators were included and other requests from key stakeholders were met (e.g., the addition of questions on stockouts of quality-assured ACTs, training courses attended, knowledge on proper dosing of quality-assured ACTs, and knowledge of the AMFm logo). It was possible to measure all key IE outlet indicators in a comparable way across countries at baseline and endline, with the exception of Indicator 1.6 (the proportion of outlets that have been out of stock of all quality-assured ACTs for at least one day in the last seven days), which is not available from the Madagascar and Nigeria baseline surveys, as stockout data were collected in a different way by ACTwatch. In addition, these surveys did not include questions on providers' recognition and understanding of the AMFm logo, and whether the logo was present on any antimalarial products stocked. The IE team provided the generic questionnaire in English and French, and the DCs produced versions in local languages where necessary (Kiswahili in Tanzania mainland and Zanzibar, Malagasy in Madgascar, five local languages in Uganda and three local languages in Nigeria). The DCs made minor adaptations to the coding of certain questions to provide relevant country-specific categories (e.g., titles of health worker cadres and first-line antimalarial treatment). The DCs pretested the questionnaire in each country and then received final approval of the questionnaires from the IE team. The pretest covered at least four outlets of each of the main outlet types in rural and urban domains. Tanzania mainland and Madagascar used personal digital assistants (PDAs) for baseline and endline data collection, and Zanzibar used PDAs at endline. All other surveys were conducted using paper-based questionnaires.

1.6.2.3 Data quality assurance

To ensure high quality data across countries, the Independent Evaluation team drew on Standard Operating Procedures (SOPs) developed for the ACTwatch project (http://www.actwatch.info/research/data_quality.php) (ACTwatch 2010b). In addition, the DCs ensured that only the best interviewers and other members of the field team were recruited and trained for the fieldwork. During the fieldwork, daily supervision of data collection was performed. This included a full review of completed questionnaires, ensuring that all potential eligible outlets were visited, and random spot-checks in 5-15% of all outlets surveyed.

The training materials were adapted with permission from ACTwatch (www.actwatch.info) (copyright © 2010 Population Service International) and were modified at the country level as required. The training courses were led by the DCs with support from the IE team. Trainees included all members of the field team, including team leaders, quality control officers and interviewers. In some cases, the data entry team attended the training as well to familiarize themselves with the content of the survey. The training lasted for seven days and included theory, practical information and field practice. The aim of the training was to provide the field teams with an understanding of the purpose of the study and the technical skills to conduct the survey, particularly in identifying antimalarial medicines, including the differences between

ACTs and non-ACTs, trade names and generics, packaged and loose tablets, and the various formulations of antimalarial medicines.

1.6.2.4 Data processing and analysis

Data entry and cleaning

Data were managed at the country level by the DCs. For the paper-based surveys, data entry programs were developed in CSPro or Microsoft Access. The programs included range checks and consistency checks and allowed double data entry. Following the double entry, a data entry supervisor ran the verification program to check for mismatches between the two entries. Any mismatches were corrected by referring to the questionnaires until the two entries matched perfectly.

Detailed data cleaning guidelines giving step-by-step instructions on how to clean each section of the data using range and consistency checks were utilized during the cleaning process. Commands executed for data cleaning were documented using a syntax file, and the results of running these commands were documented using a "log file," with spot-checks on cleaning syntax conducted by the IE.

Data analysis

A standardized tabulation plan was used for all outlet survey baseline and endline tables, which were produced using standard analysis do-files in STATA, with results recorded in log files. The following aspects were considered during analysis:

- **Classification - Urban-rural**

The outlets were categorized as rural or urban depending on the classification of their subdistrict in the sampling frame.

- **Accounting for the survey design in data analysis**

The analysis accounted for three aspects of the sampling design:

  o *Sampling weights*

Sample weights were calculated for the outlet survey data to allow for 1) differences in sampling probabilities due to variation in the size of strata, 2) the oversampling for the booster sample and 3) the sampling strategy, which involved selection of clusters using probability proportional to size (PPS) sampling, followed by a census of all outlets within selected clusters. The weights were based on sampling probabilities and were calculated by the IE after data cleaning was complete.

  o *Clustering*

As the sample was clustered at the level of the district for the booster sample and the subdistrict for other outlets, the calculation of the standard errors takes the clustering into account. This was

done because outlets in a given cluster are likely to be more similar to each other than to outlets in other clusters, and not allowing for this would result in under-estimation of the uncertainty in the estimates of indicators.

Stratification

As clusters were sampled separately in each stratum, this was allowed for in the calculation of standard errors.

To account for these design features in the tabulations, the STATA commands for analyzing complex survey data ("svy" commands) were used to weight the data and calculate confidence intervals taking clustering and stratification into account. The IE team declared the primary sampling unit (district), the weight variable (wt), the strata and the finite population correction (fpc) factor equaling the sampling fraction for each stratum (the number of sampled subdistricts in a stratum divided by the total number of subdistricts in the stratum, or 0.5 if the sampling fraction was greater than 50 percent).[13] Data were survey set as follows:
svyset district [pweight=wt], strata(strata) fpc(fpc)
The team calculated a proportion and its 95 percent confidence interval (CI) as follows:
svy: proportion VariableName

Note that for Zanzibar a full census of all outlets in the country was undertaken. Therefore, we did not need to account for weighting, clustering or stratification in the analysis, and confidence intervals are not presented.

- **Classification of antimalarials**

For the purpose of analysis, antimalarials were split into three categories, in line with the IE indicators, which require information to be shown separately for non-artemisinin therapy, artemisinin monotherapy (AMT) and artemisinin-based combination therapy (ACT). AMTs were further classified into oral and non-oral AMTs, as while non-oral AMT are recommended for treatment of severe malaria, the removal of oral AMTs from the market is a key policy goal. ACTs were further subdivided into quality-assured ACTs (QAACTs) and non-quality-assured ACTs. According to this classification, a quality-assured product must be WHO pre-qualified and/or authorized for marketing by a Stringent Drug Regulatory Authority. Products that have not yet been WHO pre-qualified or approved by a Stringent Drug Regulatory Authority must be evaluated and recommended for use by an independent panel of technical experts hosted by World Health Organization's Department for Essential Medicines and Pharmaceutical Policies (The Global Fund 2010). A list of all ACTs qualifying as QAACTs at the time of the baseline and endline surveys is included in Appendix I.

At endline, QAACTs were further classified based on whether the AMFm green-leaf logo was present on the packaging. QAACTs that were not subsidized by AMFm are likely to continue to

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[13] Note: In Niger at baseline no fpc was declared as the sampling fraction was not constant across outlet types.

be found in the markets of the participating countries. Consequently, the presence of the logo on a product's packaging, as recorded by the interviewer during the audit, is used as a proxy for whether or not the product was subsidized by AMFm.

- **Calculation of antimalarial volumes, prices and markups**

Antimalarial volume and price data are reported in terms of adult equivalent treatment doses (AETDs) using the AETD calculator developed by ACTwatch (Shewchuk et al. 2011) with some modifications. An AETD is defined as the number of milligrams (mg) of an antimalarial drug needed to treat a 60 kg adult (refer to Appendix J for details). The number of mg/kg used to calculate one AETD was defined according to what was recommended for a particular drug in the treatment guidelines for uncomplicated malaria in areas of low drug resistance issued by WHO (as of April 5, 2011). Where WHO treatment guidelines did not exist, AETDs were based on the product manufacturer's treatment guidelines. In the case of ACTs, which have two or more active antimalarial ingredients packaged together (either co-formulated or co-blistered), the strength of the artemisinin-based component was used as the basis for the AETD calculations. Information collected on the medicine strength and unit size, as listed on the product packaging, was then used to calculate the number of AETDs contained in each unit.

Market share was calculated by dividing the number of AETDs of a particular antimalarial category sold by the total number of AETDs of all antimalarials sold. In cases where outlets stocked antimalarials, but some or all sales volumes were missing, there was no imputation for missing values. The total volume presented in the market share tables is the volume sold in the outlets in the censused subdistricts (booster sample outlet sales are not included in these tables as only certain outlet types were included in the booster sample). Since the sampling fraction (number of clusters sampled/number of clusters in the country) is very different across the pilots, these Ns cannot be used to compare total volumes sold across countries.

Price data were collected in local currencies and endline data were adjusted to 2010 prices to facilitate comparison with baseline estimates. Prices, including recommended retail prices for copaid quality-assured ACTs, were adjusted using the ratio of the average national consumer price index for 2011 to the national average consumer price index for 2010 (source: International Monetary Fund [IMF] International Financial Statistics). Since the Nigeria baseline was conducted in 2009, these prices were also adjusted to 2010. The 2010 prices were then converted to their USD equivalent using the average interbank rate for 2010 (Table 1.6.4).

Table 1.6.4: Local currencies and their USD equivalents using the average interbank rate, 2010			
Country	**Local currency unit**	**Exchange rate (USD 1)**	**Source**
Ghana	Cedis (GHS)	1.46	www.bog.gov.gh
Kenya	Kenyan shilling	76.18	www.oanda.com
Madagascar	Malagasy ariary (MGA)	2138.56	www.oanda.com
Niger	FCFA	486.418	www.oanda.com
Nigeria	Naira	152.803	www.oanda.com
Tanzania - mainland	Tanzanian shilling	1419.97	www.oanda.com
Uganda	Ugandan shilling	2153.61	www.oanda.com
Zanzibar	Tanzanian shilling	1419.97	www.oanda.com

Price data are reported using the median and inter-quartile range, which are appropriate for describing distributions likely to be skewed. Retail percentage markups were calculated for each product as the difference between the selling price and the purchase price, divided by the purchase price. In cases where an outlet received an antimalarial for free from its supplier and distributed the product for free, the retail markup was set to 0%. In cases where an outlet received an antimalarial for free from its supplier, but did not distribute the product for free, the retail markup was set to missing. It should be noted that these indicators are for gross markups, including both provider overhead costs and profit margins. Markups are presented in percentage terms rather than absolute terms to facilitate comparison across products where there is considerable variation in wholesale purchase price. An exception is Indicator 2.6 (Median total markup from first-line buyer purchase price to retail selling price for quality-assured ACTs), which is presented in absolute terms. To calculate this markup, we compared retail prices per AETD for each QAACT bearing the AMFm logo audited with the average first line buyer purchase price for that product in that country. The product was defined on the basis of its manufacturer, generic name, dosage strength and number of tablets in a treatment unit. The average first line buyer price was calculated as the mean first line buyer price per AETD per product, weighted by volumes purchased (as there were generally several orders for a given product and purchase price varied across orders). Only orders delivered before the start of endline outlet survey data collection were included in the price figures, which were calculated from data provided by the Global Fund.

- **Analysis of changes between baseline and endline**

The analysis of changes in indicators between baseline and endline outlet surveys was conducted by the IE team for each country. Baseline and endline analysis was run independently by the IE team for each country and any discrepancies with the DCs' results were resolved. Analysis was conducted within the survey commands frameworks in Stata version 11 and R version 2.14.2, and thus takes account of the clustered, stratified nature of the data, as well as the survey weights. We calculated the difference in indicators between baseline and endline. For indicators expressed as percentages, the difference is expressed in terms of the percentage point change, with a 95% confidence interval to indicate the range within which we are 95% confident that the true value for the percentage point change lies. Where the 95% confidence interval includes 0

(no difference), we cannot exclude the possibility that there may have been no changes in the value of the indicator between baseline and endline. For indicators expressed as medians, we show the p value from the Wilcoxon rank sum test of the hypothesis of no difference in median between baseline and endline. Significance testing in relation to the success metrics is discussed below in Section 1.6.7.

1.6.3   Household survey data - Secondary analysis

1.6.3.1 Survey inclusion criteria

Existing nationally representative household survey reports and data were used to extract information for the ACT use indicators. The IE team identified four types of national surveys (DHS, MICS, MIS and ACTwatch) that could provide relevant data. It should be noted that primary household data collected within the framework of the evaluation would have been preferred to answer the evaluation question on use; however, this component of the Independent Evaluation was dropped from the Independent Evaluation design by the AMFm secretariat due largely to cost considerations and on the technical advice of the TERG, as described in the AMFm Ad Hoc Committee's report to the Global Fund's Twenty-First Meeting[14]. Relying on secondary data means that the IE was constrained in the extent to which the indicators were measured in all countries and at the appropriate time.

For the baseline, surveys were included if they were conducted within two years before the beginning of AMFm in 2010. However, since there was no survey that fell within the defined period in Niger, the IE team used the 2006 MICS/DHS survey report as the baseline. Table 1.5.5 provides the list of baseline surveys for each country. For all the countries, there was at least one survey that could be used to extract baseline information.

For the endline, one country (Kenya) does not have any completed, ongoing or planned surveys during the endline period. The remaining countries have surveys that can be used to calculate the endline indicators, but at the time this report was written, none of those surveys had published reports on the survey results and none of the data sets were available. It is currently planned that a supplemental report, based on endline household survey data that become available at a later date, will be prepared if a sufficient amount of endline data is available in the coming months.

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[14] The report to the Board is available at: http://www.theglobalfund.org/documents/board/21/BM21_07AMFmAdHocCommittee_Report_en /

Table 1.6.5: Summary of existing household surveys that include information on ACT use

Country	Baseline surveys	Endline surveys
Ghana	Sep – Nov 2008 (DHS)	Sep – Dec 2011 (MICS)
Kenya	Jul – Sep 2010 (MIS)	None
Madagascar	Nov 2008 – Jul 2009 (DHS); Dec 2008 – Jan 2009 (ACTwatch)	Apr – May 2012 (ACTwatch)
Niger	Jan – May 2006 (MICS/DHS)	Mar – Jun 2012 (DHS)
Nigeria	Jun – Oct 2008 (DHS); Aug – Sep 2009 (ACTwatch)	May – Jun 2012 (ACTwatch)
Tanzania - mainland	Dec 2009 – Apr 2010 (DHS)	Dec 2011 – Apr 2012 (MIS)
Uganda	Nov – Dec 2009 (MIS); Mar – Apr 2009 (ACTwatch)	Apr – May 2012 (ACTwatch)
Zanzibar	Dec 2009 – Apr 2010 (DHS)	Dec 2011 – Apr 2012 (MIS)

Source: www.measuredhs.com, www.actwatch.info.

1.6.3.2 Data analysis

For the baseline household surveys, the IE team extracted each indicator of use directly from the reports. However, we computed the values of Indicators 3.4, 3.5 and 3.6 (on treatment among the lowest wealth quintiles) from the data sets because this information was not presented in the reports. These indicators were calculated from data readily available to the IE team. Indicators 3.4, 3.5, and 3.6 could not be calculated for urban and rural areas separately because the wealth index is not computed separately for urban and rural areas. In calculating Indicators 3.4, 3.5 and 3.6, we restricted the analysis to children in households in the two lowest wealth quintiles.

Since existing household surveys were used for information on ACT use, the timing of those surveys may not be ideal to measure changes in ACT use in the first year of AMFm. It would be best if the baseline surveys were conducted shortly before the rollout of AMFm in a country, and the endline surveys were conducted at least 12 months after the rollout. Table 1.6.2 shows the amount of time between the midpoint of the fieldwork for each of the baseline household surveys and the arrival of the first copaid ACTs in the country, as well as the amount of time between the arrival of the first copaid ACTs and the midpoint of the fieldwork for each of the endline surveys.

The timing of the baseline survey in Kenya was optimal, but there is no endline survey in that country. The remaining baseline surveys were conducted between 7 and 25 months before the arrival of the first copaid ACTs, except for Niger which had an interval of nearly five years. Therefore, in all countries the baseline estimates refer to a period several months before the arrival of the first copaid ACTs. If there were substantial changes between the baseline survey and the timing of arrival of the first copaid ACTs in a country, those changes could not have resulted from the AMFm program. On the other hand, every endline survey except the Zanzibar

survey occurred at least 12 months after the arrival of the first copaid ACTs, which is the minimum desired period to assess changes in use. In Zanzibar, the period was only 10 months.

Table 1.6.6: Timing of data collection for baseline and endline household surveys in relation to arrival of the first copaid ACTs by country			
	Date of arrival of first copaid ACTS	Number of months between midpoint of baseline household survey fieldwork and arrival of first copaid ACTs	Number of months between arrival of first copaid ACTS and midpoint of endline household survey fieldwork
Ghana	August 2, 2010	21-1/2 months	15 months
Kenya	August 10, 2010	0 months	na
Madagascar DHS	October 14, 2010	19 months	na
Madagascar ACTwatch	October 14, 2010	7 months	18-1/2 months
Niger	February 3, 2011	58-1/2 months	15 months
Nigeria	January 25, 2011	17 months	16 months
Tanzania – mainland	October 10, 2010	8 months	16 months
Uganda MIS	April 23, 2011	17 months	na
Uganda ACTwatch	April 23, 2011	25 months	12 months
Zanzibar	April 21, 2011	14 months	10 months
na = Not available			

1.6.4 Implementation process and contextual information

Country case studies aimed to document the implementation process of AMFm (supply of copaid ACTs and supporting interventions) and contextual factors that may influence the effectiveness of AMFm. The Theory of Change was used to guide the topics investigated during the case studies and to explore their likely impact on IE indicators. Together, these data allow an assessment of (1) whether any improvement observed in the indicators is likely to be due to AMFm and (2) whether a lack of improvement in indicators can be reasonably attributed to a failure of AMFm.

Case studies were conducted by IE team members or consultants in each operational pilot between November 2011 and January 2012. They involved three main types of data collection: a structured tool for quantifying supporting interventions, key informant interviews (KII) and document review.

1.6.4.1 Key informant interviews

A form for quantifying supporting interventions was sent to the National Malaria Control Program in each country, who was asked to complete the form prior to the arrival of the case study researcher. The form is included at the end of Appendices K and L. This form included details on the type of activities conducted, their dates and scale and the organizations involved, which provided a basis for follow up of these issues during the KII.

KIIs were conducted with three main types of respondents:

- Those centrally involved in AMFm implementation, such as the principal recipients, sub-recipients and those providing technical assistance
- Antimalarial importers from all sectors, including first line buyers (FLB) who have made orders, FLB who have not made orders, and importers not registered as FLBs
- Other stakeholders who were knowledgeable about the AMFm process or other key contextual factors that may have affected AMFm indicators, such as those responsible for other communications activities, public sector drug distribution, other malaria control interventions, and civil society groups.

Key informants were identified through discussions with key personnel, review of documents, the Global Fund database of FLBs and snowball sampling where, at the end of each interview, the interviewee was asked whether there were other people who it would be useful to include. The total number of interviews conducted in each country and dates of data collection are shown in Table 1.6.7. Most interviews were conducted in the capital city or administrative capital.

Table 1.6.7: Number and dates of key informant interviews conducted		
Country	Number of key informant interviews conducted	Dates of key informant interview data collection
Ghana	20	Nov – Dec 2011
Kenya	28	Nov – Dec 2011
Madagascar	26	Nov – Dec 2011
Niger	31	Dec 2011 – Jan 2012
Nigeria	40	Nov 2011 – Jan 2012
Tanzania - mainland	26	Dec 2011
Uganda	23	Nov – Dec 2011
Zanzibar	10	Nov 2011

Interviewers used a semi-structured KII guide (Appendices K and L) that covered AMFm governance, registration of FLBs, ordering and distribution of copaid drugs, supporting interventions (e.g., communications, training, regulation and recommended retail prices), diagnostics, and key contextual events (e.g., weather anomalies, economic and political factors, changes in other malaria control activities and changes in the health system more broadly).

Interviewees were generally informed of the purpose of the interview in advance by email and/or phone. At the beginning of the interview, the interviewer read out or asked the interviewee to read the information sheet for the study, which assured them of confidentiality. The interviewee was asked if he or she had any questions before the start of the interview, and after oral consent was given, the interviewer signed the consent form as a witness to this. Most interviews were conducted in English or French, generally in person, although a few were conducted by

telephone. Participants were given the option of whether they wanted their interviews to be recorded, and notes were also taken. We aimed to conduct interviews in places where the interviewees could not be overheard. Most interviews were conducted with just one participant, but in some cases more than one participant was included where the respondents felt this would be the most efficient way to share the relevant information.

1.6.4.2 Review of documents

Documents for inclusion in the document review were primarily identified through discussions with key informants and through internet searches for information on specific topics. The types of documents reviewed include government policy and regulatory documents; government reports; briefing documents and reports prepared by the Clinton Health Access Initiative (CHAI), which provides technical support for AMFm implementation; Global Fund grant and copaid drug order documents; and reports from research groups and NGOs. This was complemented by background and contextual data collected for each country at the time of the outlet survey baseline data collection by the DCs.

1.6.4.3 Processing of the information

To analyze the data, the information from the KIIs and document review was broken into the appropriate reporting categories using a standard template, and findings across interviews were synthesized and presented in a confidential report to the IE. A summary, which was produced from the reports for each country, is presented in Chapter 4.

1.6.5 Remote area study

1.6.5.1 Defining remoteness and selecting remote area clusters

As indicated in Section 1.4.3.1, the remote area study was designed to examine the availability, price and market share of ACTs in areas considered remote and non-remote at the end of the main endline outlet survey. The methodology for defining remote areas is summarized below.

Defining remoteness
Measures of remoteness are useful for health service planning and equitable distribution of resources. Remoteness indices are also used in understanding disparities in health indicators of the population. Various definitions have been proposed to conceptualize remoteness. It can be understood in terms of distance from infrastructure, services, or centers of economic activity or from political or social decision making. In conceptualizing remoteness, two distinct approaches stand out: the sociological approach which is based on how perceptions, behavior and the socioeconomic characteristics of individuals of an area impact service accessibility; and the geographical approach which defines remoteness in terms of the environmental factors which impact access to needed services. In its practical applications, remoteness has largely been associated with lack of geographical accessibility to services because it can be quantified more

objectively. Geographic accessibility has in turn been shown to be related to socioeconomic status. There are several examples of remoteness indices based on geographic accessibility in developed countries using distance alone (AIHW 2004, Lapointe and Andrew 2011), or distance, population density and travel time (Power 2004). These indices have been used to study the geographical disparity in risk of health outcomes (Baade et al. 2011, Turrell et al. 2004, Pong et al. 2009) and the reconfiguration of health service provision (Swan et al. 2008).

In sub-Saharan African, the dominant concept of remoteness is based on a broader breakdown of populated areas into urban and rural and is used for census area classifications, survey sampling and evaluation of geographic and socioeconomic equity. This binary approach ignores the fact that on a continuous scale, some urban areas are more remote than other urban areas, while some rural areas are more remote than other rural areas. In some countries there are also some rural areas that are better connected than isolated urban areas. For these reasons, the rural-urban classification may be too simplistic to properly describe the significant variations in a population's potential access to services.

For the purpose of the AMFm Independent Evaluation remote area study, to define remoteness for both Kenya and Ghana, we adapted the approach used to compute the Accessibility-Remoteness Index of Australia (AIHW 2004) by using weighted spatial access to different types of services centers. A surface of travel time to service centers was generated for Kenya and Ghana to define access to these centers and determine the degree of remoteness on a continuous surface of 1×1 km spatial resolution. Access to three layers of service centers was determined by assuming that people travel to a destination (a) by walking or using non-motorized transport (cycling), (b) by walking from the origin (e.g., place of residence) through the landscape to the nearest road before finishing the remainder of the journey by motorized transport, or (c) walking from the origin along the road.

Population settlements were classified by distance to three service centers: Service Centers 1 (market and trading centers for Kenya; all grid squares with population of 5,000-10,000 for Ghana); Service Centers 2 (divisional headquarters and towns for Kenya; all grid squares with population of 10,000-50,000 for Ghana); and Service Centers 3 (cities, municipalities, major towns and district headquarters for Kenya; all grid squares with population equal to or more than 50,000 for Ghana). Note that for Kenya we used pre-defined settlement classifications by the Ministry of Roads and Public Works that mapped settlements in cities, municipalities, major towns, district headquarters, divisional headquarters, towns, market centers and trading centers. For Ghana, similar data were not readily available; therefore, we used the gridded population surface for 2010 at a resolution of 1×1 km (www.afripop.org) to define the service centers.

The average travel times to any category of service center were calculated from the 1×1 km grid surfaces for the two countries. From each grid pixel, the travel time to any category of service

center was divided by the average travel time to that category. The result was a surface of ratio-to-mean travel time. For example, if a grid pixel had a ratio-to-mean travel time of 2 to Service Center 1, this implied that it took twice as long to reach the nearest Service Center 1 as the average grid pixel. This ratio for each pixel was capped at a value of 0.5 for Kenya and 0.6 for Ghana to be equivalent to approximately half an hour to a Service Center 1; 1.5 hours to a Service Center 2 and 2 hours to a Service Center 3. All pixels where the ratio-to-mean to any service center was ≥0.5 were then assigned a ratio-to-mean of 0.5. This was done to reduce the influence of the longer travel times to larger but fewer service centers on the overall index. The capped ratio-to-mean surfaces to each type of Service Center were summed, resulting in a continuous index of remoteness ranging from 0 to 1.5. The continuous surface was then classified into five categories as follows: Highly accessible (≤0.3), accessible (>0.3 - ≤0.6), moderately accessible (>0.6 - ≤0.9), remote (>0.9 - ≤1.2) and very remote (>1.2 – 1.5) (see Figure 1.6.1). For further details about the methodology used for defining remote areas, refer to Appendix M or Noor et al. (2012).

Figure 1.6.1: Remoteness classification (quintiles) based on the remoteness index, Kenya and Ghana

Source: Noor et al. (2012).
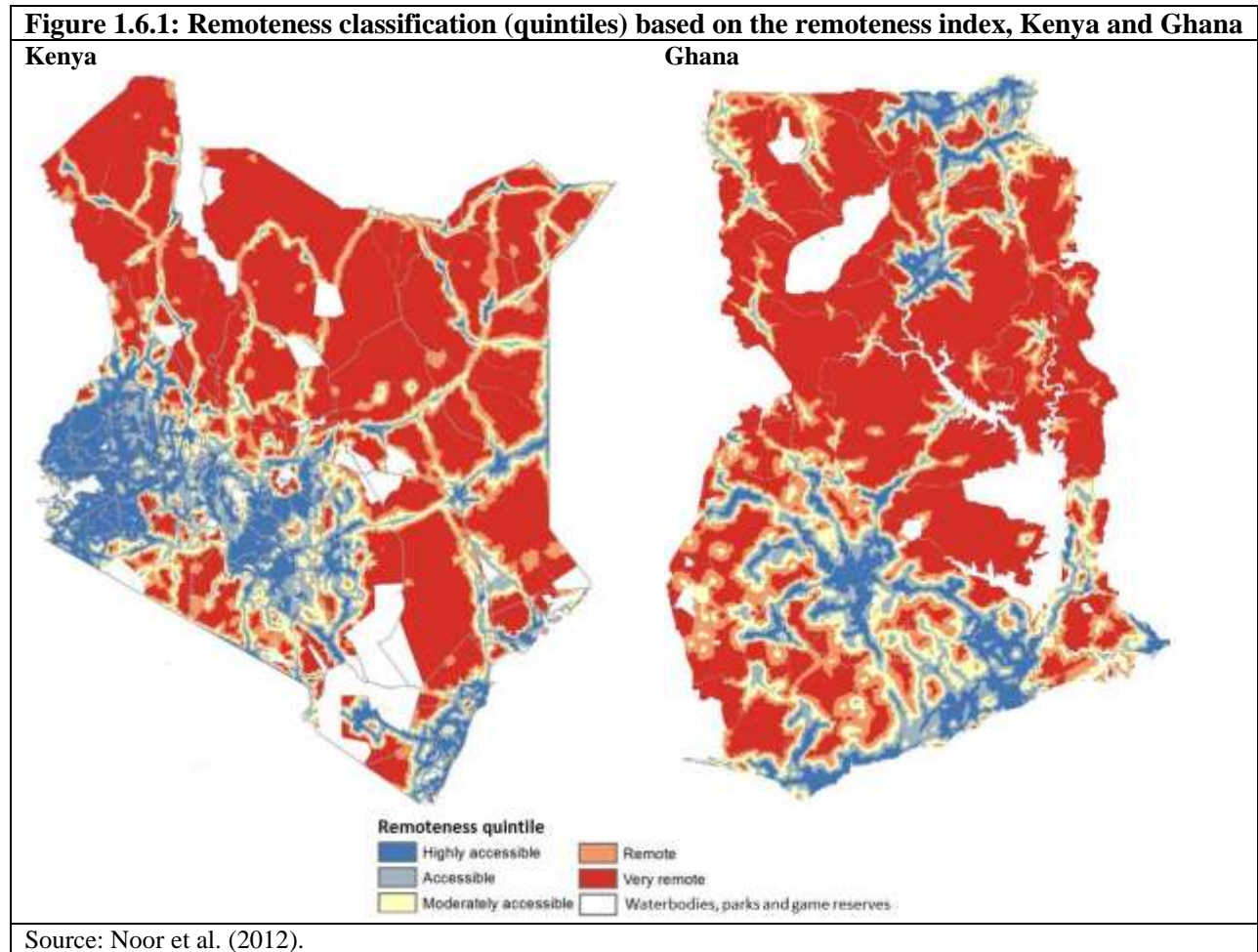
Selecting remote area clusters

For the purpose of the IE, these five categories of remoteness were collapsed into two categories: accessible areas that are not remote (≤0.90) or remote areas (>0.90). Using this binary classification, we identified the number of clusters from the endline OS sample which are located in the remote areas, then estimated the number of additional clusters needed in the remote areas to have sufficient statistical power to compare estimates from remote areas with the estimates from non-remote areas. The sample size estimation was based on the ACT availability indicator and follows the same procedure as described in the main outlet survey methods section. The final numbers of clusters required in remote areas are presented in Table 1.6.8 and the spatial distribution of the clusters is depicted in Figure 1.6.2. It is important to note that for Kenya, non-malaria zones were excluded from the sampling frame used for the selection of additional remote area clusters.

Table 1.6.8: Remote area clusters selected for the AMFm Independent Evaluation remote area survey

Country	New clusters selected in remote areas	Existing remote area clusters in the endline outlet survey	Total clusters in remote areas
Kenya	10	9	19
Ghana	10	5	15

Figure 1.6.2: Remoteness classification map showing the location of clusters sampled in the remote areas for the AMFm Independent Evaluation remote area survey

Kenya

Ghana

Source: Noor et al. (2012).
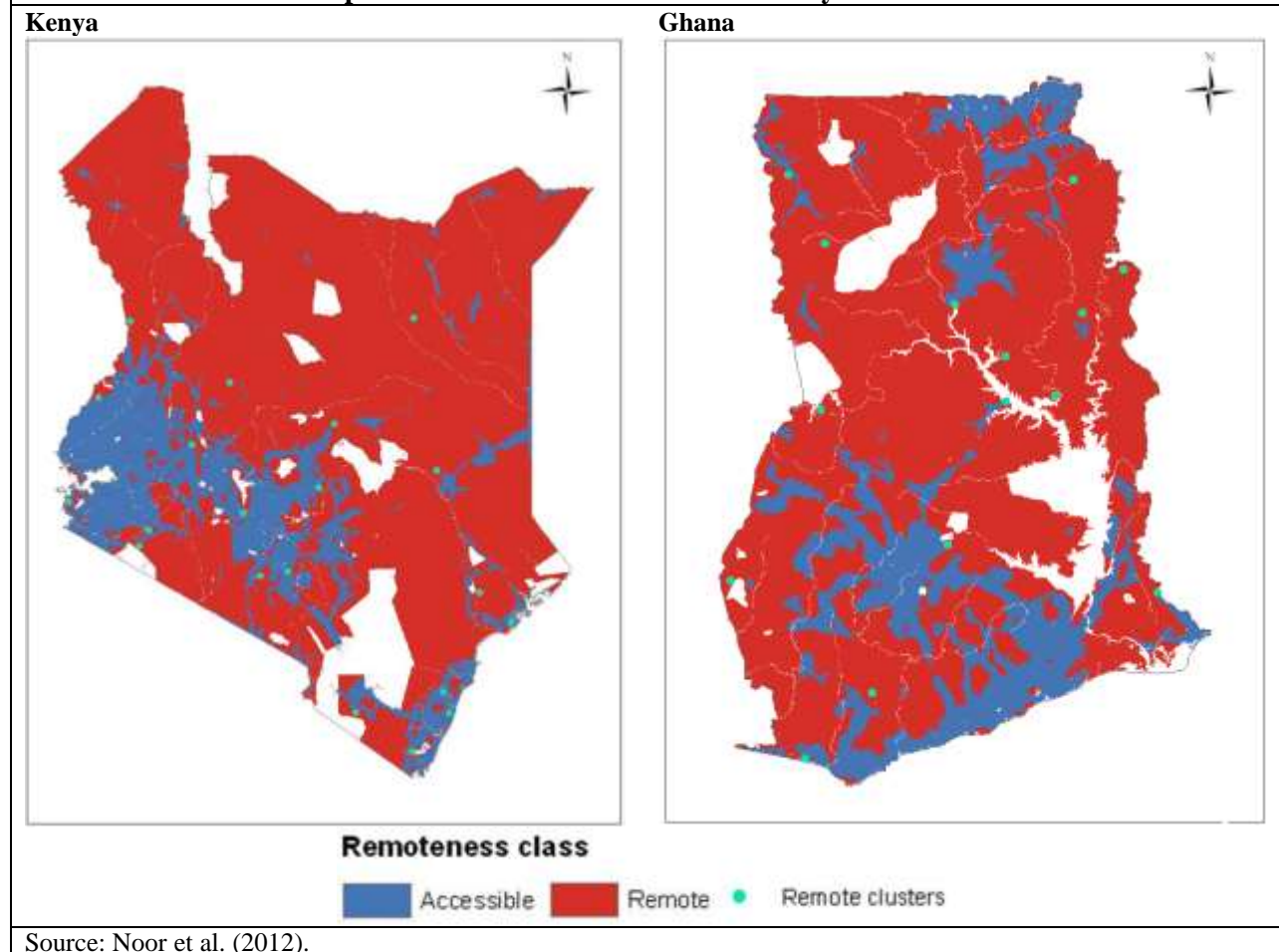
1.6.5.2 Data collection

Data collection was done using paper-based questionnaires in Kenya and Ghana. The tools and procedures used in the remote area survey in both countries were similar to the ones used in the main endline outlet survey. The remote area surveys were carried out in Kenya from February 27 to March 16, 2012, and in Ghana from March 4–13, 2012, by the Africa Population and Health Research Centre (APHRC) and the Komfo Anokye Teaching Hospital (KATH), respectively. These two organization were responsible for the endline OS in their respective countries. Given the difference in timing between the remote areas data collection and the endline OS, a new question (P23a. *Have you stocked any of these antimalarials (show prompt card of QAACTs) in the last four months? (November 2011 - February 2012)*) was added to the questionnaire to cover a longer recall period of four months in order to overlap with the endline survey period (see Table 1.6.2 for endline OS data collection dates). Other minor changes included changing the default year to 2012 and changing the tools title from endline to remote area survey.

1.6.5.3 Data processing and analysis

Similar data entry and processing procedures as in the endline OS were used in both countries. Cleaning was done using the endline OS data cleaning procedures. For analysis, we did not calculate change indicators since we did not have baseline data with sufficient statistical power for the remote areas. We computed indicators of availability, price and market share of quality-assured ACTs at endline separately for remote and non-remote areas in each country. It should be noted that the booster sample was not included in the remote area analysis as it was the case for the main endline survey. Also Ghana estimates are unweighted because there was no way to calculate the weight due to a lack of estimates for the total population of the remote areas.

1.6.6 Public awareness - AMFm logo study

Exit interviews with clients of outlets were conducted in four countries with a structured questionnaire to obtain data on the knowledge and availability of ACTs and on the effect of the use of the AMFm logo in branding ACTs on the sales of copaid ACTs. Data from exit interviews were used to determine to what extent the logo assists patients in their recognition of the ACTs available. Information on public awareness and knowledge of quality-assured ACTs and the AMFm logo were obtained through focus group discussions with men and women. Focus group discussions focused on three themes: the treatment of malaria, the knowledge of participants of ACTs available to them, and their awareness of the AMFm logo.

1.6.6.1 Exit interviews

Identification and selection of participants

The exit interviews were conducted in eight clusters—four urban and four rural—that were randomly chosen from the list of clusters used in the endline outlet survey in each country. In each cluster, six outlets were selected randomly from a list of outlets within the cluster obtained through an outlet census. The census included all public, private, for-profit and not-for-profit locations where anti-malarial drugs were sold.

In each outlet, clients who had just left the outlet were asked to participate in a survey related to malaria. Individuals 18 years old and older were interviewed. No quota was given for the male/female ratio of respondents. Clients leaving the selected outlets were contacted until 12 valid interviews had been completed, with at least six interviews with clients who came to obtain an antimalarial. Research teams in all countries succeeded in meeting that target in nearly all clusters. The target number of interviews per country was 576: 12 interviews per outlet in six outlets per cluster and eight clusters per country.

Data collection procedures
After completion of training and the pre-testing of the questionnaire (Appendices N and O), research teams of three or four persons, accompanied by a supervisor, traveled to the clusters and contacted local authorities to explain the purpose of their visit, show their credentials and enlist their support. The team then conducted a census of the outlets in the cluster. Once the sample of six outlets had been identified, a team member or supervisor contacted the person in charge of the outlet to explain the purpose of the survey and request permission to interview clients after they leave the outlet. A team member then stationed himself/herself a short distance from the outlet to approach clients as they walked by. The data collection in Ghana, Kenya and Nigeria began the second week of February 2012 and lasted for 3-4 weeks. In Madagascar, fieldwork began on March 18, 2012 and was completed in four weeks.

The questionnaire included questions about the reason for their visit to the outlet, their purchasing of antimalarials, their knowledge of ACTs and their awareness of the AMFm logo. The questions were prepared initially in English for Ghana, Kenya and Nigeria, and were then translated into French for Madagascar. The paper questionnaires were translated and printed in three local languages in Ghana and Nigeria, and in Kiswahili in Kenya. The questionnaire was translated and printed in Malagasy in Madagascar. Once informed consent was granted by a client, the interviewer asked the client about 25 questions with pre-coded answers. A small number of potential respondents declined to be interviewed. A record was kept of the number of clients who declined in each cluster.

Data processing and analysis
A data entry specialist developed the data entry screens for each country with the Microsoft SQL Server that was set up for double entry of the data. The specialist worked with the data processing team in each country to assist them in downloading the software and following the manuals for installation and initialization. Each research agency used its own pool of data entry specialists to enter the data. Once cleaned, the data sets were sent to the office of ICF International for analysis. ICF prepared a tabulation plan for presenting data to respond to the main research questions of the studies.

1.6.6.2 Focus group discussions

Identification and selection of participants

Two focus group discussions were conducted in each of the eight clusters: one with men and one with women. Women aged 25-40 years old and men aged 35-50 years old were recruited since they were likely to be responsible for young children. Participants were recruited in some clusters through their membership in a local organization such as an association of teachers, male farmers, fishmongers or market women. In others, the local political or administrative head recruited individuals directly to participate. In most cases, the local chief or political authority advised and assisted in the process of recruitment. The number of participants in each focus group varied from 6 to 12. Potential participants were invited to meet in a venue where they could hold discussions in private.

Conducting the focus group discussions

The focus group discussions (FGDs) were directed by a moderator assisted by a note taker who also organized the recording. Most FGDs took place in a room rented for that purpose. The moderator and note taker welcomed the participants as they arrived and began learning names. The discussion began after the introduction of all individuals present and a welcome by the moderator who also explained the purpose of the meeting.

The moderators followed a two-page guide in English or in French (Appendices P and Q) that described the three themes central to the discussions and the elements that form part of each theme. However, most FGDs were held in a language other than English or French. The main themes were symptoms and treatment of malaria, knowledge and experience with ACTs, and awareness and knowledge of the AMFm logo. The participants were free to address these topics in any order.

Information processing

The focus group discussions were recorded with permission of the participants. In only a few cases was permission not granted. In those cases, the moderator and note taker reconstructed the discussion as completely as possible after the completion of the discussion. The recordings were transcribed in the language of the discussion, translated into English or French, typed in Microsoft Word and sent to ICF International for analysis. Reports were written by the implementing agency about each focus group discussion to provide context for the analysis. These reports provided summaries of main points of the discussions, brief descriptions of the discussion process and comments on any elements that influenced the discussions.

1.6.7 Interpretation and operationalization of success metrics

It was recognized early in the Independent Evaluation process that it would be useful to define in advance how "success" would be assessed in relation to the achievement of the AMFm outcomes (availability, price, use and market share), in order for a judgement of the effectiveness of the program in different country settings to be made. To assist in this process, the AMFm Ad Hoc Committee commissioned the Evidence to Policy Initiative (E2Pi) to propose benchmarks for outcomes which could realistically be expected in the first and second years of the pilots, together with an approach to balancing and judging performance across multiple indicators. To inform the setting of the benchmarks, the E2Pi team conducted a literature review and key informant interviews to review the experience of sub-national pilots of subsidized ACTs, national programs of subsidized ACTs, other national ACT scale-up initiatives (e.g., those supported by the Global Fund), commodity social marketing programs, national scale-up programs for oral rehydration therapy and drug company efforts to launch a new product into an emerging market or a developing country.

The E2Pi team produced a draft paper for discussion at the June 2010 meeting of the AMFm Ad Hoc Committee. Committee members provided feedback on the draft paper and suggested additional literature to review and key informants to interview. The revised report was reviewed by nine external reviewers, revised again and presented at the October 2010 meeting of the AMFm Ad Hoc Committee, where additional modifications were requested. The final version of the E2Pi report (Schäferhoff and Yamey 2010) was presented in a pre-Board briefing session in advance of the December 2010 Board meeting and was released in the public domain. This work formed the basis for the "Success Metrics" presented in Chapter 8 of this report. Table 1.6.8 shows the original E2Pi formulation of the metrics, the success benchmarks proposed by E2Pi for 1 year after the effective start date of AMFm, and the way these have been refined and operationalized by the IE. Further clarification on decisions that were taken to operationalize the metrics follows.

Table 1.6.9: E2Pi metrics and benchmarks for success and their operationalization by the IE		
E2Pi metric	**E2Pi benchmark for 1 Year**	**IE operationalization**
Availability The proportion of all facilities, private and public [including informal outlets], stocking QAACTs, among outlets with any antimalarials in stock at the time of the survey	Increase of 20 percentage points from baseline	Benchmark 1: Percentage point change from baseline to endline in the percentage of outlets stocking ALL QAACTs (both with and without the AMFm logo). We report the *p*-value from a one-sided unadjusted Wald test, which is the probability that QAACT availability is at least 20 percentage points higher at endline than baseline. This metric is shown for all outlets combined, and separately for public health facilities and private for-profit outlets.
Price QAACT price per adult equivalent treatment dose (AETD) relative to the price of the most popular non-QAACT Copaid QAACT price per adult equivalent treatment dose relative to the price of artemisinin monotherapy	QAACT price <300% of the price of the most popular non-QAACT (in most countries this is chloroquine or SP) <u>and</u> Price of AMFm copaid QAACT < price of AMT; this is useful but not sufficient to determine success	Benchmark 2: Ratio of the median price of QAACTs with the AMFm logo to the median price of the most popular antimalarial which is not a QAACT. - This metric is presented for private for-profit outlets only. - The most popular antimalarial in tablet form which is not a QAACT is defined as the antimalarial, excluding QAACTs, with the highest sales volume measured in terms of AETDs sold in private for-profit outlets. Benchmark 3: Difference between the median price of QAACTs with the AMFm logo and the median price of AMT tablets. - This metric is presented for private for-profit outlets only. Bootstrapping was used to test the statistical significance of Benchmarks 2 and 3.

Table 1.6.9: *Cont.*		
E2Pi metric	**E2Pi benchmark for 1 Year**	**IE operationalization**
Use Proportion of children under 5 years with fever who received a QAACT on the day that the fever started or on the following day	Increase of 5-10 percentage points from baseline	Benchmark 4: Percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment. The IE does not restrict the denominator to children who received the medicine on the day the fever started or on the following day (see below). A statistical t-test is undertaken for the lower bound of the range given in the benchmark (i.e., 5 percentage points).
Market share Total volume of QAACTs sold or distributed as a proportion of the total volume of all antimalarials sold or distributed in the last week via outlets that will be included in the Independent Evaluation outlet surveys	Increase in ACT market share of 10-15 percentage points from baseline and Decrease in market share of artemisinin monotherapy (AMT) from baseline (note that the E2Pi document specified a metric for AMT, but not a benchmark)	Benchmark 5: Percentage point change from baseline to endline in the market share of ALL QAACTS. Benchmark 6: Percentage point change from baseline to endline in the market share of AMTs (all oral dosage forms). Sales volumes are calculated in terms of AETDs sold/distributed in the last 7 days. Statistical testing was undertaken for the lower bound of the range given in Benchmark 5 (i.e., 10 percentage points). We report p-values from one-sided unadjusted Wald tests, which are the probability that QAACT market share is at least 10 percentage points higher at endline (Benchmark 5) and that AMT market share is lower at endline (Benchmark 6). This metric is shown for all outlets combined, and separately for public health facilities and private for-profit outlets.
Source: Adapted from Schäferhoff and Yamey (2010)		

The availability metric measures the availability of all QAACTs (both with and without the AMFm logo). This is in order to capture the overall change in QAACT availability, net of any potential substitution between copaid and non-copaid QAACTs. The market share metric is also based on all QAACTs.

For the use metric, the IE has operationalised the metric using IE Indicator 3.1 (any ACT treatment) rather than Indicator 3.2 (prompt treatment). This is because of the difficulty in measuring the timing of treatment in relation to the onset of fever and of interpreting its appropriateness. It is also consistent with the revised Roll Back Malaria indicator for case management of malaria, which considers whether or not ACTs were used, but not the timing of ACT use.

Price metrics are computed for QAACTs with the AMFm logo only, in order to focus on the extent to which the subsidy provided through AMFm has been passed through to final retail prices. It would also be expected that a low price for QAACTs with the AMFm logo would affect the price for QAACTs without the logo, however this is not a key metric and this information is presented in the main tables. The following points are relevant to the calculation of the price of the comparators (the most popular antimalarial which is not a QAACT and artemisinin monotherapy):

- The price of QAACTs in the private for-profit sector was selected as the focus of these metrics because in many settings drugs are free in public and not-for-profit health facilities.
- To compare like with like, for Benchmark 2 the comparator is the most popular antimalarial which is not a QAACT in the for-profit sector, in tablet form (as all QAACTs are tablets).
- The most popular antimalarial which is not a QAACT in private for-profit outlets is determined in terms of total AETDs sold. It is defined in terms of the generic drug type, e.g., SP.
- For Benchmark 3 the comparator price of AMT is calculated as the median price of AMTs sold in private for-profit outlets, in tablet form. The rationale for restricting the comparison to AMT tablets is that all QAACTs are tablets and non-oral forms of AMT (injectables, suppositories) are used in the management of severe malaria and are therefore not the target of "crowding out" efforts by AMFm.

The E2Pi document states that the price benchmark after 1 year of implementation has the weakest empirical basis, and that interpretation will need to take careful account of the country context.

The E2Pi report provides benchmarks for one year and two years after "the effective start date of AMFm at the Country level" (E2Pi). Table 1.6.2 shows the time gap between the date the first

copaid drugs arrived in a country and the midpoint of data collection for the endline outlet survey. The first arrival of drugs may not be a very strong indication of the start of "effective implementation," particularly if supporting interventions were implemented after a considerable delay. This limitation notwithstanding, it should be noted that half of the pilots had at least some copaid drugs in country for more than 12 months before the endline outlet survey (16-1/2 months in Ghana, 15 months in Kenya, 14 months in Madagascar and 13-1/2 months in Tanzania). However, the time between the arrival of drugs and the endline outlet survey in the remaining countries ranged from 6-1/2 to 9-1/2 months. This duration of effective implementation needs to be taken into account when interpreting country performance against the benchmarks.

Finally, as recommended by the E2Pi report, a Balanced Scorecard approach has been used for presenting success metrics outcomes for the different program objectives (Section 8). The scorecard has four quadrants, one each for availability, price, use and market share, and also highlights other key results, and process and contextual factors.

1.6.8   Ethical approval

ICF International and LSHTM received ethical clearance for the IE as a whole from their respective Institutional Review Boards (IRBs). The DCs received ethical approval for the baseline and endline outlet surveys, the remote area surveys and the collection of process and context data from the relevant national ethical review boards. Organizations contracted to carry out the logo study and the exit interviews received ethical clearance from the relevant national ethical review separately from the main outlet survey.

For all data collected, interviewers obtained informed consent before interviews were conducted. The results were not linked to individual providers, outlets or participants to ensure that confidentiality was protected.

1.6.9   Discussion of strengths and limitations of the Independent Evaluation

This section highlights key methodological and practical strengths of the evaluation, and discusses the potential limitations and their likely impact.

1.6.9.1 Strengths

The evaluation benefits from a number of key strengths. Data were collected from all eight operational pilots, which included both East and West African countries, and both Anglophone and Francophone countries, thus encompassing a wide range of institutional and cultural settings. The pilots also exhibited considerable variation in intensity and seasonality of malaria transmission, and in levels of economic development, allowing for assessment of AMFm phase 1

in a wide variety of contexts. This variety of settings helps to increase the external validity of the evaluation, and can also be used to inform thinking about other countries where AMFm might be expected to be effective.

Given that AMFm represents a complex intervention implemented in real life settings at large scale, the plausibility study design used in the IE was appropriate and well suited to understanding impact (Habicht et al. 1999). In particular, the combination of the quantitative surveys with detailed case studies on process of implementation and country context, guided by an explicit theory of change (Section 1.4), allows for assessment of the likelihood that impacts observed can be attributed to AMFm. For example, the case studies were able to highlight the variation in order rates for copaid drugs and in SI implementation across countries, and other interventions or events that may have affected AMFm indicators.

Findings were based on nationally representative outlet surveys and (where possible) household surveys, which were powered to look at key metrics separately in rural and urban areas (although not within all outlet categories). The methods for the outlet surveys, which form the core of the evaluation data, drew heavily on materials developed by the ACTwatch group, which had been tested and refined during several years in a wide range of countries (www.actwatch.info). In addition, outlet survey data collection in each country was conducted by experienced local research organizations, whose staff had a strong understanding of the local context.

Outlet survey data collection and analysis was carefully coordinated across countries, using standardized approaches and tools. A comprehensive set of quality assurance strategies were put in place, guided by three principles:

- ensuring high quality standards at every stage of the data collection and analysis process
- ensuring comparability among pilots by use of consistent methods
- allowing country-specific adaptation, for example, in the sampling strategy and questionnaire responses, where this would enhance quality and be appropriate to the country setting, without compromising cross-country comparability.

To ensure data quality, the DCs were provided with a set of key documents and materials, as described in Sections 1.6.2.3 on Data Quality Assurance and 1.6.2.4 on Data Processing and Analysis. These included a generic study design, generic questionnaires, a field manual, field monitoring forms, training materials, cleaning guidelines, analysis guidelines, analysis "do" files and the tabulation plan. The IE team provided assistance during fieldwork and throughout the research process. The IE team also undertook certain key steps in the process on behalf of countries, specifically selection of the sample of clusters and calculation of the sampling weights for analysis. In addition, the DCs themselves had a set of quality control procedures in place, for example, to ensure recruitment of high-quality field staff, quality of data collection in the field and the accuracy of double data entry.

The DCs were required to obtain approval from the IE team at a number of key milestones in the data collection, data entry and data analysis process. This oversight by the IE team involved submission of documents or data sets to the IE team, and frequently involved a number of drafts and extensive discussions by email and phone until approval was obtained. All DCs received approval for the following milestones at baseline and endline:

1. Adapted country-specific questionnaire approved
2. Sampling frame of clusters approved by the IE sampling statistician
3. Quality of fieldworker training verified by an attending IE team member where feasible
4. Confirmation that quality control visits were conducted during all surveys
5. Accuracy and completeness of data cleaning syntax and log files checked
6. Spot checking of country adaptations to analysis syntax files
7. Report tables carefully reviewed to highlight any inconsistencies

Baseline and endline analysis was also run independently by the IE team and the relevant DC for each country and any discrepancies were resolved.

The IE also conducted a set of quality assurance steps for the collection of process and context data through the country case studies. These included training of consultants, provision of generic data collection tools and a detailed report template, support to interviewers in the field, and careful review of all draft reports.

Finally, the study was conducted by a team that were independent from those implementing and funding AMFm, and all scientific decisions remained the sole responsibility of the IE team.

1.6.9.2 Limitations

A number of limitations should be noted in relation to the overall IE study design. The use of control or comparison areas can play an important role in the identification of intervention impact, but this approach was not adopted within the IE. It was not possible to create comparison areas within pilot countries, given the nature of the intervention, which involved the use of existing private sector distribution channels, meaning that the intervention could not be restricted to certain areas of the country. An alternative would have been to compare the experience in AMFm pilots with that in non-AMFm countries. However, given the substantial variations in political, economic and health system contexts among countries, and varied implementation of other malaria control strategies, it would have been challenging to identify a sufficient number of countries that were appropriate "matches" for the pilots. Moreover, some export of AMFm drugs is likely to have taken place from the pilots, which would have led to "contamination" in neighboring comparator countries.

Similarly, care should be taken in extrapolating the findings from the pilots to other countries within and especially beyond sub-Saharan Africa, especially to settings with very different antimalarial market structures. Only 11 countries were invited to apply for AMFm Phase 1. These countries were selected based on a set of criteria comprising malaria burden, experience with large-scale ACT deployment, the importance of the private sector in antimalarial distribution, presence of strong monitoring and evaluation systems, community deployment or 'over-the-counter' sale of ACTs and existing or planned ACT subsidy schemes. This implies that the AMFm countries may be systematically different from non-AMFm countries, and several of the criteria imply that selected countries may be relatively likely to benefit from AMFm. However, the presence of pre-existing ACT subsidy programs in several pilots (at national scale in Madagascar, in 18 states in Nigeria and in 4 districts in Uganda) may imply that less impact would be seen in these settings than in those without any pre-AMFm ACT subsidies in the private sector. In sum, differences in context should be carefully considered in assessing the generalizability of IE results to other settings.

Another limitation is the relatively short time of AMFm implementation before endline data collection in several countries. In four pilots there was over one year between the arrival of the first copaid drugs in the pilot countries and the midpoint of the endline outlet survey data collection (Table 1.6.2). However, in most settings drug orders were low at first and full SI implementation lagged several months behind drug arrival. In four pilots there was less than one year between arrival of the first copaid ACTs and the midpoint of OS data collection (9.5 months in Nigeria and Niger, 7 months in Uganda, and 6.5 months in Zanzibar). These periods are less than ideal for evaluating an intervention that operates on a national scale and requires behavior change by multiple groups. One might therefore expect that under sustained AMFm implementation, greater impact would have been achieved if a longer study period had been possible. Furthermore, at end May 2012, no national endline household survey data were available for any of the pilot countries. However, the timeline was constrained by the need to report to the Global Fund before the end of 2012.

In some cases there were also quite long lags between baseline data collection and the start of the AMFm rollout. This was particularly a problem for the secondary household survey data used as the baseline in most countries, where the lags between the midpoint of data collection and arrival of first copaid drugs were over one year in five pilots and almost five years in Niger. In two pilots, there were also quite long lags between baseline OS data collection and arrival of the first copaid drugs (7 months in Zanzibar and 15 months in Nigeria where the ACTwatch survey was used as the baseline. It is therefore possible that the AMFm indicators measured at baseline had changed to some degree before the AMFm rollout. This is a particular challenge for Nigeria given the long time lag and challenges experienced in documenting contextual factors prior to the start of AMFm and the IE. By contrast in Kenya, a small quantity of copaid drugs had arrived in the country *before* baseline data collection, and a national launch had taken place, implying

that the baseline indicators may capture some AMFm implementation, leading to an underestimate of impact.

The influence of seasonality should also be considered in the timing of the surveys. In four pilots, outlet survey data collection was conducted during the same months at baseline and endline (Kenya, Nigeria, Tanzania – mainland, and Uganda), and at similar times in two pilots (Niger and Zanzibar). However, the differences were larger in Ghana (where the baseline survey was in August and the endline survey was in November) and Madagascar (where the baseline survey was in April-June and the endline survey was in November-January). The impact of this is unclear as transmission occurs year round in Ghana, and although transmission is seasonal in the south and central highlands in Madagascar, both surveys were conducted in high transmission seasons. Additional outlet survey data collected for the remote areas studies had to be collected after the end of the main endline outlet surveys for logistical reasons. In both countries the surveys took place in March 2012, which does not correspond to the peak malaria transmission season. To assess the implications of this an additional question was added on whether the outlet had stocked QAACTs at any point in the 4 months preceding the interview, which would include the period in which the main outlet survey took place. Even where baseline and endline surveys were conducted at the same time of the year, there may be year-to-year fluctuations in transmission, although factors affecting this should be captured in the country case studies.

It is important to bear in mind the scope of the Independent Evaluation and specifically what is *not* covered. The evaluation was designed to look at impact on QAACT availability, price, market share and use (in terms of coverage of ACTs among children with fever). There are a number of other important questions and concerns about AMFm implementation which are beyond the scope of the IE. These include whether copaid drugs are targeted at those with parasitemia; advice provided to patients by providers; patient adherence to dosing regimens; impact on global artemisinin supplies; impact on prevalence of counterfeit products; and re-export of copaid drugs to countries not included in AMFm.

All surveys relying on self-reported behavior are subject to recall bias, with respondents less likely to remember events that occurred further in the past. This may be the case in household surveys where respondents were asked to recall treatment-seeking behavior over the previous two weeks, but recall bias is not likely to be substantial over a two-week period. In the OS, we aimed to minimize recall bias by asking for reported sales volumes and stockouts for the previous week only, although recall may still have been imperfect. Interviewers were also trained to probe respondents about all antimalarials stocked to maximize the number reported, although it is likely that some were still missed out, particularly non-tablet formulations that respondents tend to forget. Although we aimed to interview a senior person in the outlet, interviewees were not always well informed about all aspects of the antimalarial business (e.g., wholesale purchase

prices). There may also have been incentives for social desirability bias, where interviewees responded inaccurately to survey questions in order to present themselves in a good light. For example, they may have concealed antimalarials which they believed they were not allowed to stock, underestimated sales volumes if they were concerned about the possible tax implications of reporting a high income or reported lower prices and mark-ups than they actually charged, especially if they were aware that they should be charging a specific RRP. We tried to minimize such behavior by reassuring interviewees during the consent process about confidentiality and emphasizing that we were not undertaking an inspection. It was encouraging to note that the outlet surveys obtained high response rates, even in private-for-profit outlets, despite the potentially sensitive nature of the questions in legal and commercial terms. Recall and social desirability bias may also have arisen in the key informant interviews for the case studies. In some cases, it was not possible to interview certain key informants, and those that did respond were not always fully knowledgeable, especially of events taking place outside the capital city.

Rigorous outlet survey methods were used to identify QAACTs and to measure their price, markups and sales volumes based on AETDs. However, there were some limitations to this approach. Drugs were classified as QAACTs on the basis of a set of characteristics (generic name, brand name, strength, pack size, manufacturer, country of manufacture and whether the product was a fixed dose combination). QAACT status is also linked to specific manufacturing sites, but data were not collected on this in the outlet survey. In addition, there have been minor changes in the set of products classified by the Global Fund as QAACTs at baseline and endline (see Appendix I). Specifically there were two products that were QAACTs at baseline but not at endline, and five products that were QAACTs at endline but not at baseline. With the exception of the artemeter + lumefantrine product produced by Quality Chemicals Industries Limited, the products that were QAACTs at endline but not baseline were not likely to be present in the market during baseline data collection. This implies that some changes in QAACT indicators between baseline and endline may reflect changes in regulatory status rather than changes in the quality of available products.

Two ACTwatch outlet surveys from Nigeria and Madagascar were used as IE baseline surveys because their timing was reasonably suitable, and it was not therefore deemed appropriate to fund additional surveys. In general, this met the needs of the Independent Evaluation well, as the methods and questionnaire were very similar. However, a number of differences in cleaning procedures could mean that there were slight differences in the products classified as QAACTs during the ACTwatch surveys.

Other challenges experienced with the outlet survey data included use of relatively old population sampling frames in some countries for the weighting of observations and calculation of Indicator 1.7 on QAACT population coverage, and difficulties in identifying itinerant vendors where these were common.

1.7   Consultative Forum

The Independent Evaluation team organized a Consultative Forum to present and discuss the preliminary results of the Independent Evaluation to ensure that the final report is informed by the body of knowledge from key institutions, thought leaders and practitioners. The forum took place on June 27-28, 2012, at the Tribe Hotel in Nairobi, Kenya, and involved participants from the Independent Evaluation team (ICF and LSHTM), PSI - ACTWatch, DNDi/KATH, CRDH/CIERPA, and IHI, senior NMCP officials and persons with a solid understanding of the AMFm progam from the study countries, co-chairs of the Roll Back Malaria Harmonization Working Group's AMFm Workstream, designated experts, and the Global Fund.

The Consultative Forum was advisory in nature. The IE team had the responsibility to document the major issues discussed and decide how to handle each of these major points in the final AMFm Phase 1 Independent Evaluation Report. The Consultative Forum provided an opportunity to all key knowledgeable stakeholders in the public and private sectors and independent experts to review and discuss the IE report extensively and to further fact-check/validate implementation and contextual information. See Appendix R for the narrative report of the Consultative Forum, including a list of key issues raised and how the IE team has addressed them.

2 Results from Outlet surveys

2.1 *Description of sample and characteristics of outlets*

2.1.1 Description of sample at baseline and at endline

Table 2.1.1 describes the samples at baseline and endline. Some of the differences in the number of outlets enumerated reflect differences in the number of clusters sampled (see Table 1.6.3). In Kenya, although the number of outlets stocking antimalarials was very similar at baseline and endline, the number of outlets enumerated was much higher at baseline. This most likely reflects data collectors being less likely to enumerate permanently closed outlets at endline, although this practice was still more common in Kenya than in other countries.

Table 2.1.2 shows the final interview status and location of outlets at baseline and endline. Response rates were high, and the proportion of outlets enumerated that were screened was 90% or above at baseline and endline in all countries other than Kenya. In Kenya, the percentage of outlets enumerated that were screened was lower, reflecting the number of permanently closed outlets, but the percentage meeting the screening criteria that were interviewed was very high (98%).

In Ghana, of all the private for-profit outlets enumerated, 44% were in rural areas at baseline, but only 30% at endline. The Data Contributor reported that this reflected the fact that the rural districts in the sample were less densely populated in the endline sample.

Table 2.1.4 shows the number of outlets with antimalarials in stock on the day of the survey. Following a similar pattern to that seen for outlets enumerated in Ghana, the percentage of private for-profit outlets with antimalarials in stock located in rural areas was 43% at baseline but only 26% at endline. The Data Contributor reported that this reflected the fact that rural districts in the sample were less densely populated in the endline. This has some consequences for interpretation of changes over time in the private for-profit sector in Ghana.

Table 2.1.1: Survey sample breakdown: Number of outlets enumerated and number stocking antimalarials by urban-rural location, according to country at baseline (2010) and endline (2011)

	BASELINE						ENDLINE					
Country	# of outlets enumerated*	# of outlets screened	# of outlets which met screening criteria	# of outlets interviewed**	# of outlets stocking antimalarials at the time of the survey visit	# of outlets without antimalarials in stock at the time of the survey visit but had antimalarials in stock at some time in the 3 months preceding the survey	# of outlets enumerated*	# of outlets screened	# of outlets which met screening criteria	# of outlets interviewed**	# of outlets stocking antimalarials at the time of the survey visit	# of outlets without antimalarials in stock at the time of the survey visit but had antimalarials in stock at some time in the 3 months precedings to the survey
	A	B	C	D	E	F	A	B	C	D	E	F
Ghana –Total	1,241	1,187	1,167	1,154	1,144	10	1,093	1,002	974	968	957	11
Urban	648	616	611	604	601	3	629	591	583	577	575	2
Rural	593	571	556	550	543	7	464	411	391	391	382	9
Kenya –Total	18,250	13,913	2,625	2,582	1,916	666	13,376	11,386	2,112	2,088	1,856	232
Urban	9,564	7,745	1,409	1,375	1,039	336	7,648	6,868	1,183	1,162	1,053	109
Rural	8,686	6,168	1,216	1,207	877	330	5,728	4,518	929	926	803	123
Madagascar – Total	7,221	6,769	2,642	2,616	2,414	202	10,723	10,041	2,854	2,806	2,371	435
Urban	5,274	4,980	1,604	1,581	1,444	137	6,894	6,519	1,282	1,251	982	269
Rural	1,947	1,789	1,038	1,035	970	65	3,829	3,522	1,572	1,555	1,389	166
Niger – Total	3,745	3,738	2,444	2,380	2,031	349	3,541	3,292	2,070	2,034	1,662	372
Urban	1,335	1,333	920	910	833	77	1,791	1,778	1,112	1,094	924	170
Rural	2,410	2,405	1,524	1,470	1,198	272	1,750	1,514	958	940	738	202
Nigeria – Total	6,089	5,456	2,210	2,206	2,113	97	8,507	7,939	1,567	1,562	1,504	58
Urban	4,654	4,162	1,816	1,813	1,746	69	6,063	5,706	1,071	1,068	1,032	36
Rural	1,435	1,294	394	393	367	28	2,444	2,233	496	494	472	22
Tanzania – mainland – Total	3,151	3,120	710	660	631	29	3,786	3,709	799	798	787	11
Urban	1,146	1,126	353	327	325	2	2,533	2,481	598	597	596	1
Rural	2,005	1,994	357	333	306	27	1,253	1,228	201	201	191	10
Uganda – Total	11,369	11,153	2,590	2,511	2,420	91	16,521	16,207	3,285	3,227	3,138	89
Urban	1,752	1,723	571	548	544	4	8,031	7,914	1,459	1,423	1,416	7
Rural	9,617	9,430	2,019	1,963	1,876	87	8,490	8,293	1,826	1,804	1,722	82
Zanzibar – Total	2,256	2,231	322	321	313	8	4,303	4,221	374	374	342	32
Urban	1,137	1,117	196	195	189	6	2,295	2,250	242	242	222	20
Rural	1,119	1,114	126	126	124	2	2,008	1,971	132	132	120	12

*Outlets that were visited and where at a minimum basic descriptive information (Sections C1-C9 of questionnaire) was collected
**Outlets that had a final interview status of 'completed' or 'partially completed'

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys
Note: Nigeria baseline data collection was conducted in 2009.

Table 2.1.2: Number of outlets by final interview status and urban-rural location, according to country at baseline (2010) and endline (2011)

Country/Final interview status	BASELINE			ENDLINE		
	Urban	Rural	Total	Urban	Rural	Total
Ghana						
Number of outlets						
Outlet not screened	32	22	54	38	53	91
Outlet did not meet screening criteria	5	15	20	8	20	28
Outlet met screening criteria, but not interviewed	7	6	13	6	0	6
Completed interview	604	550	1154	573	391	964
Partially completed interview	0	0	0	4	0	4
Response rate (%)						
Proportion of outlets enumerated that were screened	95.1	96.3	95.6	94.0	88.6	91.7
Proportion of outlets meeting screening criteria that were interviewed*	98.9	98.9	98.9	99.0	100.0	99.4
Kenya						
Number of outlets						
Outlet not screened	1,819	2,518	4,337	780	1210	1990
Outlet did not meet screening criteria	6,336	4,952	11,288	5,685	3589	9274
Outlet met screening criteria, but not interviewed	34	9	43	21	3	24
Completed interview	1,360	1200	2,560	1149	922	2071
Partially completed interview	15	7	22	13	4	17
Response rate (%)						
Proportion of outlets enumerated that were screened**	81.0	71.0	76.2	89.8	78.9	85.1
Proportion of outlets meeting screening criteria that were interviewed*	97.6	99.3	98.4	98.2	99.7	98.9
Madagascar						
Number of outlets						
Outlet not screened	294	158	452	375	307	682
Outlet did not meet screening criteria	3,376	751	4,127	5,237	1,950	7,187
Outlet met screening criteria, but not interviewed	23	3	26	31	17	48
Completed interview	1,554	1025	2,579	1,238	1,510	2,748
Partially completed interview	27	10	37	13	45	58
Response rate (%)						
Proportion of outlets enumerated that were screened	94.5	91.9	93.7	94.6	92.0	93.6
Proportion of outlets meeting screening criteria that were interviewed*	98.6	99.7	99.0	97.6	98.9	98.3
Niger						
Number of outlets						
Outlet not screened	2	5	7	13	236	249
Outlet did not meet screening criteria	413	881	1,294	666	556	1,222
Outlet met screening criteria, but not interviewed	10	54	64	18	18	36
Completed interview	910	1470	2,380	1,093	940	2,033
Partially completed interview	0	0	0	1	0	1
Response rate (%)						
Proportion of outlets enumerated that were screened	99.9	99.8	99.8	99.3	86.5	93.0
Proportion of outlets meeting screening criteria that were interviewed*	98.9	96.5	97.4	98.4	98.1	98.3
Nigeria						
Number of outlets						
Outlet not screened	492	141	633	357	211	568
Outlet did not meet screening criteria	2,348	898	3,246	4635	1737	6372
Outlet met screening criteria, but not interviewed	3	1	4	3	2	5
Completed interview	1,740	380	2,120	1048	490	1538
Partially completed interview	73	13	86	20	4	24
Response rate (%)						
Proportion of outlets enumerated that were screened	89.4	90.2	89.6	94.1	91.4	93.3
Proportion of outlets meeting screening criteria that were interviewed*	99.8	99.7	99.8	99.7	99.6	99.7
Tanzania – mainland						
Number of outlets						
Outlet not screened	20	11	31	52	25	77
Outlet did not meet screening criteria	773	1637	2,410	1,883	1,027	2,910
Outlet met screening criteria, but not interviewed	26	24	50	1	0	1
Completed interview	320	311	631	584	201	785
Partially completed interview	7	22	29	13	0	13
Response rate (%)						
Proportion of outlets enumerated that were screened	98.3	99.5	99.0	97.9	98.0	98.0
Proportion of outlets meeting screening criteria that were interviewed*	92.6	93.3	93.0	99.8	100.0	99.9

Table 2.1.2: *Cont.*						
Country/Final interview status	**BASELINE**			**ENDLINE**		
	Urban	Rural	Total	Urban	Rural	Total
Uganda						
Number of outlets						
Outlet not screened	29	187	216	117	197	314
Outlet did not meet screening criteria	1,152	7,411	8,563	6,455	6,467	12,922
Outlet met screening criteria, but not interviewed	23	56	79	36	22	58
Completed interview	531	1,948	2,479	1,403	1,794	3,197
Partially completed interview	17	15	32	20	10	30
Response rate (%)						
Proportion of outlets enumerated that were screened	98.3	98.1	98.1	98.5	97.7	98.1
Proportion of outlets meeting screening criteria that were interviewed*	96.0	97.2	96.9	97.5	98.8	98.2
Zanzibar						
Number of outlets						
Outlet not screened	20	5	25	45	37	82
Outlet did not meet screening criteria	921	988	1,909	2,008	1,839	3,847
Outlet met screening criteria, but not interviewed	1	0	1	0	0	0
Completed interview	195	125	320	237	131	368
Partially completed interview	0	1	1	5	1	6
Response rate (%)						
Proportion of outlets enumerated that were screened	98.2	99.6	98.9	98.0	98.2	98.1
Proportion of outlets meeting screening criteria that were interviewed*	99.5	100.0	99.7	100.0	100.0	100.0
Note: The number of outlets meeting the screening criteria is defined as the sum of the number of outlets stocking antimalarials at the time of the survey and the number of outlets without antimalarials in stock at the time of the survey, but which had antimalarials in stock at some time in the 3 months preceding the survey. Note: Nigeria baseline data collection was conducted in 2009.						
* The response rate was calculated as the percentage of outlets where the final interview status was "Completed interview" or "Partially completed interview" among of all outlets meeting the screening criteria (Table 2.1.1 Column D divided by Column C).						
Source: AMFm Phase 1 Independent Evaluation Outlet Surveys						

Table 2.1.3: Number of outlets enumerated by type of outlet and urban-rural location, according to country at baseline (2010) and endline (2011)

Country/Type of outlet	BASELINE									ENDLINE								
	Urban			Rural			Total			Urban			Rural			Total		
	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total
Ghana – Total	396	252	648	470	123	593	866	375	1,241	350	279	629	269	195	464	619	474	1,093
Public health facility	30	42	72	48	93	141	78	135	213	21	81	102	46	179	225	67	260	327
Private not-for-profit health facility	6	0	6	9	0	9	15	0	15	4	0	4	9	0	9	13	0	13
Private for-profit outlet																		
Health facility/pharmacy	139	210	349	37	30	67	176	240	416	103	198	301	11	16	27	114	214	328
Drug store	218	0	218	367	0	367	585	0	585	217	0	217	195	0	195	412	0	412
General retailer/itinerant	2	0	2	6	0	6	8	0	8	5	0	5	7	0	7	12	0	12
Total	359	210	569	410	30	440	769	240	1,009	325	198	523	213	16	229	538	214	752
Community health worker	1	0	1	3	0	3	4	0	4	0	0	0	1	0	1	1	0	1
Kenya – Total	9,314	245	9,559	8,434	239	8673	17,748	484	18,232	7,360	286	7,646	5,470	257	5,727	12,830	543	13,373
Public health facility	59	106	165	83	205	288	142	311	453	,54	97	151	84	224	308	138	321	459
Private not-for-profit health facility	34	0	34	18	0	18	52	0	52	23	0	23	30	0	30	53	0	53
Private for-profit outlet																		
Health facility/pharmacy	451	139	590	141	34	175	592	173	765	314	189	503	117	33	150	431	222	653
Drug store	363	0	363	205	0	205	568	0	568	384	0	384	181	0	181	565	0	565
General retailer/itinerant	8,070	0	8,070	6,953	0	6,953	15,023	0	15,023	6,483	0	6,483	4,811	0	4,811	11,294	0	11,294
Total	8,884	139	9,023	7,299	34	7,333	16,183	173	16,356	7,181	189	7,370	5,109	33	5,142	12,290	222	12,512
Community health worker	337	0	337	1,034	0	1,034	1,371	0	1,371	102	0	102	247	0	247	349	0	349
Madagascar – Total	5,212	65	5,277	1,226	718	1,944	6,438	783	7,221	6,828	66	6,894	2,861	968	3,829	9,689	1034	10,723
Public health facility	46	33	79	45	475	520	91	508	599	41	31	72	61	605	666	102	636	738
Private not-for-profit health facility	8	0	8	0	0	0	8	0	8	34	0	34	6	0	6	40	0	40
Private for-profit outlet																		
Health facility/pharmacy	159	18	177	9	2	11	168	20	188	146	33	179	19	0	19	165	33	198
Drug store	22	14	36	26	241	267	48	255	303	30	2	32	39	363	402	69	365	434
General retailer/itinerant	4,918	0	4,918	971	0	971	5,889	0	5,889	6,342	0	6,342	2,142	0	2,142	8,484	0	8,484
Total	5,099	32	5,131	1,006	243	1,249	6,105	275	6,380	6,518	35	6,553	2,200	363	2,563	8,718	398	9,116
Community health worker	59	0	59	175	0	175	234	0	234	235	0	235	594	0	594	829	0	8,29
Niger – Total	1,209	126	1,335	2,028	382	2,410	3,237	508	3,745	1,671	120	1,791	1,542	208	1,750	3,213	328	3541
Public health facility	44	53	97	163	371	534	207	424	631	39	69	108	118	208	326	157	277	434
Private not-for-profit health facility	5	0	5	0	0	0	5	0	5	2	0	2	1	0	1	3	0	3
Private for-profit outlet																		
Health facility/pharmacy	43	73	116	3	11	14	46	84	130	51	51	102	4	0	4	55	51	106
Drug store	15	0	15	8	0	8	23	0	23	17	0	17	3	0	3	20	0	20
General retailer/itinerant	1,101	0	1,101	1850	0	1,850	2,951	0	2,951	1,562	0	1,562	1,414	0	1,414	2,976	0	2,976
Total	1,159	73	1,232	1861	11	1,872	3,020	84	3,104	1,630	51	1,681	1,421	0	1,421	3,051	51	3,102
Community health worker	1	0	1	4	0	4	5	0	5	0	0	0	2	0	2	2	0	2
Nigeria – Total	4,615	39	4,654	1,435	0	1435	6,050	39	6,089	6,062	0	6,062	2,444	0	2,444	8,506	0	8,506
Public health facility	239	15	254	83	0	83	322	15	337	54	0	54	78	0	78	132	0	132
Private not-for-profit health facility	11	0	11	3	0	3	14	0	14	9	0	9	4	0	4	13	0	13
Private for-profit outlet	4,356	24	4,380	1,333	0	1,333	5,689	24	5,713									
Health facility/pharmacy	-	-	-	-	-	-	-	-	-	129	0	129	44	0	44	173	0	173
Drug store	-	-	-	-	-	-	-	-	-	959	0	959	442	0	442	1,401	0	1,401
General retailer/itinerant	-	-	-	-	-	-	-	-	-	4,907	0	4,907	1,864	0	1,864	6,771	0	6,771
Total	-	-	-	-	-	-	-	-	-	5,995	0	5,995	2,350	0	2,350	8,345	0	8,345
Community health worker	9	0	9	16	0	16	25	0	25	4	0	4	12	0	12	16	0	16

Table 2.1.3: *Cont.*

Country/Type of outlet	BASELINE									ENDLINE								
	Urban			Rural			Total			Urban			Rural			Total		
	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total
Tanzania – mainland – Total	897	248	1,145	1,998	7	2,005	2,895	255	3,150	2,252	274	2526	1245	8	1253	3497	282	3779
Public health facility	9	0	9	67	0	67	76	0	76	7	0	7	55	0	55	62	0	62
Private not-for-profit health facility	7	0	7	20	0	20	27	0	27	6	0	6	2	0	2	8	0	8
Private for-profit outlet																		
Health facility/pharmacy	22	248	270	10	7	17	32	255	287	73	274	347	8	8	16	81	282	363
Drug store	99	0	99	172	0	172	271	0	271	281	0	281	128	0	128	409	0	409
General retailer/itinerant	759	0	759	1,725	0	1,725	2,484	0	2,484	1,884	0	1884	1,052	0	1,052	2,936	0	2,936
Total	880	248	1,128	1,907	7	1,914	2,787	255	3,042	2,238	274	2512	1,188	8	1,196	3,426	282	3708
Community health worker	1	0	1	4	0	4	5	0	5	1	0	1	0	0	0	1	0	1
Uganda – Total	1,360	392	1,752	8,934	683	9,617	10,294	1,075	11,369	7,612	419	8,031	7,975	515	8,490	15,587	934	16,521
Public health facility	4	80	84	136	629	765	140	709	849	36	115	151	96	462	558	132	577	709
Private not-for-profit health facility	5	0	5	31	0	31	36	0	36	14	0	14	30	0	30	44	0	44
Private for-profit outlet																		
Health facility/pharmacy	115	312	427	373	54	427	488	366	854	602	304	906	388	53	441	990	357	1,347
Drug store	79	0	79	929	0	929	1,008	0	1,008	477	0	477	838	0	838	1,315	0	1,315
General retailer/itinerant	1,120	0	1,120	6,710	0	6,710	7,830	0	7,830	6,290	0	6,290	5,782	0	5,782	1,2072	0	12,072
Total	1,314	312	1,626	8,012	54	8,066	9,326	366	9,692	7,369	304	7,673	7,008	53	7,061	1,4377	357	14,734
Community health worker	37	0	37	755	0	755	792	0	792	193	0	193	841	0	841	1,034	0	1,034
Zanzibar – Total	1,137	0	1,137	1,119	0	1,119	2,256	0	2256	2,295	0	2,295	2,008	0	2,008	4303	0	4,303
Public health facility	65	0	65	87	0	87	152	0	152	71	0	71	93	0	93	164	0	164
Private not-for-profit health facility	3	0	3	1	0	1	4	0	4	4	0	4	1	0	1	5	0	5
Private for-profit outlet																		
Health facility/pharmacy	98	0	98	16	0	16	114	0	114	94	0	94	25	0	25	119	0	119
Drug store	96	0	96	43	0	43	139	0	139	137	0	137	59	0	59	196	0	196
General retailer/itinerant	875	0	875	972	0	972	1,847	0	1,847	1,989	0	1,989	1,830	0	1,830	3,819	0	3,819
Total	1,069	0	1,069	1,031	0	1,031	2,100	0	2,100	2,220	0	2,220	1,914	0	1,914	4,134	0	4,134
Community health worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: The number of outlets enumerated is taken from Table 2.1.1, Column A. Any differences from Table 2.1.1 are due to outlets for which the outlet type is unknown; Nigeria baseline data collection was conducted in 2009

CSD: Censused Subdistrict, BS: Booster Sample

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys.

Table 2.1.4: Number of outlets with antimalarials in stock by type of outlet and urban-rural location, according to country at baseline (2010) and endline (2011)

| | BASELINE | | | | | | | | | ENDLINE | | | | | | | | |
| | Urban | | | Rural | | | Total | | | Urban | | | Rural | | | Total | | |
Country/Type of outlet	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total
Ghana – Total	371	230	601	423	120	543	794	350	1,144	315	260	575	204	178	382	519	438	957
Public health facility	27	41	68	45	90	135	72	131	203	19	75	94	41	163	204	60	238	298
Private not-for-profit health facility	5	0	5	9	0	9	14	0	14	4	0	4	9	0	9	13	0	13
Private for-profit outlet																		
Health facility/pharmacy	126	189	315	32	30	62	158	219	377	87	185	272	11	15	26	98	200	298
Drug store	211	0	211	331	0	331	542	0	542	202	0	202	140	0	140	342	0	342
General retailer/itinerant	2	0	2	3	0	3	5	0	5	3	0	3	3	0	3	6	0	6
Total	339	189	528	366	30	396	705	219	924	292	185	477	154	15	169	446	200	646
Community health worker	0	0	0	3	0	3	3	0	3	0	0	0	0	0	0	0	0	0
Kenya – Total	843	196	1,039	655	222	877	1,498	418	1,916	791	261	1,052	558	245	803	1,349	506	1,855
Public health facility	41	96	137	67	192	259	108	288	396	44	93	137	78	216	294	122	309	431
Private not-for-profit health facility	23	0	23	15	0	15	38	0	38	19	0	19	27	0	27	46	0	46
Private for-profit outlet																		
Health facility/pharmacy	264	100	364	73	30	103	337	130	467	243	168	411	84	29	113	327	197	524
Drug store	272	0	272	156	0	156	428	0	428	329	0	329	145	0	145	474	0	474
General retailer/itinerant	239	0	239	323	0	323	562	0	562	156	0	156	224	0	224	380	0	380
Total	775	100	875	552	30	582	1,327	130	1,457	728	168	896	453	29	482	1,181	197	1,378
Community health worker	4	0	4	21	0	21	25	0	25	0	0	0	0	0	0	0	0	0
Madagascar – Total	1,387	60	1,447	346	621	967	1,733	681	2,414	925	57	982	572	817	1,389	1,497	874	2,371
Public health facility	38	30	68	31	415	446	69	445	514	39	26	65	49	504	553	88	530	618
Private not-for-profit health facility	6	0	6	0	0	0	6	0	6	26	0	26	5	0	5	31	0	31
Private for-profit outlet																		
Health facility/pharmacy	110	16	126	7	2	9	117	18	135	76	29	105	12	0	12	88	29	117
Drug store	14	14	28	24	204	228	38	218	256	26	2	28	34	313	347	60	315	375
General retailer/itinerant	1,217	0	1,217	246	0	246	1,463	0	1,463	743	0	743	406	0	406	1,149	0	1,149
Total	1,341	30	1,371	277	206	483	1,618	236	1,854	845	31	876	452	313	765	1,297	344	1,641
Community health worker	2	0	2	38	0	38	40	0	40	15	0	15	66	0	66	81	0	81
Niger – Total	712	121	833	910	288	1,198	1,622	409	2,031	809	115	924	593	145	738	1,402	260	1,662
Public health facility	39	52	91	107	278	385	146	330	476	35	67	102	75	145	220	110	212	322
Private not-for-profit health facility	4	0	4	0	0	0	4	0	4	2	0	2	1	0	1	3	0	3
Private for-profit outlet																		
Health facility/pharmacy	37	69	106	2	10	12	39	79	118	47	48	95	4	0	4	51	48	99
Drug store	14	0	14	7	0	7	21	0	21	15	0	15	3	0	3	18	0	18
General retailer/itinerant	617	0	617	792	0	792	1,409	0	1,409	710	0	710	510	0	510	1,220	0	1,220
Total	668	69	737	801	10	811	1,469	79	1,548	772	48	820	517	0	517	1,289	48	1,337
Community health worker	1	0	1	2	0	2	3	0	3	0	0	0	0	0	0	0	0	0
Nigeria – Total	1,726	23	1,749	364	0	364	2,090	23	2,113	1,032	0	1,032	472	0	472	1,504	0	1,504
Public health facility	174	9	183	45	0	45	219	9	228	43	0	43	52	0	52	95	0	95
Private not-for-profit health facility	7	0	7	2	0	2	9	0	9	6	0	6	3	0	3	9	0	9
Private for-profit outlet																		
Health facility/pharmacy	723	14	737	24	0	24	747	14	761	99	0	99	32	0	32	131	0	131
Drug store	722	0	722	268	0	268	990	0	990	807	0	807	362	0	362	1,169	0	1,169
General retailer/itinerant	94	0	94	19	0	19	113	0	113	74	0	74	19	0	19	93	0	93
Total	1,539	14	1,553	311	0	311	1,850	14	1,864	980	0	980	413	0	413	1,393	0	1,393
Community health worker	6	0	6	6	0	6	12	0	12	3	0	3	4	0	4	7	0	7

Table 2.1.4: *Cont.*

Country/Type of outlet	BASELINE									ENDLINE								
	Urban			Rural			Total			Urban			Rural			Total		
	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total	CSD	BS	Total
Tanzania – mainland – Total	118	206	324	300	6	306	418	212	630	341	255	596	183	8	191	524	263	787
Public health facility	5	0	5	56	0	56	61	0	61	7	0	7	48	0	48	55	0	55
Private not-for-profit health facility	6	0	6	17	0	17	23	0	23	4	0	4	2	0	2	6	0	6
Private for-profit outlet																		
Health facility/pharmacy	18	206	224	6	6	12	24	212	236	66	255	321	8	8	16	74	263	337
Drug store	88	0	88	149	0	149	237	0	237	259	0	259	113	0	113	372	0	372
General retailer/itinerant	1	0	1	71	0	71	72	0	72	5	0	5	12	0	12	17	0	17
Total	107	206	313	226	6	232	333	212	545	330	255	585	133	8	141	463	263	726
Community health worker	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0
Uganda – Total	187	357	544	1,253	623	1,876	1,440	980	2,420	1,028	388	1,416	1,225	497	1,722	2,253	885	3,138
Public health facility	4	72	76	119	574	693	123	646	769	32	112	144	89	445	534	121	557	678
Private not-for-profit health facility	4	0	4	27	0	27	31	0	31	13	0	13	28	0	28	41	0	41
Private for-profit outlet																		
Health facility/pharmacy	104	285	389	307	49	356	411	334	745	541	276	817	336	52	388	877	328	1,205
Drug store	72	0	72	752	0	752	824	0	824	436	0	436	676	0	676	1,112	0	1,112
General retailer/itinerant	2	0	2	19	0	19	21	0	21	4	0	4	14	0	14	18	0	18
Total	178	285	463	1,078	49	1,127	1,256	334	1,590	981	276	1,257	1,026	52	1078	2007	328	2,335
Community health worker	1	0	1	29	0	29	30	0	30	2	0	2	82	0	82	84	0	84
Zanzibar – Total	189	0	189	124	0	124	313	0	313	222	0	222	120	0	120	342	0	342
Public health facility	56	0	56	83	0	83	139	0	139	48	0	48	76	0	76	124	0	124
Private not-for-profit health facility	2	0	2	1	0	1	3	0	3	1	0	1	1	0	1	2	0	2
Private for-profit outlet																		
Health facility/pharmacy	73	0	73	11	0	11	84	0	84	82	0	82	16	0	16	98	0	98
Drug store	57	0	57	25	0	25	82	0	82	88	0	88	24	0	24	112	0	112
General retailer/itinerant	1	0	1	4	0	4	5	0	5	3	0	3	3	0	3	6	0	6
Total	131	0	131	40	0	40	171	0	171	173	0	173	43	0	43	216	0	216
Community health worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: Number of outlets with antimalarials in stock is taken from Table 2.1.1, Column E. Any differences from Table 2.1.1 are due to outlets for which the outlet type is unknown. An interview was conducted if the final interview status for an outlet was "Completed interview" or "Partially completed interview." 'Outlets with antimalarials in stock' form the denominator for all subsequent tables, unless specified otherwise. Any variation in the stated denominator in subsequent tables is due to missing data on specific variables; Nigeria baseline data collection was conducted in 2009.

CSD: Censused Subdistrict, BS: Booster Sample

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.1.2 Characteristics of the outlets

Table 2.1.5 shows the breakdown of outlets stocking antimalarials by outlet type. At endline across all pilots, private for-profit outlets made up over 75% of outlets stocking antimalarials, except for Zanzibar (63%). The public sector share of outlets stocking antimalarials was under 20% in all countries other than Zanzibar (36%). Community health workers did not make up a substantial percentage of outlets stocking antimalarials except in Madagascar and Uganda (13% and 9%, respectively). The structure of the market in terms of the breakdown of outlets stocking antimalarials did not change substantially between baseline and endline surveys, except in Zanzibar where a 10 percentage point increase for private for-profit outlets was seen.

Table 2.1.6 shows the breakdown of private for-profit outlets stocking antimalarials by outlet type, which varied considerably across the pilots. In Ghana, Nigeria, Tanzania mainland, Uganda and Zanzibar, drug stores were the most numerous type of private for-profit outlet, making up between 52% and 87% of outlets at endline. In Kenya, the market structure of private for-profit outlets was relatively evenly split with private pharmacies/health facilities accounting for 21%, drug stores 37% and general retailers 38%. In Niger and Madagascar, general stores were the most common type of private for-profit outlet (70% and 89%, respectively). Almost all the remainder of Niger's private for-profit outlets were itinerant vendors, which accounted for 28% of private for-profit outlets stocking antimalarials at endline. For private for-profit outlets, the structure of the antimalarial market in most pilots did not change substantially between baseline and endline. However, in mainland Tanzania, an increase of over 17 percentage points in the percentage of drug stores and a corresponding 22 percentage point decline in that of general retailers with antimalarials in stock was seen, principally driven by changes in urban areas. In Ghana, there was a 12 percentage point decline in the number of drug stores with antimalarials and an 11 percentage point increase in private pharmacies and health facilities with antimalarials were seen between baseline and endline, although the overall patterns are different from those seen within urban and rural areas. The Ghanaian Data Contributor reported that this reflected the fact that rural districts in the endline sample were less densely populated.

Table 2.1.5: Breakdown of outlets stocking antimalarials by outlet type at baseline (2010) and endline (2011)

Breakdown of outlets with any antimalarials in stock at the time of the survey visit by outlet type, by urban-rural location, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana - Total	100.0	321	100	412	100.0	733	100.0	303	100.0	191	100.0	494
Public health facility	7.2 (5.0-10.2)		11.0 (9.0-13.4)		10.4 (8.6-12.4)		4.8 (2.7-8.3)		19.5 (14.5-25.7)		10.1 (7.5-13.6)	
Private not-for-profit health facility	1.4 (0.6-3.1)		1.7 (0.9-3.2)		1.6 (0.9-2.9)		1.7 (0.8-3.7)		3.7 (1.9-7.2)		2.5 (1.5-4.1)	
Private for-profit outlet	91.5 (88.0-94.0)		86.8 (84.1-89.1)		87.6 (85.3-89.5)		93.5 (89.6-96)		76.7 (71.4-81.3)		87.4 (83.9-90.3)	
Community health worker	-		0.5 (0.1-2.6)		0.4 (0.1-2.2)		-		-		-	
Kenya - Total	100.0	771	100.0	594	100.0	1,365	100.0	752	100.0	543	100.0	1,295
Public health facility	5.6 (3.9-7.9)		13.6 (9.3-19.3)		11.8 (8.6-15.9)		4.4 (2.9-6.6)		17.5 (13.5-22.4)		13.9 (11.0-17.5)	
Private not-for-profit health facility	3.2 (2.1-4.9)		2.5 (1.5-4.2)		2.7 (1.8-3.9)		2.2 (1.2-4.1)		4.2 (2.5-6.9)		3.6 (2.4-5.6)	
Private for-profit outlet	90.8 (87.8-93.1)		79.5 (68.9-87.2)		82.1 (74.1-88.0)		93.4 (90.6-95.4)		78.3 (72.9-82.9)		82.5 (78.5-85.8)	
Community health worker	0.4 (0.1-1.4)		4.4 (1.2-14.7)		3.5 (1.0-11.4)		-		-		-	
Madagascar - Total	100.0	1,235	100.0	324	100.0	1,559	100.0	836	100.0	530	100.0	1,366
Public health facility	4.0 (2.3-6.7)		8.5 (6.5-11.1)		7.8 (6.1-9.9)		5.1 (3.9-6.6)		10.0 (7.8-12.7)		9.4 (7.5-11.7)	
Private not-for-profit health facility	0.3 (0.2-0.6)		-		0.1 (0.0-0.1)		3.4 (2.4-4.8)		0.8 (0.3-2.0)		1.1 (0.6-2.0)	
Private for-profit outlet	95.6 (92.7-97.3)		79.6 (68.8-87.3)		82.1 (72.7-88.8)		89.0 (85.4-91.8)		75.2 (65.1-83.2)		76.9 (68.0-83.9)	
Community health worker	0.1 (0.0-0.4)		11.9 (4.8-26.5)		10.0 (4.0-22.9)		2.5 (1.1-5.6)		14.0 (7.6-24.4)		12.6 (7.0-21.7)	
Niger - Total	100.0	558	100.0	755	100.0	1,313	100.0	686	100.0	499	100.0	1,180
Public health facility	6.3 (4.3-9.2)		12.7 (9.6-16.6)		11.5 (8.9-14.6)		4.6 (2.9-7.2)		12.6 (10.3-15.3)		10.4 (8.7-12.4)	
Private not-for-profit health facility	0.5 (0.2-1.6)		-		0.1 (0.0-0.3)		0.1 (0.0-0.6)		0.2 (0.0-1.1)		0.2 (0.1-0.8)	
Private for-profit outlet	93.2 (90.2-95.3)		87.2 (83.2-90.3)		88.3 (85.2-90.9)		95.2 (92.7-96.9)		87.2 (84.5-89.5)		89.4 (87.4-91.1)	
Community health worker	-		0.1 (0.0-1.0)		0.1 (0.0-0.8)		-		-		-	
Nigeria - Total	100.0	1,630	100.0	353	100.0	1,983	100.0	982	100.0	456	100.0	1,438
Public health facility	0.3 (0.2-0.5)		16.5 (10.7-24.6)		3.5 (1.9-6.2)		3.3 (2.4-4.7)		10.4 (6.8-15.6)		6.2 (4.5-8.4)	
Private not-for-profit health facility	-		0.4 (0.1-1.8)		0.1 (0.0-0.4)		1.0 (0.4-2.5)		0.9 (0.2-3.2)		1.0 (0.5-2.1)	
Private for-profit outlet	99.1 (97.8-99.7)		80.2 (70.5-87.3)		95.4 (92.2-97.3)		95.7 (93.6-97.1)		88.0 (83.2-91.6)		92.6 (90.2-94.4)	
Community health worker	0.6 (0.1-2.2)		2.9 (1.0-8.6)		1.0 (0.4-2.5)		0.0 (0.0-0.1)		0.6 (0.2-2.5)		0.3 (0.1-1.1)	
Tanzania – mainland - Total	100.0	117	100	280	100.0	397	100.0	329	100.0	180	100.0	509
Public health facility	4.4 (2.3-8.3)		22.1 (16.8-28.5)		17.5 (13.5-22.4)		2 (0.9-4.2)		28.1 (21.3-36.1)		18.3 (13.6-24.1)	
Private not-for-profit health facility	4.4 (1.4-12.8)		5.6 (3.4-9.1)		5.3 (3.3-8.3)		1.5 (0.7-3.5)		0.8 (0.2-3.4)		1.1 (0.5-2.4)	
Private for-profit outlet	91.1 (83.7-95.4)		72.0 (66.2-77.1)		77.0 (72.2-81.2)		96.5 (93.7-98.0)		71.1 (63.2-77.9)		80.6 (74.9-85.3)	
Community health worker	-		0.3 (0.0-2.2)		0.2 (0.0-1.6)		-		-		-	
Uganda – Total	100.0	174	100.0	1,205	100.0	1,379	100.0	1,011	100.0	1,202	100.0	2,213
Public health facility	2.2 (0.5-8.6)		12.1 (9.2-15.8)		10.2 (7.4-14)		3.3 (1.3-8.4)		9.4 (6.8-12.7)		8.2 (6.0-11.1)	
Private not-for-profit health facility	2.2 (1.6-3.1)		2.9 (1.4-5.7)		2.7 (1.5-4.9)		1.0 (0.5-2.0)		2.5 (1.6-3.9)		2.2 (1.5-3.4)	
Private for-profit outlet	95.1 (90.5-97.6)		80.5 (71.9-86.9)		83.3 (75.4-89.0)		95.4 (90.0-98.0)		76.7 (63.9-86.0)		80.5 (69.3-88.3)	
Community health worker	0.5 (0.1-1.5)		4.5 (0.9-19.6)		3.7 (0.8-16.3)		0.2 (0.0-0.8)		11.4 (3.9-28.9)		9.1 (3.1-24.1)	
Zanzibar – Total	100.0	141	100.0	110	100.0	251	100.0	220	100.0	116	100.0	336
Public health facility	28.4		66.4		45.0		21.8		63.8		36.3	
Private not-for-profit health facility	1.4		0.9		1.2		-		0.9		0.3	
Private for-profit outlet	70.2		32.7		53.8		78.2		35.3		63.4	
Community health worker	-		-		-		-		-		-	

Note: Nigeria baseline data collection was conducted in 2009. CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.1.6: Breakdown of private for-profit outlets stocking antimalarials by outlet type at baseline (2010) and endline (2011)

Breakdown of private for-profit outlets with any antimalarials in stock at the time of the survey visit by private for-profit outlet type, by urban-rural location, according to country

Country/Type of outlet	BASELINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N
Ghana – Total private for-profit	100.0	294	100.0	359	100.0	653	100.0	281	100.0	148	100.0	429
Health facility	11.8 (6.4-20.8)		3.9 (2.7-5.5)		5.2 (3.7-7.3)		5.0 (3.1-8.0)		5.8 (3.2-10.3)		5.3 (3.6-7.6)	
Pharmacy	26.2 (19.4-34.3)		4.6 (2.4-8.8)		8.3 (5.8-11.7)		27.3 (18.7-38.1)		1.2 (0.2-6.5)		19.0 (12.3-28.3)	
Drug store	61.4 (47.5-73.7)		90.6 (86.6-93.5)		85.6 (81.3-89.1)		66.7 (56.8-75.3)		90.8 (85.7-94.2)		74.3 (66.1-81.1)	
General retailer	0.3 (0.1-1.5)		-		0.1 (0.0-0.2)		0.7 (0.2-2.3)		2.1 (0.6-7.2)		1.2 (0.5-2.9)	
Itinerant	0.3 (0.1-1.1)		0.9 (0.3-3.0)		0.8 (0.3-2.5)		0.3 (0.1-1.2)		-		0.2 (0.0-0.8)	
Kenya – Total private for-profit	100.0	708	100.0	496	100.0	1,204	100.0	693	100.0	438	100.0	1,131
Health facility	22.3 (18.2-27.0)		12.7 (7.1-21.8)		15.1 (10.1-22.0)		24.4 (19.4-30.2)		20.1 (13.4-28.9)		21.4 (16.5-27.3)	
Pharmacy	10.7 (7.0-16.0)		0.4 (0.1-1.9)		3.0 (1.7-5.2)		6.4 (4.0-10.3)		2.8 (1.0-7.9)		4.0 (2.3-6.8)	
Drug store	34.3 (26.0-43.7)		40.4 (21.8-62.3)		38.9 (24.1-56.1)		47.1 (39.9-54.3)		31.9 (24.7-40.1)		36.6 (30.5-43.2)	
General retailer	32.7 (25.2-41.2)		46.2 (29.8-63.5)		42.8 (30.8-55.8)		22.1 (14.6-31.9)		45.2 (32.8-58.2)		38.0 (29.2-47.6)	
Itinerant	-		0.2 (0.0-1.3)		0.1 (0.0-1.0)		-		-		-	
Madagascar – Total private for-profit	100.0	1,190	100.0	261	100.0	1,451	100.0	760	100.0	411	100.0	1,171
Health facility	5.4 (3.9-7.5)		2.6 (1.2-5.6)		3.1 (1.8-5.5)		3.8 (2.7-5.4)		2.4 (1.2-4.9)		2.6 (1.5-4.6)	
Pharmacy	3.4 (2.6-4.3)		-		0.6 (0.4-1.0)		6.0 (3.5-10.0)		0.1 (0.0-0.7)		0.9 (0.5-1.6)	
Drug store	1.8 (0.7-4.9)		7.1 (3.9-12.7)		6.1 (3.5-10.6)		5.8 (2.5-13.3)		7.8 (5.2-11.6)		7.5 (5.2-10.8)	
General retailer	89.4 (85.6-92.2)		90.3 (83.3-94.5)		90.1 (84.6-93.8)		84.4 (78-89.2)		89.7 (85.5-92.7)		88.9 (85.3-91.7)	
Itinerant	-		-		-		-		-		-	
Niger – Total private for-profit	100.0	518	100.0	660	100.0	1,178	100.0	656	100.0	432	100.0	1,086
Health facility	1.9 (0.9-4.1)		-		0.4 (0.2-0.8)		3.1 (2.3-4.2)		0.1 (0.0-0.6)		1.0 (0.7-1.4)	
Pharmacy	3.9 (2.4-6.3)				0.8 (0.5-1.2)		2.7 (1.8-4.0)		-		0.8 (0.5-1.2)	
Drug store	2.2 (0.9-5.2)		0.7 (0.2-2.2)		1.0 (0.5-2.2)		1.4 (0.8-2.4)		0.7 (0.3-1.8)		0.9 (0.5-1.6)	
General retailer	48.2 (38.3-58.2)		72.0 (66.7-76.7)		67.2 (62.1-71.9)		60.3 (52.7-67.4)		73.7 (67.3-79.3)		69.8 (64.8-74.3)	
Itinerant	43.7 (33.2-54.9)		27.3 (22.6-32.5)		30.6 (26.0-35.6)		32.6 (26.1-39.7)		25.4 (19.8-32.0)		27.5 (23.0-32.5)	
Nigeria – Total private for-profit	100.0	1,452	100.0	304	100.0	1,756	100.0	932	100.0	402	100.0	1,334
Health facility	0.5 (0.3-0.8)		7.0 (3.2-14.8)		1.6 (0.7-3.4)		5.1 (2.7-9.5)		8.5 (5.7-12.5)		6.4 (4.2-9.6)	
Pharmacy	0.5 (0.3-0.9)		0.1 (0.0-0.8)		0.5 (0.3-0.8)		3.2 (1.4-7.1)		0.2 (0.0-1.4)		2.0 (0.9-4.5)	
Drug store	88.0 (81.5-92.4)		79.9 (68.9-87.7)		86.7 (81.1-90.8)		85.9 (79.4-90.6)		87.7 (83.1-91.2)		86.6 (82.4-89.9)	
General retailer	9.7 (5.5-16.6)		11.3 (6.4-19.2)		10.0 (6.3-15.6)		3.6 (1.9-6.5)		2.9 (1.3-6.5)		3.3 (2.0-5.4)	
Itinerant	1.3 (0.3-5.2)		1.7 (0.4-6.1)		1.3 (0.4-4.2)		2.3 (0.4-11.0)		0.7 (0.2-2.6)		1.7 (0.4-6.7)	
Tanzania – mainland – Total private for-profit	100.0	107	100.0	211	100.0	318	100.0	319	100.0	131	100.0	450
Health facility	4.3 (1.1-15.6)		1.4 (0.4-4.4)		2.3 (0.9-5.6)		7.5 (5.2-10.5)		3.5 (1.1-10.4)		5.3 (3.3-8.5)	
Pharmacy	18.4 (5.4-47.1)		0.4 (0.1-2.6)		5.9 (1.5-20.8)		13.5 (5.9-28)		2.2 (0.8-5.8)		7.3 (3.4-15.0)	
Drug store	76.6 (53.1-90.4)		58.2 (41.5-73.2)		63.9 (50.4-75.5)		78.0 (64.7-87.3)		84.4 (64.9-94.0)		81.5 (70.3-89.1)	
General retailer	0.7 (0.1-4.8)		40.0 (24.9-57.3)		27.9 (16.5-43.1)		1.0 (0.4-2.5)		9.9 (2.0-36.7)		5.9 (1.4-22.0)	
Itinerant	-		-		-		-		-		-	
Uganda – Total private for-profit	100.0	166	100.0	1,032	100.0	1,198	100.0	966	100.0	1,007	100.0	1,973
Health facility	55.3 (31.5-76.9)		17.7 (10.2-29.1)		25.9 (15.4-40.2)		50.5 (30.2-70.6)		21.5 (12.8-33.8)		28.4 (18.5-40.9)	
Pharmacy	1.9 (1.0-3.5)		0.9 (0.3-2.8)		1.1 (0.5-2.4)		6.2 (3.6-10.4)		0.7 (0.3-1.6)		2.0 (1.2-3.3)	
Drug store	41.3 (21.1-65.1)		79.6 (67.7-87.9)		71.3 (57.0-82.3)		42.8 (24.4-63.4)		75.3 (63.9-84)		67.6 (55.4-77.8)	
General retailer	1.4 (0.4-5.1)		1.3 (0.6-2.7)		1.3 (0.7-2.5)		0.5 (0.2-1.2)		2.6 (0.8-7.9)		2.1 (0.7-6.0)	
Itinerant	-		0.4 (0.1-3.2)		0.4 (0.0-2.6)		-		-		-	
Zanzibar – Total private for-profit	100.0	99	100.0	36	100.0	135	100.0	172	100.0	41	100.0	213
Health facility	41.4		30.6		38.5		32.0		31.7		31.9	
Pharmacy	16.2		-		11.9		15.7		4.9		13.6	
Drug store	41.4		58.3		45.9		50.6		56.1		51.6	
General retailer	1.0		11.1		3.7		1.7		7.3		2.8	
Itinerant	-		-		-		-		-		-	

Note: Nigeria baseline data collection was conducted in 2009. CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.1.7 shows the mean number of outlets stocking antimalarials per 100,000 population for each pilot, a measure of the density of different outlet types, which can be interpreted as a proxy for their accessibility. At endline, the mean number of outlets of all types stocking antimalarials varied from 54 per 100,000 people in Tanzania mainland to 513 per 100,000 people in Nigeria. For public health facilities, the mean number with antimalarials in stock varied from 7 per 100,000 in Ghana to 29 per 100,000 in Nigeria. In all pilots, private for-profit outlets stocking antimalarials were much more numerous than public outlets, ranging from 42 per 100,000 in mainland Tanzania to over 10 times as many, 478 per 100,000, in Nigeria. Countries also differ in terms of the relative density of different outlet types within the private for-profit sector, with a greater density of drug stores in Ghana, Nigeria, Tanzania and Uganda, and greater density of general retailers and itinerant vendors in Madagascar and Niger. In Kenya, the number of drug stores and general retailers stocking antimalarials was very similar. In no countries were pharmacies/health facilities the most common type of private for-profit outlet stocking antimalarials. Overall, there were no substantial changes in the density of outlets between baseline and endline, although in Niger there was a 26% decline in the mean number of itinerant vendors stocking antimalarials, to about 120 per 100,000.

Table 2.1.7: Mean number of outlets with antimalarials in stock per 100,000 population at baseline (2010) and endline (2011)

Mean number of outlets with any antimalarials in stock at the time of the survey visit per 100,000 population, by urban-rural location and type of outlet, according to country

	Baseline			Endline		
	Urban	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Country/Type of outlet	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Ghana – Total	49.9 (42.6-57.1)	71.8 (64.6-78.9)	66.5 (60.8-72.3)	86.9 (64.1-109.7)	46.3 (38.7-53.9)	65.4 (53.9-77.0)
Public health facility	3.7 (2.4-5.0)	8.0 (6.4-9.6)	7.0 (5.7-8.2)	4.3 (2.4-6.3)	9.9 (7.7-12.2)	7.3 (5.7-8.8)
Private not-for-profit health facility	0.9 (0.2-1.5)	1.4 (0.6-2.2)	1.3 (0.6-1.9)	1.4 (0.4-2.5)	2.0 (0.7-3.4)	1.8 (0.9-2.6)
Private for-profit outlet						
Health facility/pharmacy	23.8 (16.0-31.5)	4.9 (2.9-6.9)	9.4 (6.8-12.1)	26.5 (12.7-40.3)	2.2 (1.0-3.4)	13.7 (6.9-20.4)
Drug store	21.3 (14.2-28.4)	56.4 (50.4-62.3)	48.0 (42.9-53.1)	53.8 (40.7-67.0)	31.4 (24.7-38.1)	42.0 (34.9-49.1)
General retailer/itinerant	0.2 (0.0-0.5)	0.6 (-0.1-1.3)	0.5 (0.0-1.1)	0.8 (0.1-1.4)	0.7 (-0.2-1.7)	0.8 (0.2-1.4)
Total	45.3 (38.1-52.5)	61.9 (55.3-68.5)	57.9 (52.6-63.2)	81.2 (57.9-104.4)	34.3 (26.9-41.7)	56.4 (44.6-68.2)
Community health worker	-	0.5 (-0.1-1.1)	0.4 (-0.1-0.9)	-	-	-
Kenya – Total	142.9 (113.4-172.5)	153.3 (82.9-223.8)	152.0 (90.5-213.4)	159.2 (112.9-205.5)	106.8 (68.2-145.4)	114.4 (80.7-148.1)
Public health facility	8.5 (4.6-12.4)	22.8 (13.9-31.7)	20.9 (13.0-28.8)	7.7 (4.7-10.8)	20.9 (16.1-25.6)	19.0 (14.7-23.3)
Private not-for-profit health facility	5.5 (2.6-8.3)	3.5 (0.0-7.0)	3.8 (0.7-6.8)	5.0 (1.4-8.6)	3.2 (1.3-5.2)	3.5 (1.8-5.2)
Private for-profit outlet						
Health facility/pharmacy	42.3 (27.0-57.5)	15.2 (3.4-27.1)	18.8 (8.3-29.2)	44.5 (30.5-58.5)	23.7 (1.5-46.0)	26.8 (7.7-45.8)
Drug store	39.0 (25.7-52.3)	55.4 (-4.6-115.4)	53.2 (0.9-105.5)	64.6 (34.6-94.6)	26.5 (12.3-40.8)	32.0 (18.9-45.1)
General retailer/itinerant	47.1 (28.2-66.1)	45.6 (31.0-60.3)	45.8 (32.8-58.8)	37.4 (18.5-56.3)	32.4 (19.5-45.3)	33.1 (21.7-44.5)
Total	128.4 (101.6-155.2)	116.2 (50.5-182.0)	117.8 (60.5-175.1)	146.5 (101.4-191.6)	82.7 (45.7-119.7)	91.9 (59.5-124.3)
Community health worker	0.5 (-0.2-1.3)	10.8 (-3.2-24.7)	9.5 (-2.7-21.7)	-	-	-
Madagascar – Total	281.9 (195.7-368.1)	171.9 (113.4-230.3)	177.0 (122.1-231.8)	155.6 (124.8-186.3)	121.9 (95.4-148.5)	123.7 (98.7-148.8)
Public health facility	13.3 (6.6-20)	15.4 (10.7-20.2)	15.3 (10.8-19.9)	9.0 (7.1-10.9)	12.6 (8.8-16.4)	12.4 (8.8-16.1)
Private not-for-profit health facility	0.5 (0.1-0.9)	-	0.02 (0.006-0.04)	6.0 (3.8-8.2)	0.7 (-0.2-1.7)	1.0 (0.1-1.9)
Private for-profit outlet						
Health facility/pharmacy	24.3 (18.7-30.0)	2.3 (0.4-4.3)	3.4 (1.3-5.4)	13.6 (7.4-19.9)	1.8 (0.2-3.4)	2.4 (0.8-4.0)
Drug store	11.9 (-0.6-24.3)	5.8 (1.5-10.2)	6.1 (1.9-10.3)	10.6 (1.1-20.0)	5.5 (2.6-8.4)	5.8 (3.0-8.6)
General retailer/itinerant	231.7 (139.7-323.7)	130.6 (72.4-188.9)	135.3 (80.6-190.0)	112.3 (81.9-142.6)	76.3 (50.1-102.6)	78.2 (53.2-103.3)
Total	267.9 (178.6-357.2)	138.8 (83.8-193.8)	144.8 (93.5-196.1)	136.5 (107.5-165.4)	83.6 (55.6-111.7)	86.5 (59.6-113.3)
Community health worker	0.2 (-0.1-0.5)	17.6 (-3.0-38.3)	16.8 (-2.9-36.5)	4.1 (1.0-7.2)	24.9 (-0.3-50.1)	23.8 (-0.2-47.9)
Niger – Total	197.7 (160.3-235.1)	162.9 (137.0-188.8)	168.8 (146.4-191.3)	195.0 (173.5-216.5)	124.9 (109.5-140.3)	138.6 (125.5-151.8)
Public health facility	10.5 (7.1-13.9)	19.7 (15.9-23.4)	18.1 (14.9-21.3)	9.3 (5.5-13.2)	15.2 (12.5-17.8)	14.0 (11.8-16.3)
Private not-for-profit health facility	0.8 (0.0-1.6)	-	0.1 (0.0-0.3)	0.5 (0.0-1.0)	0.2 (-0.2-0.6)	0.3 (0.0-0.6)
Private for-profit outlet						
Health facility/pharmacy	10.0 (6.8-13.1)	0.4 (-0.1-0.8)	2.0 (1.3-2.7)	11.6 (8.6-14.7)	0.7 (-0.3-1.8)	2.9 (1.8-4.0)
Drug store	3.3 (0.5-6.1)	1.2 (0.1-2.3)	1.6 (0.6-2.6)	2.2 (1.0-3.3)	0.7 (-0.1-1.3)	1.0 (0.4-1.5)
General retailer/itinerant	172.9 (135.6-210.2)	141.3 (115.1-167.5)	146.7 (124.0-169.4)	171.3 (151.6-191.1)	108.0 (93.3-122.8)	120.5 (107.9-133.0)
Total	186.2 (149.2-223.2)	142.9 (116.9-168.9)	150.3 (127.8-172.8)	185.1 (163.4-206.9)	109.5 (94.5-124.4)	124.3 (111.5-137.1)
Community health worker	0.2 (-0.2-0.7)	0.3 (-0.1-0.8)	0.3 (-0.1-0.7)	-	-	-
Nigeria – Total	-	-	-	1,701.5 (959.9-2,443.2)	183.7 (106.0-261.5)	513.0 (302.9-723.2)
Public health facility	-	-	-	54.1 (23.4-84.8)	21.7 (11.9-31.6)	28.7 (18.3-39.2)
Private not-for-profit health facility	-	-	-	17.2 (-0.6-35.0)	2.0 (-0.9-4.8)	5.3 (0.6-9.9)
Private for-profit outlet						
Health facility/pharmacy	-	-	-	158.0 (82.2-233.9)	17.1 (4.0-30.2)	47.7 (25.6-69.8)
Drug store	-	-	-	1,363.2 (707.8-2,018.5)	136.0 (72.9-199.0)	402.2 (222.0-582.4)
General retailer/itinerant	-	-	-	109.0 (33.7-184.3)	5.7 (0.4-11.1)	28.1 (9.7-46.5)
Total	-	-	-	1,630.2 (919.2-2,341.3)	158.8 (86.0-231.6)	478.0 (276.1-679.9)
Community health worker	-	-	-	0.01 (-0.01-0.04)	1.3 (-1.1-3.7)	1.0 (-0.9-2.9)
Tanzania - mainland – Total	103.3 (37.9-168.7)	56.9 (43.0-70.7)	63.6 (47.2-79.9)	109.7 (71.9-147.4)	42.8 (29.3-56.4)	54.2 (39.8-68.5)
Public health facility	6.3 (0.2-12.4)	14.4 (10.8-18.0)	13.2 (10.0-16.5)	2.5 (0.8-4.3)	13.4 (9.0-17.7)	11.5 (7.9-15.1)
Private not-for-profit health facility	3.0 (-0.9-7.0)	3.5 (1.3-5.7)	3.4 (1.4-5.4)	1.9 (0.3-3.6)	0.2 (-0.1-0.5)	0.5 (0.1-0.9)
Private for-profit outlet						
Health facility/pharmacy	30.1 (-9.8-70.1)	0.6 (0.0-1.1)	4.8 (-2.2-11.9)	21.9 (8.9-34.9)	1.7 (-0.2-3.5)	5.1 (1.9-8.2)
Drug store	63.5 (4.0-123.1)	18.3 (11.6-24.9)	24.8 (16.8-32.8)	82.2 (48.5-115.9)	24.4 (14.2-34.6)	34.2 (23.0-45.4)
General retailer/itinerant	0.3 (-0.4-1.0)	20.0 (8.3-31.8)	17.2 (7.0-27.4)	1.1 (0.1-2.1)	3.2 (-1.8-8.2)	2.8 (-1.3-7.0)
Total	94.0 (33.2-154.7)	38.8 (26.2-51.5)	46.8 (31.3-62.4)	105.2 (67.7-142.6)	29.2 (17.3-41.2)	42.1 (28.6-55.5)
Community health worker	-	0.1 (-0.1-0.3)	0.1 (-0.1-0.3)	-	-	-
Uganda – Total	198.2 (173.1-223.4)	94.7 (76.1-113.4)	110.5 (85.1-136.0)	204.1 (168.3-239.8)	116.4 (84.8-148.1)	128.7 (99.6-157.8)
Public health facility	4.7 (-2.9-12.2)	12.0 (9.9-14.1)	10.9 (8.2-13.5)	7.0 (0.7-13.2)	11.5 (8.3-14.7)	10.9 (7.9-13.9)
Private not-for-profit health facility	3.5 (2.4-4.6)	3.2 (0.6-5.9)	3.3 (1.0-5.5)	2.5 (0.9-4.2)	2.9 (1.3-4.6)	2.9 (1.4-4.3)
Private for-profit outlet						
Health facility/pharmacy	115.4 (44.2-186.6)	10.7 (5.2-16.3)	26.7 (1.7-51.8)	113.9 (50.5-177.2)	15.0 (7.3-22.8)	28.9 (10.7-47.1)
Drug store	71.8 (34.2-109.4)	58.6 (49.4-67.9)	60.7 (51.4-69.9)	79.0 (49.5-108.5)	65.7 (54.2-77.2)	67.6 (57.2-77.9)
General retailer/itinerant	2.0 (-0.8-4.7)	2.0 (0.4-3.6)	2.0 (0.6-3.4)	1.4 (0.2-2.7)	3.8 (-1.1-8.7)	3.5 (-0.8-7.7)
Total	189.2 (157.8-220.6)	71.4 (59.0-83.7)	89.4 (63.6-115.1)	194.3 (153.3-235.3)	84.5 (67.7-101.3)	99.9 (79.9-119.8)
Community health worker	0.9 (-0.1-1.8)	8.2 (-6.0-22.4)	7.1 (-5.0-19.2)	0.3 (-0.2-0.7)	17.5 (-4.1-39.0)	15.0 (-3.6-33.7)

Note: This indicator could not be calculated for Zanzibar because subdistrict population numbers were unavailable. It could not be calculated for Nigeria at baseline because of the nature of the sample design. CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Tables 2.1.8 and 2.1.9 show the percentage of antimalarial-stocking outlets with a staff member who had completed at least primary and at least secondary education. In most countries, the vast majority of outlets had a staff member with complete primary education–over 94% in Ghana, Kenya, Nigeria, Tanzania mainland, Uganda and Zanzibar for both rural and urban areas. This figure was somewhat lower overall in Madagascar and much lower in Niger (33% at baseline and 41% at endline). This is mainly due to lower education standards in private for-profit outlets, which reflects the much higher proportion of antimalarial stockists that are general retailers/itinerant vendors in Madagascar and Nigeria. Similar patterns were observed for secondary education. At endline, over 87% of outlets had a staff member with complete secondary education everywhere apart from Madagascar (37%) and Niger (13%). There were significant increases in educational attainment in Kenya and Tanzania mainland between baseline and endline. Education levels were lower in private for-profit outlets than in public or not-for-profit health facilities, particularly in Madagascar and Niger. In all countries except Nigeria and Zanzibar, secondary education levels were much lower in rural than in urban areas.

Table 2.1.10 shows the percentage of outlets with a staff member with a relevant health-related qualification (pharmacy, nurse or medical doctor-related training). At endline, this figure was 7% in Niger and 15% in Madagascar; 27%-66% in Nigeria, Ghana and Kenya; and 90%-98% in Uganda, Tanzania mainland and Zanzibar. There was a significant increase between baseline and endline in Tanzania mainland. The low figures in Niger and Madagascar reflect the very low prevalence of health qualifications among private for-profit outlets (2% and 6%, respectively, at endline), reflecting the heavy predominance of general stores/itinerant vendors in the private for-profit sectors of these countries. In other countries, health-related qualifications were also generally less common in private for-profit outlets than in other outlet types although there was no difference in Uganda at endline. In Ghana, Kenya and Madagascar, health-related qualifications were much less common in rural than in urban areas, but in other countries the difference was less marked or not evident.

Table 2.1.8: Outlets with at least one staff member who completed primary school at baseline (2010) and endline (2011)

Percentage of outlets with at least one staff member who completed primary school (n) among all outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	99.6 (98.3-99.9)	599	99.2 (97.5-99.8)	543	99.3 (98-99.8)	1,142	100.0	567	98.1 (94.7-99.3)	376	99.3 (97.9-99.7)	943
Public health facility	100.0	67	100.0	135	100.0	202	100.0	90	100.0	200	100.0	290
Private not-for-profit health facility	100.0	5	100.0	9	100.0	14	100.0	4	100.0	9	100.0	13
Private for-profit outlet												
Health facility/pharmacy	100.0	314	100.0	62	100.0	376	100.0	270	100.0	26	100.0	296
Drug store	99.1 (96.8-99.8)	211	99.4 (97-99.9)	331	99.4 (97.5-99.8)	542	100.0	200	97.2 (92.3-99)	139	98.9 (97-99.6)	339
General retailer/itinerant	100.0	2	64.2 (13.8-95.2)	3	68.6 (19.3-95.2)	5	100.0	3	100.0	2	100.0	5
Total	99.5 (98.2-99.9)	527	99.1 (97.2-99.7)	396	99.2 (97.7-99.7)	923	100.0	473	97.4 (93-99.1)	167	99.1 (97.6-99.7)	640
Community health worker	-	0	100.0	3	100.0	3	-	0	-	0	-	0
Kenya – Total	98.6 (97.4-99.2)	1,038	94.1 (90.3-96.5)	874	95.2 (92.2-97)	1,912	99.3 (97.9-99.8)	1,051	96.9 (94.5-98.3)	801	97.6 (95.9-98.6)	1,852
Public health facility	100.0	137	100.0	259	100.0	396	100.0	137	100.0	294	100.0	431
Private not-for-profit health facility	100.0	23	100.0	15	100.0	38	100.0	19	100.0	27	100.0	46
Private for-profit outlet												
Health facility/pharmacy	100.0	364	100.0	103	100.0	467	100.0	411	100.0	113	100.0	524
Drug store	100.0	272	97.3 (93.2-99)	156	97.9 (93.8-99.3)	428	100.0	329	100.0	145	100.0	474
General retailer/itinerant	95 (90.9-97.3)	238	87.9 (77.9-93.7)	320	89.2 (81.3-94)	558	96.8 (90.6-98.9)	155	91.7 (85.8-95.3)	222	92.6 (87.9-95.6)	377
Total	98.3 (97-99.1)	874	93.1 (88.6-95.9)	579	94.4 (90.9-96.6)	1453	99.3 (97.8-99.8)	895	96.2 (93.1-98)	480	97.2 (95.1-98.4)	1375
Community health worker	100.0	4	94.9 (66.9-99.4)	21	95.1 (67.7-99.4)	25	-	0	-	0	-	0
Madagascar – Total	93.3 (91.3-94.9)	1,434	80.6 (72.9-86.5)	961	83.2 (76.8-88.1)	2,395	96.6 (94.9-97.8)	982	88.6 (83.1-92.4)	1,386	89.7 (84.9-93.1)	2,368
Public health facility	98.3 (92.3-99.7)	67	100.0	444	99.5 (98-99.9)	511	100.0	65	99.9 (99.4-100)	553	99.9 (99.4-100)	618
Private not-for-profit health facility	100.0	6	-	0	100.0	6	100.0	26	100.0	5	100.0	31
Private for-profit outlet												
Health facility/pharmacy	98.1 (91.6-99.6)	122	100.0	9	99 (95.3-99.8)	131	100.0	105	100.0	12	100.0	117
Drug store	85.4 (77.3-91)	28	98.6 (93.9-99.7)	227	93.6 (84.6-97.5)	255	100.0	28	98.9 (96.3-99.7)	347	99 (96.7-99.7)	375
General retailer/itinerant	92.9 (90.9-94.5)	1,209	76.3 (66.7-83.8)	243	79.5 (71.2-85.9)	1,452	95.1 (92.7-96.7)	743	85 (78.3-89.8)	403	86.4 (80.6-90.6)	1,146
Total	92.6 (90.1-94.6)	1,359	78 (68.8-85.1)	479	81.3 (73.6-87.1)	1,838	96.1 (94.1-97.4)	876	86.5 (80.3-90.9)	762	87.9 (82.6-91.8)	1,638
Community health worker	100.0	2	85.1 (69-93.6)	38	85.1 (69-93.6)	40	100.0	15	90.5 (73.2-97.1)	66	90.8 (73.9-97.2)	81
Niger – Total	39.5 (33-46.3)	831	31.5 (28-35.1)	1,198	33.1 (29.9-36.4)	2,029	44.5 (39.4-49.6)	920	39 (35-43.1)	736	40.5 (37.2-43.8)	1,656
Public health facility	100.0	91	98.8 (96.5-99.6)	385	98.9 (96.9-99.6)	476	100.0	102	100.0	220	100.0	322
Private not-for-profit health facility	68 (15.2-96.2)	4	-	0	68 (15.2-96.2)	4	100.0	2	100.0	1	100.0	3
Private for-profit outlet												
Health facility/pharmacy	100.0	106	96.4 (70.1-99.7)	12	99.5 (96.1-99.9)	118	100.0	94	100.0	4	100.0	98
Drug store	100.0	14	100.0	7	100.0	21	100.0	15	100.0	3	100.0	18
General retailer/itinerant	32.2 (25.4-39.8)	615	24 (20.9-27.5)	792	25.6 (22.7-28.8)	1,407	37.4 (31.7-43.5)	707	30.9 (26.8-35.3)	508	32.7 (29.3-36.2)	1,215
Total	36.7 (30.3-43.6)	735	24.8 (21.6-28.3)	811	27.3 (24.3-30.5)	1,546	41.5 (36.2-47)	816	31.4 (27.2-35.9)	515	34.3 (30.9-37.8)	1,331
Community health worker	100.0	1	0.0	2	12.5 (1.2-61.9)	3	-	0	-	0	-	0
Nigeria – Total	99.5 (98.1-99.9)	1,690	99.1 (95.1-99.8)	350	99.4 (98.3-99.8)	2,040	99.6 (97.8-99.9)	1,032	99.7 (97.9-100)	471	99.7 (98.7-99.9)	1,503
Public health facility	100.0	181	100.0	43	100.0	224	100.0	43	100.0	52	100.0	95
Private not-for-profit health facility	100.0	6	100.0	2	100.0	8	100.0	6	100.0	3	100.0	9
Private for-profit outlet												
Health facility/pharmacy	100.0	715	100.0	24	100.0	739	100.0	99	100.0	32	100.0	131
Drug store	99.8 (98.9-100)	699	99.9 (99.3-100)	259	99.8 (99.1-100)	958	99.8 (98.6-100)	807	100.0	361	99.9 (99.1-100)	1,168
General retailer/itinerant	96.4 (79.8-99.5)	83	90.6 (57.5-98.5)	16	95.2 (83-98.8)	99	97.1 (87.5-99.4)	74	91.6 (57-98.9)	19	95.7 (86.7-98.7)	93
Total	99.5 (98.1-99.9)	1,497	98.9 (93.8-99.8)	299	99.4 (98.2-99.8)	1,796	99.6 (97.7-99.9)	980	99.7 (97.6-100)	412	99.6 (98.5-99.9)	1,392
Community health worker	100.0	6	100.0	6	100.0	12	100.0	3	100.0	4	100.0	7

Table 2.1.8: *Cont.*												
	BASELINE						**ENDLINE**					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Tanzania - mainland – Total	100.0	321	97.0 (94.8-98.2)	306	97.6 (95.9-98.7)	627	100.0	596	100.0	191	100.0	787
Public health facility	100.0	5	100.0	56	100.0	61	100.0	7	100.0	48	100.0	55
Private not-for-profit health facility	100.0	6	100.0	17	100.0	23	100.0	4	100.0	2	100.0	6
Private for-profit outlet												
Health facility/pharmacy	100.0	221	100.0	12	100.0	233	100.0	321	100.0	16	100.0	337
Drug store	100.0	88	98.6 (96.1-99.5)	149	99.1 (97.3-99.7)	237	100.0	259	100.0	259	100.0	372
General retailer/itinerant	100.0	1	91.7 (85.6-95.4)	71	91.8 (85.7-95.4)	72	100.0	5	100.0	12	100.0	17
Total	100.0	310	95.8 (93-97.5)	232	96.9 (94.6-98.2)	542	100.0	585	100.0	141	100.0	726
Community health worker	-	0	100.0	1	100.0	1	-	0	-	0	-	0
Uganda – Total	100.0	544	99.2 (97.6-99.7)	1,869	99.4 (98.1-99.8)	2,413	100.0	1,406	98.7 (97.3-99.4)	1,720	99 (97.8-99.5)	3,126
Public health facility	100.0	76	99.9 (99-100)	693	99.9 (99.1-100)	769	100.0	142	100.0	532	100.0	674
Private not-for-profit health facility	100.0	4	100.0	27	100.0	31	100.0	13	100.0	28	100.0	41
Private for-profit outlet												
Health facility/pharmacy	100.0	389	100.0	355	100.0	744	100.0	811	99.3 (94.2-99.9)	388	99.6 (96.9-100)	1,199
Drug store	100.0	72	99.6 (98.5-99.9)	746	99.7 (98.7-99.9)	818	100.0	434	100.0	676	100.0	1,110
General retailer/itinerant	100.0	2	82.4 (48.6-95.9)	19	84.8 (53.6-96.4)	21	100.0	4	80.3 (61.6-91.1)	14	81.4 (63-91.8)	18
Total	100.0	463	99.3 (97.1-99.8)	1,120	99.4 (97.7-99.9)	1,583	100.0	1249	99.3 (97.6-99.8)	1,078	99.5 (98.2-99.8)	2,327
Community health worker	100.0	1	95.9 (93.2-97.6)	29	96 (93.2-97.7)	30	100.0	2	93.2 (87.2-96.5)	82	93.2 (87.2-96.5)	84
Zanzibar – Total	100.0	189	99.	124	99.7	313	100.0	222	100.0	120	100.0	342
Public health facility	100.0	56	100.0	83	100.0	139	100.0	48	100.0	76	100.0	124
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3	100.0	1	100.0	1	100.0	2
Private for-profit outlet												
Health facility/pharmacy	100.0	73	100.0	11	100.0	84	100.0	82	100.0	16	100.0	98
Drug store	100.0	57	100.0	25	100.0	82	100.0	88	100.0	24	100.0	112
General retailer/itinerant	100.0	1	75	4	80	5	100.0	3	100.0	3	100.0	6
Total	100.0	131	97.5	40	99.4	171	100.0	173	100.0	43	100.0	216
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Providers noted as having completed primary school include those who have completed secondary school and those who have not completed secondary school but who have completed primary school.

Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.1.9: Outlets with at least one staff member who completed secondary school at baseline (2010) and endline (2011)

Percentage of outlets with at least one staff member who completed secondary school (n) among all outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	97.7 (95.7-98.8)	598	88.8 (85.2-91.5)	543	90.5 (87.5-92.8)	1,141	95.5 (92.2-97.5)	565	86.9 (80.5-91.4)	377	92.1 (89.0-94.4)	942
Public health facility	100.0	66	98.6 (95.4-99.6)	135	98.8 (96.0-99.6)	201	100.0	89	100.0	199	100.0	288
Private not-for-profit health facility	100.0	5	100.0	9	100.0	14	100.0	4	100.0	9	100.0	13
Private for-profit outlet												
Health facility/pharmacy	100.0	314	100.0	62	100.0	376	99.7 (98.8-99.9)	271	100.0	26	99.8 (98.9-99.9)	297
Drug store	95.8 (92.4-97.8)	211	87.1 (83.1-90.2)	331	88.1 (84.7-90.9)	542	94.3 (89.7-96.9)	199	82.0 (73.2-88.4)	140	89.4 (85.1-92.6)	339
General retailer/itinerant	55.7 (14.0-90.7)	2	32.1 (11.7-62.8)	3	35.0 (15.4-61.4)	5	0.0	2	32.7 (3.8-85.7)	3	20.2 (3.1-66.7)	5
Total	97.6 (95.3-98.7)	527	87.5 (83.7-90.5)	396	89.5 (86.3-92.0)	923	95.2 (91.5-97.3)	472	82.4 (74.1-88.5)	169	90.8 (87.0-93.5)	641
Community health worker	-	0	100.0	3	100.0	3	-	0	-	0	-	0
Kenya – Total	91.4 (85.7-95)	1,038	75.1 (69.9-79.6)	876	79.0 (74.9-82.6)	1,914	93.7 (88.2-96.7)	1,051	84.8 (79.0-89.2)	802	87.3 (82.8-90.8)	1,853
Public health facility	100.0	137	100.0	259	100.0	396	100.0	137	100.0	294	100.0	431
Private not-for-profit health facility	100.0	23	100.0	15	100.0	38	100.0	19	100.0	27	100.0	46
Private for-profit outlet												
Health facility/pharmacy	100.0	364	100.0	103	100.0	467	100.0	411	100.0	113	100.0	524
Drug store	100.0	272	88.4 (81.6-92.9)	156	91.0 (83.6-95.2)	428	100.0	329	99.4 (95.7-99.9)	145	99.6 (97.4-99.9)	474
General retailer/itinerant	70.0 (57.0-80.4)	238	52.5 (43.9-61)	322	55.7 (48.6-62.6)	560	69.6 (57.8-79.2)	155	59.4 (49.9-68.3)	223	61.3 (53.2-68.8)	378
Total	90.1 (83.3-94.4)	874	72.5 (67-77.4)	581	76.9 (72.7-80.6)	1,455	93.3 (87.4-96.6)	895	81.3 (74.0-86.9)	481	85.0 (79.7-89.2)	1,376
Community health worker	83.9 (41.9-97.4)	4	52.1 (28.2-75.1)	21	52.9 (28.9-75.6)	25	-	0	-	0	-	0
Madagascar – Total	55.0 (46.8-63.0)	1,433	18.3 (13.2-26)	958	26.3 (19.9-33.8)	2,391	57.1 (46.9-66.7)	975	34.2 (27.0-42.3)	1,386	37.3 (30.5-44.6)	2,361
Public health facility	93.2 (84.0-97.2)	67	91.7 (87.3-94.7)	442	92.1 (88.3-94.7)	509	98.5 (96.3-99.4)	65	84.9 (74.6-91.5)	551	86.4 (77.0-92.3)	616
Private not-for-profit health facility	100.0	6	-	0	100.0	6	100.0	26	100.0	5	100.0	31
Private for-profit outlet												
Health facility/pharmacy	95.6 (89.3-98.3)	122	99.4 (94.9-99.9)	9	97.3 (93.7-98.8)	131	97.6 (92.8-99.2)	105	90.2 (50.0-98.8)	12	94.2 (75.9-98.8)	117
Drug store	74.7 (65.2-82.3)	28	51.3 (42.5-60)	227	60.3 (50.1-69.6)	255	74.5 (54.2-87.8)	28	56.0 (48.4-63.3)	347	58.0 (50.8-64.8)	375
General retailer/itinerant	39.5 (33.7-45.6)	1,208	9.1 (4.5-17.7)	242	15.0 (9.5-22.9)	1,450	42.1 (31.3-53.6)	736	26.4 (18.4-36.4)	405	28.6 (21.2-37.3)	1,141
Total	49.9 (43.3-56.5)	1,358	13.6 (8.2-21.9)	478	21.7 (15.3-29.9)	1,836	52.2 (40.9-63.2)	869	30.3 (22.7-39.3)	764	33.7 (26.5-41.7)	1,633
Community health worker	70.1 (21.7-95.2)	2	7.3 (2.2-21.8)	38	7.4 (2.3-21.6)	40	26.3 (12.4-47.4)	15	10.1 (3.5-25.5)	66	10.5 (3.9-25.4)	81
Niger – Total	16.3 (12.4-21.1)	830	11.0 (8.4-14.3)	1,197	12.1 (9.8-14.8)	2,027	16.9 (14.4-19.7)	921	11.0 (8.3-14.5)	738	12.6 (10.5-15.1)	1,659
Public health facility	91.9 (78.3-97.3)	90	71.7 (64.2-78.1)	384	73.7 (66.7-79.6)	474	90.8 (81.9-95.6)	102	69.2 (61.0-76.3)	220	72.2 (65.3-78.2)	322
Private not-for-profit health facility	68.0 (15.2-96.2)	4	-	0	68.0 (15.2-96.2)	4	100.0	2	100.0	1	100.0	3
Private for-profit outlet												
Health facility/pharmacy	98.2 (94.1-99.4)	106	89.2 (56.7-98.1)	12	96.8 (92.6-98.7)	118	94.8 (84.0-98.4)	94	100.0	4	95.1 (84.9-98.5)	98
Drug store	84.9 (60.2-95.4)	14	42.2 (11.2-80.8)	7	57.9 (26.6-84.0)	21	39.4 (25-55.8)	15	32.3 (5.9-78.3)	3	35.4 (15.1-62.9)	18
General retailer/itinerant	7.1 (4.8-10.6)	615	4.5 (2.6-7.7)	792	5.0 (3.3-7.5)	1,407	7.9 (5.7-10.7)	708	3.5 (2.0-5.9)	510	4.7 (3.4-6.4)	1,218
Total	13.0 (9.6-17.3)	735	5.0 (3.1-8.1)	811	6.7 (4.9-9.0)	1,546	12.9 (10.6-15.7)	817	3.8 (2.2-6.4)	517	6.4 (4.9-8.2)	1,334
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0
Nigeria – Total	95.5 (92.3-97.5)	1,690	94.6 (89.2-97.3)	350	95.3 (92.7-97.0)	2,040	94.6 (91-96.9)	1,031	95.9 (92.5-97.8)	472	95.1 (92.6-96.8)	1,503
Public health facility	99.1 (94.4-99.9)	181	100.0	43	99.9 (99.6-100.0)	224	100.0	43	100.0	52	100.0	95
Private not-for-profit health facility	100.0	6	100.0	2	100.0	8	100.0	6	100.0	3	100.0	9
Private for-profit outlet					100.0 (99.8-100.0)							
Health facility/pharmacy	99.9 (99.3-100.0)	715	100.0	24		739	100.0	99	100.0	32	100.0	131
Drug store	97.5 (94.9-98.8)	699	94.3 (80.6-98.5)	259	97 (94.3-98.4)	958	95.1 (93.2-96.5)	806	96.9 (93.5-98.5)	362	95.8 (94.2-97.0)	1,168
General retailer/itinerant	76.4 (60.5-87.3)	83	76.6 (47.1-92.3)	16	76.4 (63.0-86.1)	99	77.8 (46.5-93.4)	74	49.1 (20.2-78.6)	19	70.6 (48.6-86.0)	93
Total	95.5 (92.3-97.4)	1,497	93.2 (87.3-96.5)	299	95.1 (92.4-96.9)	1,796	94.4 (90.5-96.8)	979	95.3 (91.4-97.5)	413	94.7 (92.0-96.6)	1,392
Community health worker	100.0	6	100.0	6	100.0	12	66.7 (66.7-66.7)	3	100.0	4	98.7 (87.3-99.9)	7

Table 2.1.9: *Cont.*												
	BASELINE						**ENDLINE**					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Tanzania - mainland - Total	95.3 (89.2-98.0)	321	58.0 (48.5-66.9)	304	66.3 (57.1-74.4)	625	95.4 (93.5-96.8)	596	82.8 (72.7-89.7)	191	87.4 (80.5-92.1)	787
Public health facility	100.0	5	78.3 (63.0-88.4)	55	79.8 (65.3-89.2)	60	100.0	7	89.1 (75.4-95.6)	48	89.6 (76.4-95.8)	55
Private not-for-profit health facility	100.0	6	93.1 (61.8-99.1)	17	94.3 (67.2-99.3)	23	100.0	4	47.8 (4.9-94.2)	2	75.6 (25.6-96.5)	6
Private for-profit outlet												
Health facility/pharmacy	99.1 (96.1-99.8)	221	100.0	12	99.3 (96.8-99.8)	233	100.0 (99.7-100.0)	321	100.0	16	100.0	337
Drug store	93.8 (85.3-97.5)	88	73.7 (65.4-80.7)	149	80.4 (73.6-85.8)	237	94.8 (91.9-96.6)	259	86.8 (77.9-92.4)	113	90.3 (85-93.8)	372
General retailer/itinerant	100.0	1	12.6 (5.2-27.7)	70	13.2 (5.5-28.2)	71	74.3 (22.0-96.7)	5	24.9 (14.0-40.2)	12	29.3 (16.9-45.7)	17
Total	94.7 (87.7-97.9)	310	49.2 (36.8-61.6)	231	61.1 (49.1-71.9)	541	95.2 (93.2-96.7)	585	80.7 (67.1-89.5)	141	87.1 (78.8-92.5)	726
Community health worker	-	0	100.0	1	100.0	1	-	0	-	0	-	0
Uganda – Total	98.9 (97.0-99.6)	539	89.1 (79.1-94.7)	1,824	91.2 (82.5-95.7)	2,363	98.7 (97.7-99.2)	1,387	87.0 (74.1-94.0)	1,686	89.4 (78.5-95.1)	3,073
Public health facility	100.0	73	98.2 (94.4-99.4)	662	98.3 (94.9-99.5)	735	100.0	137	99.5 (97.3-99.9)	514	99.5 (97.7-99.9)	651
Private not-for-profit health facility	100.0	4	100.0	27	100.0	31	100.0	13	100.0	28	100.0	41
Private for-profit outlet												
Health facility/pharmacy	100.0	388	98.5 (92.7-99.7)	351	99.2 (95.7-99.9)	739	99.3 (98.3-99.7)	807	96.1 (91.0-98.4)	387	97.5 (94.5-98.9)	1,194
Drug store	98.1 (92.5-99.6)	71	92.7 (87.9-95.7)	736	93.4 (89.2-96.1)	807	97.7 (96.1-98.7)	424	97.4 (95.1-98.7)	664	97.5 (95.5-98.6)	1,088
General retailer/itinerant	100.0	2	33.6 (17.4-54.9)	19	42.6 (23.9-63.6)	21	89.7 (47.4-98.8)	4	38.8 (21.3-59.8)	14	41.7 (25.1-60.5)	18
Total	99.2 (95.1-99.9)	461	92.3 (87.5-95.3)	1,106	93.9 (89.7-96.4)	1,567	98.6 (97.5-99.2)	1,235	95.5 (92.8-97.2)	1,065	96.2 (94.2-97.6)	2,300
Community health worker	0.0	1	2.0 (0.1-26.4)	29	2.0 (0.1-25.4)	30	100.0	2	14.0 (8.9-21.4)	79	14.4 (9.2-21.8)	81
Zanzibar – Total	100.0	189	99.2	124	99.7	313	99.5	222	100.0	120	99.7	342
Public health facility	100.0	56	100.0	83	100.0	139	100.0	48	100.0	76	100.0	124
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3	100.0	1	100.0	1	100.0	2
Private for-profit outlet												
Health facility/pharmacy	100.0	73	100.0	11	100.0	84	100.0	82	100.0	16	100.0	98
Drug store	100.0	57	100.0	25	100.0	82	100.0	88	100.0	24	100.0	112
General retailer/itinerant	100.0	1	75	4	8	5	66.7	3	100.0	3	83.3	6
Total	100.0	131	97.5	40	99.4	171	99.4	173	100.0	43	99.5	216
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009. CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.1.10: Outlets with at least one staff member with a health-related qualification at baseline (2010) and endline (2011)

Percentage of outlets with at least one staff member with a health-related qualification (n) among all outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	64.8 (58.7-70.5)	588	34.2 (28.5-40.4)	527	40.1 (35.2-45.3)	1,115	48 (41.8-54.2)	548	40.0 (33.5-46.9)	365	44.8 (40.2-49.5)	913
Public health facility	98.9 (95.2-99.7)	67	91.5 (84.4-95.5)	513	92.5 (86.4-96.0)	202	86.2 (77.6-91.8)	85	91.8 (84.4-95.9)	195	90.2 (84.7-93.8)	280
Private not-for-profit health facility	100.0	5	100.0	9	100.0	14	80.0 (38.0-96.3)	4	100.0	9	92.1 (69.0-98.4)	13
Private for-profit outlet												
Health facility/pharmacy	92.3 (84.8-96.3)	314	92.9 (80.5-97.7)	61	92.6 (86.7-96.0)	375	89.7 (83.6-93.7)	266	71.9 (41.3-90.3)	26	87.3 (80.2-92.1)	292
Drug store	35.1 (29.3-41.4)	200	21.2 (15.6-28.2)	316	22.9 (17.8-29.0)	516	27.5 (23.3-32.2)	190	17.3 (10.7-26.7)	132	23.5 (19.6-27.9)	322
General retailer/itinerant	0.0	2	0.0	3	0.0	5	38.0 (8.0-81.2)	3	0.0	3	18.9 (3.7-59.0)	6
Total	62.0 (55.6-68)	516	26.3 (20.6-33.0)	380	33.5 (28.4-39.0)	896	45.0 (38.1-52.0)	459	21.4 (14.0-31.3)	161	36.9 (31.3-42.9)	620
Community health worker	-	0	100.0	3	100.0	3	-	0	-	0	-	0
Kenya – Total	71.1 (64.1-77.2)	1,035	46.6 (38.7-54.7)	873	52.5 (45.8-59.1)	1,908	77.4 (69.2-84.0)	1,049	60.8 (50.5-70.2)	798	65.5 (57.6-72.6)	1,847
Public health facility	99.1 (96.0-99.8)	137	100.0	259	99.8 (99.2-99.9)	396	99.5 (96.7-99.9)	137	98.1 (88.8-99.7)	294	98.3 (89.7-99.7)	431
Private not-for-profit health facility	100.0	23	96.7 (79.2-99.6)	15	97.7 (84.9-99.7)	38	97.7 (85.3-99.7)	19	96.1 (79.6-99.4)	27	96.4 (83.9-99.3)	46
Private for-profit outlet												
Health facility/pharmacy	98.7 (95.6-99.6)	364	96.6 (82.1-99.4)	103	97.6 (90.8-99.4)	467	96.4 (91.6-98.5)	411	98.4 (88.1-99.8)	113	97.6 (93.4-99.2)	524
Drug store	98.7 (97.1-99.4)	271	69.7 (44.3-86.9)	155	76.2 (49.9-91.1)	426	97.1 (93.2-98.8)	329	90.3 (82.1-94.9)	145	93.0 (88.3-95.9)	474
General retailer/itinerant	2.5 (1.0-6.2)	236	2.2 (0.8-5.5)	320	2.2 (1.0-4.8)	556	1.6 (0.4-5.5)	153	2.9 (1.1-7.7)	219	2.7 (1.1-6.5)	372
Total	67.1 (58.6-74.6)	871	40.4 (32.3-49.2)	578	47.1 (40.1-54.2)	1,449	76.1 (67.4-83.1)	893	52.2 (39.3-64.8)	477	59.7 (50.3-68.5)	1,370
Community health worker	0.0	4	9.7 (2.2-34.4)	21	9.5 (2.2-33.4)	25	-	0	-	0	-	0
Madagascar – Total	22.5 (13.5-35.1)	1,433	10.7 (7.2-15.6)	960	13.1 (9.3-18.2)	2,393	26.4 (21.6-31.9)	978	13.6 (10.9-16.8)	1,374	15.3 (12.6-18.5)	2,352
Public health facility	90.4 (80.5-95.6)	67	95.1 (91.9-97.1)	444	93.8 (90.9-95.8)	511	94.1 (87.2-97.4)	65	87.3 (77.0-93.4)	553	88.1 (78.8-93.6)	618
Private not-for-profit health facility	76.2 (35.9-94.8)	6	-	0	76.2 (35.9-94.8)	6	100.0	26	100.0	5	100.0	31
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	96.4 (90.3-98.7)	104	100.0	12	98.0 (95.0-99.2)	116
Drug store	-	-	-	-	-	-	30.1 (18.4-45.2)	28	15.3 (8.5-26.2)	335	16.9 (10.4-26.4)	363
General retailer/itinerant	-	-	-	-	-	-	2.2 (1.4-3.6)	740	0.8 (0.3-2.2)	403	1.0 (0.5-2.1)	1,143
Total	13.0 (7.8-20.8)	1,358	3.8 (2.0-7.2)	478	5.9 (3.8-9.2)	1,836	17.7 (13.4-23.1)	872	4.2 (2.6-6.8)	750	6.3 (4.5-8.8)	1,622
Community health worker	70.1 (20.6-95.5)	2	0.0	38	3.4 (0.4-23.1)	40	0.0	15	0.0	66	0.0	81
Niger – Total	8.4 (5.9-11.8)	832	5.7 (4.3-7.5)	1,198	6.2 (5.0-7.8)	2,030	9.9 (8.6-11.3)	910	6.2 (5.1-7.5)	734	7.2 (6.3-8.2)	1,644
Public health facility	83.2 (68.8-91.7)	91	59.6 (53.0-65.9)	385	61.9 (55.9-67.6)	476	81.9 (74.8-87.3)	102	54.1 (48.2-59.8)	220	58.0 (52.5-63.3)	322
Private not-for-profit health facility	68.0 (15.2-96.2)	4	-	0	68.0 (15.2-96.2)	4	100.0	2	100.0	1	100.0	3
Private for-profit outlet												
Health facility/pharmacy	92.6 (84.9-96.5)	105	78.3 (34.9-96)	12	90.5 (82.8-94.9)	117	92.6 (86.9-95.9)	95	91.6 (61.9-98.6)	4	92.6 (87.1-95.8)	99
Drug store	19.5 (7.5-42.2)	14	14.6 (1.8-61.8)	7	16.4 (4.6-44.2)	21	19.1 (6.7-43.5)	14	-	3	8.3 (2.7-22.9)	17
General retailer/itinerant	0.3 (0.1-1.1)	617	0.0	792	0.1 (0.0-0.2)	1,409	0.7 (0.3-1.7)	697	0.0	506	0.2 (0.1-0.5)	1,203
Total	5.0 (3.1-8)	736	0.3 (0.1-1.0)	811	1.3 (0.8-1.9)	1,547	6.0 (4.9-7.3)	806	0.1 (0-0.5)	513	1.8 (1.4-2.3)	1,319
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0
Nigeria – Total	37.0 (29.4-45.3)	1,624	35.7 (22.4-51.7)	336	36.7 (29.9-44.1)	1,960	31.7 (25.1-39.2)	1,020	31.1 (25.0-37.9)	470	31.5 (26.7-36.7)	1,490
Public health facility	83.0 (73.7-89.5)	175	45.8 (21.7-72.0)	42	48.1 (24.7-72.4)	217	66.0 (50.0-79.0)	43	50.8 (32.2-69.2)	52	55.7 (41.4-69)	95
Private not-for-profit health facility	100.0	6	85.5 (29.0-98.8)	2	86.7 (34.0-98.8)	8	79.7 (39.3-96.0)	6	93.1 (54.1-99.4)	3	84.8 (52.2-96.6)	9
Private for-profit outlet												
Health facility/pharmacy	94.0 (88.7-96.9)	696	95.3 (75.7-99.2)	23	95.0 (82.2-98.7)	719	94.3 (86.5-97.7)	99	74.7 (52.8-88.6)	32	87.2 (76.9-93.3)	131
Drug store	36.7 (28.9-45.4)	661	20.1 (13.7-28.5)	247	34.2 (27.4-41.7)	908	23.8 (19.0-29.4)	796	24.0 (17.1-32.7)	360	23.9 (19.8-28.6)	1,156
General retailer/itinerant	30.7 (18.5-46.4)	80	36.7 (10.1-75.1)	16	32.0 (19.6-47.6)	96	12.1 (4.0-31.2)	73	4.9 (0.9-22.5)	19	10.3 (3.9-24.5)	92
Total	36.8 (29.1-45.2)	1,437	34.4 (19.6-52.9)	286	36.4 (29.3-44.1)	1,723	30.0 (23.6-37.3)	968	28.2 (21.1-36.4)	411	29.3 (24.5-34.6)	1,379
Community health worker	41.7 (11.0-80.6)	6	4.5 (0.8-21.2)	6	20.9 (4.6-58.8)	12	0.0	3	7.3 (0.6-50.4)	4	7.0 (0.6-48.3)	7

Table 2.1.10: *Cont.*	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Tanzania - mainland - Total	96.5 (91.4-98.7)	324	66.0 (55.8-75.0)	304	72.9 (63.4-80.7)	628	98.4 (96.2-99.3)	596	91.0 (74.0-97.3)	190	93.7 (82.6-97.9)	786
Public health facility	100.0	5	98.2 (93.0-99.5)	56	98.3 (93.5-99.6)	61	100.0	7	100.0	48	100.0	55
Private not-for-profit health facility	100.0	6	100.0	17	100.0	23	100.0	4	100.0	2	100.0	6
Private for-profit outlet												
Health facility/pharmacy	98.1 (93.4-99.5)	224	100.0	12	98.5 (94.6-99.6)	236	99.7 (98.5-99.9)	321	100.0	16	99.8 (98.9-100.0)	337
Drug store	96.6 (89.4-98.9)	88	85.5 (77.0-91.2)	148	89.2 (83.1-93.3)	236	98.4 (96.5-99.3)	259	95.9 (89.5-98.5)	113	97.0 (93.5-98.6)	372
General retailer/itinerant	0.0	1	7.8 (3.5-16.5)	70	7.7 (3.4-16.4)	71	74.3 (22.0-96.7)	5	7.4 (0.5-53.4)	11	13.8 (2.1-54.6)	16
Total	96.2 (90.8-98.5)	313	53.8 (40.8-66.2)	230	65.0 (53.0-75.3)	543	98.3 (96.0-99.3)	585	87.2 (64.9-96.2)	140	92.1 (78.5-97.4)	725
Community health worker	-	0	100.0	1	100.0	1	-	0	-	0	-	0
Uganda – Total	97.5 (94.1-99.0)	544	89.0 (78.8-94.6)	1,865	90.8 (82.2-95.4)	2,409	98.8 (98.3-99.2)	1,415	87.5 (72.3-94.9)	1,713	89.8 (77.2-95.8)	3,128
Public health facility	96.8 (86.7-99.3)	76	98.0 (95.4-99.2)	693	97.9 (95.5-99.0)	769	99.8 (98.8-100.0)	144	99.7 (97.9-100.0)	534	99.7 (98.3-100.0)	678
Private not-for-profit health facility	100.0	4	100.0	27	100.0	31	100.0	13	100.0	28	100.0	41
Private for-profit outlet												
Health facility/pharmacy	99.1 (98.3-99.5)	389	96.9 (91.4-99)	356	98.0 (95.4-99.1)	745	100.0	816	100.0	387	100.0	1,203
Drug store	96.3 (85.4-99.2)	72	93.2 (89.0-95.9)	741	93.6 (89.9-96)	813	98.5 (96.4-99.4)	436	98.6 (97.1-99.3)	676	98.6 (97.4-99.2)	1,112
General retailer/itinerant	100.0	2	23.0 (8.4-49.2)	19	33.3 (15.1-58.4)	21	0.0	4	16.3 (4.8-42.8)	11	15.1 (4.2-41.7)	15
Total	98.0 (93.1-99.4)	463	92.1 (87.8-95.0)	1,116	93.5 (89.8-95.9)	1,579	98.8 (98.2-99.2)	1,256	97.2 (94.7-98.5)	1,074	97.6 (95.8-98.6)	2,330
Community health worker	0.0	1	0.0	29	0.0	30	46.3 (5.2-93.1)	2	2.6 (0.6-10.0)	77	2.7 (0.7-9.7)	79
Zanzibar – Total	96.3	188	94.4	124	95.5	312	97.7	221	97.5	120	97.7	341
Public health facility	100.0	56	98.8	83	99.3	139	100.0	48	100.0	76	100.0	124
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3	100.0	1	100.0	1	100.0	2
Private for-profit outlet												
Health facility/pharmacy	100.0	73	90.9	11	98.8	84	100.0	81	100.0	16	100.0	97
Drug store	89.3	56	92.0	25	90.1	81	95.5	88	91.7	24	94.6	112
General retailer/itinerant	0.0	1	25.0	4	20.0	5	66.7	3	66.7	3	66.7	6
Total	94.6	130	85.0	40	92.4	170	97.1	172	93	43	96.3	215
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: A health-related qualification is defined as pharmacy, nurse or medical doctor related training. Pharmacy related training includes studying to a certificate or diploma level. Nurse related training includes studying nursing to a certificate level (nurse aid) and diploma level. Medical doctor training includes clinical officers who studied medicine to a diploma level and fully qualified physicians. Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.2 Evaluation question on ACT availability

Question 1: *Has the AMFm mechanism helped increase the availability of quality-assured ACTs to patients across public, private for-profit and not-for-profit sectors, in rural /urban areas*?

2.2.1 Antimalarials in stock

Table 2.2.1 shows the percentage of outlets screened that had any antimalarials in stock. For public health facilities at endline, this was 88% or higher in all countries except Tanzania and Zanzibar where it was 77% and 78%, respectively. This represents an increase since baseline in Niger and a decrease in Zanzibar. This figure was highly variable for private for-profit outlets, ranging at endline from less than 20% in Zanzibar, Kenya, Tanzania mainland, Uganda and Nigeria to 20-45% in Madagascar and Niger and 94% in Ghana, reflecting variation in outlet types enumerated. In Kenya, Tanzania mainland, Uganda and Zanzibar, all general stores were enumerated as they occasionally stock antimalarials, but in Ghana such outlets were enumerated only in exceptional circumstances as they were believed to stock such drugs only very rarely. Decreases over time in the proportion of private for-profit outlets stocking antimalarials were observed in urban areas in Madagascar (32% to 15%) and in Nigeria (27% to 17%).

Table 2.2.1: Outlets with antimalarials in stock at baseline (2010) and endline (2011)

Indicator 1.1 Percentage of outlets that had any antimalarials in stock at the time of the survey visit (n) among all outlets where screening questions were completed (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	98.4 (96.7-99.2)	616	95.5 (93.5-96.8)	571	96.0 (94.4-97.2)	1,187	97.7 (95.5-98.9)	591	90.2 (80.3-95.5)	411	94.7 (90.3-97.1)	1,002
Public health facility	95.9 (86.7-98.8)	70	98.1 (95.1-99.2)	139	97.8 (95.2-99.0)	209	98.8 (94.2-99.8)	95	96.4 (92.9-98.2)	212	97.1 (94.5-98.5)	307
Private not-for-profit health facility	100. 0	5	100.0	9	100.0	14	100.0	4	100.0	9	100.0	13
Private for-profit outlet												
Health facility/pharmacy	98.1 (95.0-99.3)	323	89.3 (71.9-96.5)	66	94.5 (86.5-97.9)	389	97.7 (91.0-99.4)	281	100.0	26	98.0 (92.0-99.5)	307
Drug store	99.4 (98.3-99.8)	215	95.8 (93.6-97.3)	350	96.2 (94.3-97.5)	565	98.5 (96.4-99.4)	206	88.9 (77.6-94.9)	157	94.5 (89.3-97.3)	363
General retailer/itinerant	100.0	2	74.2 (25.7-96.0)	4	76.7 (30.1-96.2)	6	58.9 (32.3-81.1)	5	49.6 (29.9-69.4)	6	53.8 (37.2-69.6)	11
Total	98.8 (97.3-99.4)	540	95.1 (92.8-96.7)	420	95.8 (94.0-97.1)	960	97.6 (95.2-98.8)	492	88.2 (75.5-94.8)	189	94.2 (89.1-97.0)	681
Community health worker	0.0	1	100.0	3	93.6 (68.6-99.0)	4		0	0.0	1	0.0	1
Kenya – Total	12.5 (10.8-14.4)	7,741	9.8 (8.0-11.9)	6,156	10.3 (8.8-12.1)	13,897	11.6 (10.2-13.0)	6,866	11.9 (10.1-13.9)	4,517	11.8 (10.4-13.3)	11,383
Public health facility	81.9 (65.0-91.6)	157	95.4 (90-97.9)	269	91.9 (84.8-95.8)	426	95.0 (90.9-97.4)	145	97.0 (91.3-99.0)	300	96.9 (92.0-98.8)	445
Private not-for-profit health facility	75.1 (55.7-87.9)	30	92.1 (68.7-98.4)	17	86.5 (70.5-94.5)	47	80.4 (59.5-91.9)	22	97.5 (82.9-99.7)	28	93.6 (83.5-97.7)	50
Private for-profit outlet												
Health facility/pharmacy	79.8 (70.8-86.5)	457	64.0 (40.7-82.2)	144	70.4 (54.9-82.3)	601	91.4 (88.1-93.9)	439	91.1 (80.1-96.3)	125	91.3 (85.3-95.0)	564
Drug store	94.6 (90.0-97.1)	296	89.2 (83.1-93.3)	181	90.3 (86.0-93.4)	477	95.4 (91.1-97.7)	349	95.7 (91.2-97.9)	154	95.6 (92.7-97.4)	503
General retailer/itinerant	4.2 (3.4-5.2)	6,476	5.2 (3.3-8.1)	4,537	5.0 (3.4-7.1)	11,013	2.7 (1.7-4.2)	5,809	5.1 (3.4-7.7)	3,663	4.4 (3.1-6.1)	9,472
Total	11.6 (10.1-13.2)	7,229	9.9 (8.1-12.1)	4,862	10.3 (8.8-12.0)	12,091	11.2 (9.9-12.7)	6,597	10.5 (8.7-12.6)	3,942	10.7 (9.3-12.2)	10,539
Community health worker	1.7 (0.6-4.5)	325	2.8 (1.0-7.8)	1,008	2.8 (1.0-7.3)	1,333	0.0	102	0.0	247	0.0	349
Madagascar – Total	34.0 (28.5-39.9)	4,983	36.0 (28.4-44.4)	1,786	35.6 (29.4-42.2)	6,769	16.4 (13.7-19.4)	6,519	23.6 (19.9-27.6)	3,522	22.2 (19.3-25.5)	10,041
Public health facility	99.1 (96.9-99.7)	71	96.9 (93.9-98.4)	460	97.5 (95.3-98.7)	531	100.0	66	96.5 (92.1-98.5)	576	96.8 (93.0-98.6)	642
Private not-for-profit health facility	80.6 (43.0-95.8)	7	-	0	80.6 (43.0-95.8)	7	80.9 (66.1-90.2)	32	82.5 (43.2-96.7)	6	81.9 (59.8-93.2)	38
Private for-profit outlet												
Health facility/pharmacy	91.1 (82.2-95.8)	146	96.2 (74.2-99.6)	10	93.2 (86.0-96.8)	156	77.1 (64.1-86.5)	145	81.1 (55.9-93.6)	16	78.9 (66.8-87.4)	161
Drug store	100.0	30	98.0 (95.1-99.2)	233	98.8 (96.8-99.5)	263	94.7 (81.1-98.7)	30	96.3 (93.1-98.0)	363	96.1 (93.2-97.8)	393
General retailer/itinerant	26.6 (22.1-31.6)	4,671	33.7 (24.9-43.7)	915	32.0 (25.2-39.6)	5,586	12.5 (10.2-15.3)	6,013	23.0 (19.3-27.1)	1,992	20.6 (17.6-23.9)	8,005
Total	31.7 (27.1-36.8)	4,847	35.4 (26.9-45)	1,158	34.5 (27.9-41.7)	6,005	15.1 (12.6-18.1)	6,188	24.9 (21.2-29.1)	2,371	22.7 (19.7-26.0)	8,559
Community health worker	2.5 (0.6-10.6)	58	28.3 (10.3-57.5)	168	27.8 (10.2-56.6)	226	7.2 (2.9-16.8)	233	11.7 (6.1-21.4)	569	11.5 (6.1-20.8)	802
Niger – Total	59.6 (50.9-67.7)	1,333	46.5 (40.0-53.1)	2,405	48.6 (42.8-54.4)	3,738	49.5 (44.3-54.6)	1,778	44.4 (39.8-49.1)	1,514	45.7 (42-49.4)	3,292
Public health facility	92.1 (77.9-97.5)	97	75.1 (70.5-79.2)	533	76.4 (72.2-80.2)	630	100.0	106	91.5 (85.2-95.3)	260	92.6 (87.0-95.9)	366
Private not-for-profit health facility	74.9 (21.9-96.9)	5	-	0	74.9 (21.9-96.9)	5	100.0	2	100.0	1	100.0	3
Private for-profit outlet												
Health facility/pharmacy	94.3 (81.5-98.4)	116	96.6 (73.8-99.7)	14	94.6 (83.8-98.4)	130	95.3 (89.1-98.1)	101	100.0	4	95.6 (89.6-98.2)	105
Drug store	91.8 (59.0-98.9)	15	86.8 (42.0-98.4)	8	88.6 (58.6-97.7)	23	81.6 (64.5-91.5)	17	100.0	3	90.9 (77.8-96.6)	20
General retailer/itinerant	57.1 (47.9-65.9)	1,099	44.6 (37.8-51.6)	1,846	46.6 (40.5-52.7)	2,945	46.6 (41.5-51.8)	1,552	41.4 (36.8-46.2)	1,245	42.7 (39.0-46.6)	2,797
Total	58.7 (49.7-67.1)	1,230	44.8 (38.1-51.8)	1,868	47.1 (41.1-53.1)	3,098	48.2 (43.0-53.4)	1,670	41.6 (37.0-46.4)	1,252	43.3 (39.6-47.1)	2,922
Community health worker	100.0	1	49.5 (19.5-79.8)	4	52.8 (21.1-82.4)	5	-	0	0.0	1	0.0	1
Nigeria – Total	27.6 (23.7-31.8)	4,167	27.8 (21.9-34.7)	1,289	27.6 (24.3-31.2)	5,456	17.9 (14.9-21.4)	5,705	21.7 (19.7-24.0)	2,233	19.2 (17.1-21.6)	7,938
Public health facility	90.8 (83.5-95.0)	203	92.2 (79.4-97.3)	52	92.1 (80.4-97.1)	255	98.6 (95.4-99.6)	48	76.9 (58.7-88.6)	61	82.8 (68.1-91.5)	109
Private not-for-profit health facility	97.8 (84.8-99.7)	9	100.0	2	99.7 (97.2-100.0)	11	60.7 (22.9-88.9)	8	100.0	3	71.2 (29.8-93.5)	11
Private for-profit outlet												
Health facility/pharmacy	95.4 (92.3-97.3)	784	93.3 (69.8-98.8)	30	93.8 (79.0-98.4)	814	94.9 (88.6-97.8)	107	83.6 (66.4-92.9)	38	90.6 (82.9-95.0)	145
Drug store	97.7 (96.0-98.7)	748	94.9 (88.6-97.8)	283	97.3 (95.7-98.3)	1,031	98.1 (96.0-99.1)	823	97.3 (91.0-99.3)	370	97.8 (95.5-98.9)	1,193
General retailer/itinerant	4.6 (3.1-6.9)	2,417	4.4 (2.6-7.4)	909	4.6 (3.3-6.3)	3,326	1.4 (1.0-2.0)	4,716	1.0 (0.5-1.9)	1,750	1.3 (0.9-1.8)	6,466
Total	27.4 (23.6-31.6)	3,949	23.9 (17.5-31.7)	1,222	26.7 (23.4-30.3)	5,171	17.3 (14.3-20.8)	5,646	19.8 (17.8-21.8)	2,158	18.1 (16.0-20.5)	7,804
Community health worker	100.0	6	69.1 (36.6-89.6)	13	80.0 (54.6-93.0)	19	100.0	3	32.9 (6.5-77.6)	11	33.8 (7.0-77.6)	14

Table 2.2.1: *Cont.*	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Tanzania – mainland - Total	12.6 (8.9-17.6)	1,125	17.0 (14.2-20.3)	1,994	15.8 (13.3-18.7)	3,119	13.9 (11.2- 17.2)	2,481	14.0 (11.7- 16.8)	1,228	14.0 (12.2- 16.0)	3,709
Public health facility	89.6 (52.0-98.6)	7	93.2 (82.0-97.6)	65	92.9 (82.8-97.3)	72	100.0	7	93.1 (82.2- 97.5)	52	93.4 (83.0- 97.6)	59
Private not-for-profit health facility	84.4 (65.2-93.9)	7	90.6 (68.2-97.8)	20	89.5 (72.3-96.5)	27	75.0 (40.4- 93.0)	6	100.0	2	84.9 (55.6- 96.2)	8
Private for-profit outlet												
Health facility/pharmacy	79.8 (55.0-92.7)	260	99.1 (92.0-99.9)	14	82.6 (60.1-93.8)	274	99.9 (99.2-100.0)	323	100.0	16	99.9 (99.3-100.0)	339
Drug store	95.1 (86.5-98.3)	94	91.5 (81.4-96.4)	169	92.6 (85.5-96.4)	263	100.0	259	98.6 (94.2- 99.7)	115	99.2 (96.7- 99.8)	374
General retailer/itinerant	0.3 (0.1-1.1)	756	5.9 (3.6-9.5)	1,722	4.3 (2.6-7.2)	2,478	0.2 (0.1- 0.5)	1,879	1.2 (0.3- 5.0)	1,043	0.9 (0.2- 3.1)	2,922
Total	11.5 (8.2-15.9)	1,110	13.1 (10.6-16.0)	1,905	12.6 (10.5-15.1)	3,015	13.5 (10.8- 16.8)	2,461	10.4 (8.3- 12.8)	1,174	11.5 (9.8- 13.6)	3,635
Community health worker	0.0	1	25.2 (6.1-63.4)	4	21.3 (4.7-59.6)	5	0.0	1	-	0	0.0	1
Uganda – Total	14.6 (12.3-17.3)	1,723	14.0 (11.9-16.4)	9,430	14.1 (12.4-16.1)	11,153	14.1 (12.5-15.8)	7,914	15.0 (12.5-18.0)	8,293	14.8 (12.8-17.1)	16,207
Public health facility	96.8 (85.5-99.4)	80	96.4 (93.6-98.0)	725	96.5 (93.9-98.0)	805	98.3 (92.2-99.6)	148	98.8 (95.8-99.7)	544	98.7 (96.4-99.6)	692
Private not-for-profit health facility	84.7 (55.7-96.1)	5	96.6 (82.4-99.4)	30	94.7 (82.0-98.6)	35	100.0	13	93.4 (74.8-98.6)	30	94.1 (76.7-98.7)	43
Private for-profit outlet												
Health facility/pharmacy	100.0	409	92.6 (86.9-95.9)	393	96.0 (90.8-98.3)	802	96.3 (94.9-97.3)	860	94.0 (86.6-97.5)	403	95.0 (91.6-97.1)	1,263
Drug store	93.3 (89.4-95.8)	79	87.6 (81.6-91.8)	867	88.3 (83.0-92.1)	946	98.2 (97.1-98.9)	456	91.2 (86.8-94.3)	757	92.2 (88.4-94.9)	1,213
General retailer/itinerant	0.3 (0.1-0.9)	1,113	0.4 (0.2-0.8)	6,664	0.4 (0.2-0.7)	7,777	0.1 (0.0-0.2)	6,244	0.4 (0.2-1.2)	5,731	0.3 (0.1-0.9)	11,975
Total	14.2 (11.7-17.2)	1,601	13.3 (11.2-15.8)	7,924	13.5 (11.7-15.5)	9,525	13.5 (11.8-15.5)	7,560	14.0 (12.1-16.1)	6,891	13.9 (12.4-15.5)	14,451
Community health worker	1.6 (0.1-19.1)	37	5.2 (1.0-22.7)	751	5.0 (1.0-21.0)	788	0.8 (0.1-5.0)	193	11.1 (3.1-32.8)	828	10.6 (3.0-31.2)	1,021
Zanzibar – Total	17	1,117	11.1	1,114	14.1	2,231	9.9	2,250	6.1	1,971	8.1	4,221
Public health facility	86.2	65	95.4	87	91.4	152	68.6	70	85.4	89	78	159
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3	25	4	100.0	1	40.0	5
Private for-profit outlet												
Health facility/pharmacy	83.1	89	73.3	15	81.7	104	92.1	89	76.2	21	89.1	110
Drug store	65.5	87	62.5	40	64.6	127	77.9	113	50.0	48	69.6	161
General retailer/itinerant	0.1	874	0.4	971	0.3	1,845	0.2	1,974	0.2	1,812	0.2	3,786
Total	12.6	1,050	3.9	1,026	8.3	2,076	8.0	2,176	2.3	1,881	5.3	4,057
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Information on outlets with antimalarials in stock comes from Table 2.1.1, Column E. Information on outlets where screening questions were completed comes from Table 2.1.1, Column B. Screening questions asked whether outlets had any medicines or any antimalarials in stock that day, and if not whether they had had any medicines or any antimalarials, in stock in the previous 3 month. Nigeria baseline data collection was conducted in 2009. CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.2.2   Antimalarials in stock by type

Table 2.2.2 shows the percentage of outlets stocking non-artemisinin therapies, typically sulfadoxine-pyrimethamine (SP), amodiaquine, chloroquine and quinine. At endline, the level of nAT availability among all outlets was over 75% in all countries other than Zanzibar, where it was 47%. Overall, there was a large fall in availability of nAT in Zanzibar (41 percentage points). There were also smaller declines in Ghana (13 percentage points), Kenya (10 percentage points) and Niger (5 percentage points). In Ghana, Niger and Zanzibar, nAT availability fell in both the public and private for-profit sectors, while in Kenya it fell only in the private for-profit sector. It should be noted that there are legitimate uses of nATs, such as use of SP for intermittent preventive treatment for pregnant women and infants, and quinine for management of severe malaria. It is therefore not a policy objective to reduce availability or market share of these products to zero.

Tables 2.2.3 and 2.2.4 show the percentage of outlets stocking artemisinin monotherapies for all dosage types and oral formulations only. Interpretation focuses on oral AMT, because crowding out oral AMT is the object of policy intervention. At endline, the availability of oral AMT was high in Ghana (41%) and Nigeria (33%). Everywhere else, it was stocked by less than 1% of outlets. There was little change between baseline and endline in all countries other than Zanzibar, where it fell from 17% at baseline to a negligible percentage at endline. In Ghana, oral AMT was primarily available in the private for-profit sector (47% of outlets at endline). In Nigeria, oral AMT availability at endline was 10% in public facilities and 34% in private for-profit facilities.

Table 2.2.5 shows the percentage of outlets stocking non-quality-assured ACTs. At endline, these drugs were rare in Madagascar and Niger; available in 19-28% of outlets in Kenya, Nigeria, Tanzania mainland, Uganda and Zanzibar; and widely available in Ghana (67%). Generally, non-quality-assured ACTs were more available in urban than rural areas. Overall, availability of these products fell in Uganda and Zanzibar. In Uganda, the change was focused in private for-profit outlets, while in Zanzibar availability decreased in both the public sector and private for-profit outlets.

Table 2.2.6 shows the percentage of outlets stocking quality-assured ACTs. At endline, QAACT availability was 19% in Niger and 28% in Madagascar. It ranged from 52 to 70% in Kenya, Nigeria, Tanzania mainland and Uganda. QAACT availability exceeded 80% in Ghana and Zanzibar. In Ghana and Zanzibar, QAACT availability was over 80% in both public facilities and private for-profit outlets. In Kenya, Tanzania mainland and Uganda, availability in private for-profit outlets was over 60%, but this was lower than availability in the public sector (over 80%). There were much bigger differences in availability between the public and private for-profit sectors in Madagascar (94% vs. 9%) and Niger (73% vs. 14%). Nigeria stands out as having similar levels of availability in the public and for-profit sectors, with low public sector

availability (58% in public facilities vs. 51% in private for-profit outlets). At endline, availability in all outlets was higher in rural areas in Zanzibar and urban areas in Niger and Uganda.

There were large and significant increases in QAACT availability in Ghana, Kenya, Nigeria, Tanzania mainland, Uganda and Zanzibar, with changes of 24-52 percentage points, with the majority of the increase observed in the private for-profit sector in all cases. Niger had a more modest increase of 10 percentage points, with a greater increase in public than private for-profit facilities. These increases in the availability of QAACTs were seen in both urban and rural areas in all countries. No change in QAACT availability was observed in Madagascar

Table 2.2.7 shows availability of QAACTs with and without the AMFm logo. Availability of QAACTs with the AMFm logo was substantially higher than QAACTs without the logo everywhere except Madagascar and Niger. The availability of QAACTs without the logo varied from 6% and 21%

Table 2.2.8 shows availability of QAACTs among all public health facilities. This differs from Table 2.2.6 in that it includes in the denominator public health facilities with and without any antimalarials in stock. This is important because some countries have had severe problems in availability of all antimalarials in the public sector (see Table 2.2.1). Public sector QAACT availability was over 90% in Kenya, Uganda and Madagascar; between 67 and 78% in Ghana, Niger, Tanzania mainland and Zanzibar; and only 45% in Nigeria. Public sector availability improved in Niger between baseline and endline, from 34% to 67%.

Table 2.2.2: Outlets with non-artemisinin therapy in stock at baseline (2010) and endline (2011)

Indicator 1.2 Percentage of outlets that had non-artemisinin monotherapy or non-artemisinin combination therapy in stock (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

| | BASELINE | | | | | | ENDLINE | | | | | | PERCENTAGE POINT CHANGE | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | | Urban | Rural | Total |
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95%CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Ghana - Total	90.0 (86.3-92.7)	601	92.4 (89.7-94.5)	543	92.0 (89.7-93.7)	1,144	80.5 (76.8-83.8)	574	77.0 (72.0-81.3)	382	79.1 (76.2-81.7)	956	-9.5 (-14.1- -4.8)	-15.5 (-20.6- -10.3)	-12.8 (-16.2- -9.5)
Public health facility	71.7 (60.4-80.8)	68	75.2 (69.2-80.4)	135	74.7 (69.4-79.4)	203	65.2 (47.5-79.4)	94	56.9 (49.4-64.1)	204	59.4 (52.2-66.2)	298	-6.5 (-25.7-12.7)	-18.3 (-27.4- -9.1)	-15.3 (-23.9- -6.8)
Private not-for-profit health facility	46.1 (15.3-80.2)	5	100.0	9	90.6 (75.3-96.8)	14	100.0	4	75.6 (46.7-91.6)	9	85.2 (62.2-95.3)	13	53.9 (15.7-92.0)	-24.4 (-47.5- -1.4)	-5.4 (-23.8-12.9)
Private for-profit outlet															
Health facility/pharmacy	86.7 (79.5-91.7)	315	85.1 (67.6-94)	62	86.1 (78.8-91.2)	377	77.2 (69.9-83.1)	271	68.3 (50.3-82.2)	26	76.0 (69.5-81.5)	297	-9.6 (-18.4- -0.7)	-16.8 (-37.3-3.7)	-10.1 (-18.6- -1.6)
Drug store	96.7 (93.6-98.1)	211	95.4 (92.0-97.4)	331	95.5 (92.6-97.3)	542	83.2 (79.6-86.3)	202	84.4 (77.0-89.8)	140	83.7 (80.2-86.7)	342	-13.3 (-17.2- -9.4)	-10.9 (-17.7- -4.1)	-11.8 (-15.7- -7.9)
General retailer/itinerant	100.0	2	100.0	3	100.0	5	38.0 (8.0-81.2)	3	66.3 (36.4-87.2)	3	52.2 (27.1-76.3)	6	-62.0 (-107.4- -16.6)	-33.7 (-61.0- -6.4)	-47.8 (-74.4- -21.2)
Total	92.0 (87.7-94.8)	528	94.7 (91.5-96.7)	396	94.1 (91.6-95.9)	924	81.1 (77.5-84.2)	476	82.8 (76.2-87.9)	169	81.7 (78.5-84.5)	645	-10.9 (-15.6- -6.1)	-11.9 (-18.1- -5.6)	-12.4 (-16.1- -8.8)
Community health worker	-	0	-	3	-	3	-	0	-	0	-	0			
Kenya - Total	84.6 (80.7-87.9)	1,025	92.9 (85.7-96.7)	870	91.0 (86.0-94.3)	1,895	71.9 (65.5-77.5)	1,047	84.3 (79.9-88.0)	802	80.9 (77.3-84)	1,849	-12.7 (-19.6- -5.8)	-8.6 (-15.1- -2.1)	-10.1 (-15.3- -4.9)
Public health facility	94.5 (86.0-98.0)	137	95.2 (91.4-97.3)	259	95.0 (91.8-97.0)	396	85.8 (75.9-92.1)	137	95.0 (88.4-98.0)	294	94.3 (88.6-97.3)	431	-8.7 (-18.2-0.8)	-0.1 (-5.3-5.0)	-0.7 (-5.4-4.0)
Private not-for-profit health facility	84.0 (66.3-93.3)	23	85.0 (47.9-97.2)	15	84.7 (59.9-95.4)	38	67.3 (28.8-91.3)	19	97.8 (84.6-99.7)	27	91.8 (76.0-97.6)	46	-16.6 (-54.3-21.1)	12.8 (-10.5-36.2)	7.1 (-12.1-26.4)
Private for-profit outlet															
Health facility/pharmacy	70.8 (64.3-76.6)	358	91.3 (81.3-96.2)	103	82.1 (75.2-87.3)	461	63.2 (57.4-68.6)	408	77.5 (66.0-85.9)	113	72.0 (65.4-77.8)	521	-7.6 (-15.8-0.6)	-13.8 (-25.9- -1.7)	-10.1 (-18.6- -1.5)
Drug store	80.3 (73.5-85.8)	267	93.5 (87.8-96.6)	155	90.6 (87.4-93.0)	422	70.0 (60.0-78.5)	328	84.9 (77.1-90.4)	145	79.0 (72.6-84.1)	473	-10.3 (-21.4-0.7)	-8.6 (-16.3- -0.9)	-11.6 (-18- -5.3)
General retailer/itinerant	100.0	236	100.0	318	100.0	554	86.5 (72.6-93.9)	155	81.6 (70.3-89.2)	223	82.4 (73.0-89.0)	378	-13.5 (-23.7- -3.4)	-18.4 (-27.8- -9.1)	-17.6 (-25.4- -9.7)
Total	83.6 (79.4-87.1)	861	96.3 (92.8-98.2)	576	93.2 (90.9-94.9)	1,437	71.6 (64.6-77.6)	891	81.7 (76.8-85.8)	481	78.6 (74.7-82.0)	1,372	-12.0 (-19.5- -4.6)	-14.6 (-19.7- -9.5)	-14.6 (-18.7- -10.5)
Community health worker	52.7 (9.1-92.5)	4	33.5 (7.8-74.9)	20	34.0 (8.3-74.5)	24	-	0	-	0	-	0			
Madagascar - Total	97.1 (94.2-98.6)	1,445	85.5 (71.6-93.3)	967	87.9 (76.5-94.2)	2,412	95.7 (93.3-97.3)	973	86.2 (76.6-92.2)	1,369	87.5 (79.3-92.7)	2,342	-1.4 (-4.2-1.3)	0.7 (-12.2-13.5)	-0.5 (-11.1-10.2)
Public health facility	78.9 (53.9-92.3)	67	75.4 (68-81.5)	446	76.4 (68.1-83.0)	513	92.5 (83.7-96.7)	63	86.3 (80.4-90.7)	536	87.0 (81.8-90.9)	599	13.6 (-6.4-33.6)	11.0 (2.6-19.3)	10.7 (2.0-19.3)
Private not-for-profit health facility	100.0	6	-	0	100.0	6	62.5 (54.9-69.5)	25	60.3 (13.7-93.5)	5	61.1 (27.8-86.6)	30	-37.5 (-44.8- -30.3)	-	-38.9 (-72.1- -5.6)
Private for-profit outlet															
Health facility/pharmacy	96.9 (89.8-99.1)	125	100.0	9	98.3 (94.3-99.5)	134	97.6 (92.5-99.2)	103	100.0	12	98.7 (96.0-99.6)	115	0.6 (-4.0-5.3)	-	0.4 (-2.1-3)
Drug store	99.5 (96.8-99.9)	28	98.8 (96.3-99.6)	228	99.0 (97.3-99.7)	256	100.0	28	98.5 (96.7-99.3)	347	98.5 (96.7-99.3)	375	0.5 (-0.4-1.5)	-0.4 (-2.3-1.4)	-0.5 (-2.1-1)
General retailer/itinerant	99.8 (99.5-99.9)	1,217	99.3 (97.8-99.8)	246	99.4 (98.2-99.8)	1,463	99.6 (98.8-99.9)	739	99.4 (98.3-99.8)	404	99.5 (98.5-99.8)	1,143	-0.2 (-0.7-0.2)	0.1 (-0.9-1.1)	0.1 (-0.8-0.9)
Total	99.5 (98.7-99.8)	1,370	99.3 (98.0-99.8)	483	99.3 (98.4-99.7)	1,853	99.3 (98.6-99.7)	870	99.4 (98.4-99.7)	763	99.4 (98.6-99.7)	1,633	-0.1 (-0.8-0.5)	0.1 (-0.9-1.0)	0.0 (-0.7-0.8)
Community health worker	100.0	2	1.2 (0.1-11.1)	38	1.4 (0.2-10.3)	40	0.0	15	9.5 (3.6-23.1)	65	9.3 (3.5-22.4)	80	-100.0 (0.0-0.0)	8.3 (-1.1-17.7)	7.9 (-1.2-17)
Niger - Total	98.1 (96.0-99.1)	833	98.8 (98.1-99.2)	1,198	98.7 (98.0-99.1)	2,031	92.7 (90.4-94.5)	924	94.3 (92.6-95.7)	738	93.9 (92.5-95.0)	1,662	-5.5 (-7.9- -3.0)	-4.5 (-6.1- -2.9)	-4.8 (-6.1- -3.4)
Public health facility	94.3 (85.0-98)	91	94.3 (90.4-96.7)	385	94.3 (90.8-96.5)	476	93.3 (87.5-96.5)	102	86.1 (80.5-90.3)	220	87.1 (82.2-90.9)	322	-1.0 (-8.1-6.1)	-8.2 (-13.8- -2.5)	-7.1 (-12.2- -2.1)
Private not-for-profit health facility	100.0	4	-	0	100.0	4	50.8 (11.9-88.7)	2	100.0	1	83.8 (42.4-97.3)	3	-49.2 (-99.7-1.3)	-	-16.2 (-42.5-10.1)
Private for-profit outlet															
Health facility/pharmacy	98.2 (94.6-99.4)	106	100.0	12	98.4 (95.3-99.5)	118	98.5 (96.5-99.3)	95	16.9 (2.4-62.2)	4	93.8 (82.5-98.0)	99	0.3 (-2.0-2.7)	-83.1 (-112.2- -54.1)	-4.6 (-11.5-2.3)
Drug store	81.8 (54.4-94.4)	14	100.0	7	93.3 (76.7-98.3)	21	100.0	15	100.0	3	100.0	18	18.2 (-1.4-37.8)	0.0	6.7 (-2.3-15.6)
General retailer/itinerant	98.6 (96.7-99.4)	617	99.2 (98.4-99.6)	792	99.1 (98.4-99.5)	1,409	92.3 (89.9-94.3)	710	95.4 (93.6-96.7)	510	94.6 (93.2-95.7)	1,220	-6.3 (-8.7- -3.8)	-3.8 (-5.4- -2.3)	-4.6 (-5.9- -3.2)
Total	98.3 (96.3-99.2)	737	99.2 (98.5-99.6)	811	99.0 (98.4-99.4)	1,548	92.8 (90.4-94.6)	820	95.3 (93.6-96.6)	517	94.6 (93.2-95.7)	1,337	-5.5 (-7.9- -3.1)	-3.9 (-5.5- -2.3)	-4.5 (-5.8- -3.1)
Community health worker	100.0	1	100.0	2	100.0	3	-	0	-	0	-	0			
Nigeria - Total	98.0 (96.2-98.9)	1,745	95.0 (89.8-97.6)	364	97.3 (95.6-98.4)	2,109	97.1 (94.5-98.5)	1,020	95.7 (93.2-97.3)	470	96.6 (94.8-97.8)	1,490	-0.9 (-3.1-1.4)	0.7 (-3.5-4.8)	-0.8 (-2.8-1.2)
Public health facility	97.7 (92.7-99.3)	182	87.2 (67.3-95.7)	45	87.8 (69.2-95.9)	227	78.2 (47.9-93.4)	42	74.0 (55.4-86.7)	52	75.4 (60.1-86.2)	94	-19.5 (-42.8-3.8)	-13.1 (-33.9-7.6)	-12.4 (-30.5-5.6)
Private not-for-profit health facility	89.5 (52.0-98.5)	7	100.0	2	98.9 (89.0-99.9)	9	100.0	6	53.2 (7.4-94.1)	3	82.4 (34.3-97.7)	9	10.5 (-8.8-29.8)	-46.8 (-112.5-18.8)	-16.5 (-48.3-15.3)
Private for-profit outlet															
Health facility/pharmacy	94.5 (90.0-97.1)	734	79.2 (70.7-85.7)	24	83.0 (71.2-90.6)	758	90.0 (77.7-95.9)	95	88.2 (67.7-96.4)	30	89.3 (79.6-94.7)	125	-4.5 (-13.7-4.6)	9.0 (-6.1-24.1)	6.4 (-5.6-18.4)
Drug store	98.8 (96.8-99.5)	722	99.7 (98.1-100.0)	268	98.9 (97.3-99.6)	990	99.2 (97.7-99.7)	801	99.9 (99.1-100.0)	362	99.5 (98.6-99.8)	1,163	0.4 (-1.0-1.8)	0.2 (-0.4-0.7)	0.5 (-0.6-1.7)
General retailer/itinerant	96.7 (90.3-99)	94	100.0	19	97.4 (91.9-99.2)	113	91.2 (81.7-96.0)	73	93.5 (85.7-97.2)	19	93.5 (85.7-97.2)	92	-5.5 (-13.2-2.1)	0.0	-3.9 (-10.0-2.2)
Total	98.5 (97-99.3)	1,550	96.5 (87.9-99.1)	311	98.2 (96.5-99.1)	1,861	97.8 (95.6-98.9)	969	98.8 (97.1-99.5)	411	98.2 (96.8-98.9)	1,380	-0.7 (-2.6-1.1)	2.3 (-2.3-6.9)	0.0 (-1.6-1.6)
Community health worker	1.0 (0.1-9.6)	6	100.0	6	56.4 (18.6-88.0)	12	0.0	3	100.0	4	96.1 (67.6-99.7)	7	-1.0 (-3.4-1.3)	0.0	39.6 (-3.7-83.0)
Tanzania – mainland - Total	98.5 (94.3-99.6)	320	98.4 (96.1-99.3)	302	98.4 (96.6-99.3)	622	99.0 (96.7-99.7)	596	92.4 (85.4-96.2)	191	94.8 (90.4-97.3)	787	0.5 (-1.8-2.9)	-5.9 (-11.2- -0.7)	-3.6 (-7- -0.1)
Public health facility	84.0 (32.9-98.3)	5	97.8 (85.9-99.7)	55	96.9 (87.5-99.3)	60	100.0	7	73.5 (56.5-85.5)	48	74.7 (58.2-86.2)	55	16.0 (-15.5-47.5)	-24.4 (-39.5- -9.2)	-22.2 (-36.9- -7.5)
Private not-for-profit health facility	100.0	6	100.0	16	100.0	22	100.0	4	100.0	2	100.0	6	0.0	0.0	0.0
Private for-profit outlet															
Health facility/pharmacy	95.8 (79.2-99.3)	220	100.0	12	96.6 (81.9-99.4)	232	99.8 (99.1-99.9)	321	100.0	16	99.8 (99.3-100.0)	337	3.9 (-3.2-11.0)	0.0	3.2 (-2.7-9.2)
Drug store	100.0	88	99.4 (95.3-99.9)	148	99.6 (96.9-99.9)	236	99.2 (95.4-99.9)	259	100.0	113	99.6 (97.7-99.9)	372	-0.8 (-2.2-0.6)	0.6 (-0.6-1.9)	0.1 (-1-1.1)
General retailer/itinerant	100.0	1	97.0 (90.8-99.1)	70	97.0 (90.8-99.1)	71	74.3 (22.0-96.7)	5	100.0	12	97.7 (79.7-99.8)	17	-25.7 (-69.5-18.2)	3.0 (-0.4-6.4)	0.7 (-5.6-7)
Total	99.3 (95-99.9)	309	98.4 (95.6-99.4)	230	98.6 (96.6-99.5)	539	98.9 (96.6-99.7)	585	100.0	141	99.5 (98.3-99.9)	726	-0.3 (-2.2-1.6)	1.6 (0-3.2)	0.9 (-0.5-2.3)
Community health worker	-	0	100.0	1	100.0	1	-	0	-	0	-	0	-	-	-

Table 2.2.2: *Cont.*

Indicator 1.2 Percentage of outlets that had non-artemisinin monotherapy or non-artemisinin combination therapy in stock (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE						PERCENTAGE POINT CHANGE		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95%CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Uganda - Total	98.8 (97.7-99.4)	536	93.8 (82.4-98.0)	1,869	94.8 (85.4-98.3)	2,405	95.1 (94.3-95.8)	1,412	84.1 (69.3-92.5)	1,720	86.4 (74.3-93.3)	3,132	-3.7 (-4.8- -2.6)	-9.7 (-22.7-3.4)	-8.4 (-19.1-2.2)
Public health facility	97.1 (85.8-99.5)	76	96.8 (95.0-98.0)	690	96.8 (95.3-97.9)	766	94.8 (87.9-97.9)	144	96.0 (93.6-97.4)	534	95.8 (93.7-97.2)	678	-2.3 (-8.8-4.2)	-0.9 (-3.2-1.4)	-1.0 (-3.2-1.1)
Private not-for-profit health facility	100.0	4	100.0	27	100.0	31	100.0	12	100.0	27	100.0	39	0.0	0.0	0.0
Private for-profit outlet															
Health facility/pharmacy	99.8 (99.6-99.9)	383	99.9 (99.5-100.0)	356	99.8 (99.7-99.9)	739	95.5 (94.2-96.6)	814	97.6 (95.3-98.8)	387	96.7 (95.4-97.6)	1,201	-4.2 (-5.4- -3.1)	-2.2 (-3.9- -0.6)	-3.1 (-4.2- -2.0)
Drug store	97.7 (93.2-99.2)	70	98.1 (96.2-99.0)	748	98.0 (96.4-98.9)	818	96.0 (94.3-97.1)	436	95.2 (92.5-97)	676	95.3 (93.1-96.9)	1,112	-1.7 (-4.5-1.1)	-2.8 (-5.3- -0.3)	-2.7 (-4.8- -0.5)
General retailer/itinerant	100.0	2	85.5 (65.9-94.7)	19	87.4 (69.8-95.5)	21	10.3 (1.2-52.6)	4	44.1 (21.3-69.7)	14	42.2 (21.6-66.0)	18	-89.7 (-110.5- -69.0)	-41.3 (-70.8- -11.9)	-45.2 (-71.6- -18.8)
Total	98.9 (97.7-99.5)	455	98.1 (96.5-98.9)	1,123	98.3 (97.1-99.0)	1,578	95.3 (94.5-95.9)	1,254	94.4 (91.1-96.5)	1,077	94.6 (92.2-96.3)	2,331	-3.6 (-4.7- -2.6)	-3.7 (-6.5- -0.9)	-3.7 (-5.9- -1.5)
Community health worker	100.0	1	2.0 (0.1-26.4)	29	4.3 (0.4-33.5)	30	0.0	2	0.2 (0-2)	82	0.2 (0.0-2.0)	84	-100.0	-1.8 (-7-3.4)	-4.1 (-13.2-5.1)
Zanzibar - Total	89.9	189	85.4	123	88.1	312	50.9	222	40.3	119	47.2	341	-39.0	-45.0	-40.9
Public health facility	73.2	56	78.3	83	76.3	139	35.4	48	28.0	75	30.9	123	-37.8	-50.3	-45.4
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3	0.0	1	0.0	1	0.0	2	-100	-100.0	-100.0
Private for-profit outlet															
Health facility/pharmacy	95.9	73	100.0	11	96.4	84	51.2	82	75.0	16	55.1	98	-44.7	-25.0	-41.3
Drug store	98.2	57	100.0	24	98.8	81	58.0	88	58.3	24	58.0	112	-40.3	-41.7	-40.7
General retailer/itinerant	100.0	1	100.0	4	100.0	5	100.0	3	33.3	3	66.7	6	0.0	-66.7	-33.3
Total	96.9	131	100.0	39	97.6	170	55.5	173	62.8	43	56.9	216	-41.5	-37.2	-40.7
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

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Table 2.2.3: Outlets with artemisinin monotherapy in stock at baseline (2010) and endline (2011)

Indicator 1.3 Percentage of outlets that had artemisinin monotherapy in stock (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

| | BASELINE | | | | | | ENDLINE | | | | | | PERCENTAGE POINT CHANGE | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | | Urban | Rural | Total |
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95%CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Ghana - Total	73.0 (66.4-78.8)	601	53.6 (45.7-61.3)	543	57.3(50.8-63.7)	1,144	56.1(47.4-64.4)	574	41.8 (33.4-50.8)	382	50.5 (44.1-56.9)	956	-17.0 (-27.5- -6.5)	-11.8 (-23.5- -0.1)	-6.8 (-15.9-2.2)
Public health facility	38.4 (25.6-53.1)	68	38.1 (25.6-52.3)	135	38.1 (27.1-50.5)	203	29.4 (17.6-44.7)	94	28.2 (19.7-38.6)	204	28.6 (21.4-37.0)	298	-9.0 (-28.5-10.5)	-9.8 (-26.3-6.7)	-9.5 (-23.7-4.6)
Private not-for-profit health facility	48.9 (16.9-81.8)	5	76.5 (34.2-95.3)	9	71.7 (39.4-90.8)	14	80.0 (38.0-96.3)	4	54.0 (28.0-78.0)	9	64.2 (41.2-82.2)	13	31.1 (-17.3-79.5)	-22.5 (-64.9-19.9)	-7.5 (-42.2-27.2)
Private for-profit outlet															
Health facility/pharmacy	89.2 (83.4-93.1)	315	73.1 (55.1-85.7)	62	83.0 (75.4-88.6)	377	83.8 (76.1-89.3)	271	59.3 (33.1-81.1)	26	80.6 (72.5-86.7)	297	-5.4 (-13.4-2.6)	-13.8 (-43.8-16.2)	-2.4 (-12-7.1)
Drug store	64.5 (56.3-72.0)	211	54.2 (45.3-62.7)	331	55.5 (47.6-63.0)	542	48.3 (39.5-57.2)	202	44.8 (33.8-56.3)	140	46.9 (40.0-54.0)	342	-16.3 (-28- -4.5)	-9.4 (-23.6-4.9)	-8.5 (-18.9-1.8)
General retailer/itinerant	0.0	2	0.0	3	0.0	5	0.0	3	0.0	3	0.0	6			
Total	75.7 (68.9-81.4)	528	55.0 (46.4-63.4)	396	59.1 (52-65.9)	924	57.3 (48.5-65.6)	476	45.0 (34.3-56.2)	169	53.1 (46.1-60.0)	645	-18.4 (-29.0- -7.8)	-10.0 (-23.9-3.9)	-6.0 (-15.8-3.8)
Community health worker		0	0.0-	3	0.0	3	-	0	-	0	-	0	-	-	-
Kenya - Total	22.1 (14.0-33.1)	1,025	9.2 (3.1-24.2)	870	12.3 (6.7-21.5)	1,895	15.0 (10.5-21.2)	1,045	6.2 (4.4-8.8)	801	8.7 (6.9-10.9)	1,846	-7.1 (-17.9-3.7)	-3.0 (-12.7-6.7)	-3.6 (-11.0-3.8)
Public health facility	10.0 (3.4-25.9)	137	2.1 (0.8-5.2)	259	3.9 (1.7-8.7)	396	13.3 (7.3-23.0)	137	1.7 (0.6-5.0)	294	2.6 (1.3-5.3)	431	3.4 (-9.4-16.1)	-0.4 (-3.0-2.4)	-1.3 (-4.9-2.4)
Private not-for-profit health facility	30.5 (14.5-53.3)	23	3.3 (0.4-20.8)	15	11.1 (4.9-23.2)	38	43.5 (24.3-64.8)	19	13.9 (5.3-31.7)	27	19.7 (10.2-34.6)	46	12.9 (-16.2-42.0)	10.6 (-3.4-24.6)	8.6 (-6.2-23.4)
Private for-profit outlet															
Health facility/pharmacy	51.9 (34.1-69.3)	358	19.1 (8.3-38.2)	103	33.9 (22.6-47.3)	461	29.1 (21.7-37.8)	406	19.4 (12.9-28)	113	23.1 (17.7-29.5)	519	-22.8 (-42.7- -2.9)	0.3 (-16.2-16.7)	-10.8 (-24.5-2.9)
Drug store	17.3 (10.9-26.5)	267	21.8 (7.3-49.6)	155	20.8 (8.3-43.1)	422	11.4 (6.2-20.0)	328	7.3 (3.3-15.3)	145	9.0 (5.5-14.2)	473	-5.9 (-16.1-4.2)	-14.4 (-36.4-7.6)	-11.8 (-29.6-5.9)
General retailer/itinerant	0.0	236	0.0	318	0.0	554	0.0	155	0.0	222	0.0	377	0.0	0.0	0.0
Total	23.4 (14.6-35.2)	861	10.8 (3.6-28.3)	576	13.9 (7.4-24.7)	1,437	14.3 (9.8-20.4)	889	6.7 (4.5-9.7)	480	9.0 (7.0-11.5)	1,369	-9.1 (-20.6-2.4)	-4.2 (-15.7-7.3)	-4.9 (-13.5-3.7)
Community health worker	0.0	4	0.0	20	0.0	24	0.0	0	0.0	0	0.0	0	-	-	-
Madagascar - Total	1.6 (0.5-5.1)	1,438	0 (0-0.2)	962	0.4 (0.1-1.1)	2,400	0.8 (0.2-3.2)	971	0.0 (0.0-0.2)	1,347	0.1 (0.0-0.5)	2,318	-0.8 (-3.0-1.3)	0.0 (-0.3-0.1)	-0.2 (-0.7-0.2)
Public health facility	0.0	67	0.0	444	0.0	511	0.0	62	0.3 (0.0-2.2)	514	0.3 (0-1.9)	576	0.0	0.3 (-0.3-0.9)	0.3 (-0.3-0.8)
Private not-for-profit health facility	0.0	6	-	0	0.0	6	0.0	25	0.0	5	0.0	30	0.0	-	0.0
Private for-profit outlet															
Health facility/pharmacy	15.3 (7.3-29.6)	122	0.0	9	8.7 (3.2-21.4)	131	6.0 (1.9-17.9)	102	0.0	12	3.3 (0.8-12.8)	114	-9.3 (-22.1-3.4)	0.0	-5.4 (-14.8-4.0)
Drug store	0.5 (0.1-3.2)	28	0.6 (0.1-4.8)	227	0.6 (0.1-2.6)	255	0.0	28	0.0	347	0.0	375	-0.5 (-1.5-0.4)	-0.6 (-1.9-0.7)	-0.6 (-1.5-0.3)
General retailer/itinerant	0.0	1,213	0.0	244	0.0	1,457	0.0	739	0.0	404	0.0	1,143	0.0	0.0	0.0
Total	1.8 (0.5-5.9)	1,363	0.0 (0.0-0.3)	480	0.4 (0.1-1.3)	1,843	0.9 (0.2-3.6)	869	0.0	763	0.1 (0.0-0.7)	1,632	-0.9 (-3.4-1.5)	0.0 (-0.1-0.0)	-0.3 (-0.8-0.2)
Community health worker	0.0	2	0.0	38	0.0	40	0.0	15	0.0	65	0.0	80	0.0	0.0	0.0
Niger - Total	3.0 (1.8-4.9)	833	0.2 (0.1-0.5)	1,198	0.8 (0.5-1.2)	2,031	2.3 (1.8-3.1)	924	0.4 (0.0-2.1)	738	0.9 (0.7-1.3)	1,662	-0.7 (-2.3-0.9)	0.2 (-0.2-0.6)	0.2 (-0.3-0.6)
Public health facility	0.6 (0.1-4.4)	91	2.4 (1.0-5.7)	385	2.3 (1.0-5.2)	476	5.0 (2.6-9.3)	102	2.1.0 (0.9-5.0)	220	2.5 (1.3-4.8)	322	4.4 (1.0-7.7)	-0.3 (-3.1-2.4)	0.3 (-2.2-2.8)
Private not-for-profit health facility	0.0	4	-	0	0.0	4	0.0	2	100.0	1	67.1 (23.4-93.1)	3	0.0	-	67.1 (25.4-108.7)
Private for-profit outlet															
Health facility/pharmacy	40.3 (25.5-57.0)	106	0.0	12	34.4 (21.1-50.7)	118	29.3 (19.4-41.6)	95	0.0	4	27.6 (18.2-39.6)	99	-11.0 (-30.6-8.6)	0.0	-6.8 (-25.3-11.7)
Drug store	12.1 (2.3-45.2)	14	0.0	7	4.5 (0.6-25.0)	21	18.8 (6.4-43.8)	15	0.0	3	8.3 (2.6-23.6)	18	6.7 (-19.6-33.0)	0.0	3.9 (-8.6-16.3)
General retailer/itinerant	1.0 (0.4-2.8)	617	0.0	792	0.2 (0.1-0.6)	1,409	0.4 (0.2-1.2)	710	0.0	510	0.1 (0.0-0.3)	1,220	-0.6 (-1.7-0.5)	0.0	-0.1 (-0.3-0.2)
Total	3.1 (1.9-5.1)	737	0.0	811	0.6 (0.4-1.0)	1,548	2.2 (1.6-3.0)	820	0.0	517	0.6 (0.4-0.9)	1,337	-0.9 (-2.6-0.7)	0.0	0.0 (-0.4-0.4)
Community health worker	0.0	-	0.0	-	0.0	-	-	0	-	-	-	0	-	-	-
Nigeria - Total	47.5 (35.1-60.1)	1,726	38.2 (29.1-48.2)	361	45.5 (35.5-55.8)	2,087	39.4 (27.2-53.0)	1,020	34.6 (28.6-41.2)	469	37.5 (29.8-45.9)	1,489	-8.1 (-26.4-10.2)	-3.6 (-15.0-7.9)	-8.0 (-21.0-5.0)
Public health facility	32.5 (22.7-44.1)	181	28.3 (9.0-61.2)	45	28.5 (9.9-59.2)	226	33.0 (16.9-54.3)	42	27.7 (14.7-45.8)	52	29.4 (18.5-43.3)	94	0.5 (-21.7-22.6)	-0.6 (-32.7-31.5)	0.8 (-28.2-29.9)
Private not-for-profit health facility	30.9 (7.3-71.7)	6	85.5 (29.0-98.8)	2	80.8 (30.3-97.6)	8	46.7 (14.7-81.6)	6	46.3 (5.7-92.4)	3	46.5 (17.4-78.3)	9	15.8 (-38.7-70.3)	-39.2 (-112.6-34.2)	-34.3 (-83.9-15.3)
Private for-profit outlet															
Health facility/pharmacy	71.7 (65.3-77.4)	733	65.2 (47.4-79.6)	24	66.8 (54.7-77.1)	757	69.1 (56.7-79.2)	95	21.9 (9.2-43.6)	30	51.9 (37.7-65.8)	125	-2.7 (-15.5-10.2)	-43.3 (-67.2- -19.4)	-14.9 (-33.2-3.3)
Drug store	48.5 (35.8-61.4)	715	42.1 (31.3-53.7)	268	47.5 (36.5-58.7)	983	38.1 (24.8-53.5)	801	38.2 (31.7-45.2)	361	38.2 (29.3-48.0)	1,162	-10.3 (-29.9-9.3)	-3.8 (-17.0-9.3)	-9.3 (-23.9-5.3)
General retailer/itinerant	39.0 (21.4-60.0)	85	3.1 (0.4-19.3)	16	32.0 (17.5-51.1)	101	14.7 (5.0-36.0)	73	10.2 (2.5-34.1)	19	13.6 (5.6-29.5)	92	-24.3 (-49.3-0.7)	7.2 (-7.9-22.2)	-18.4 (-39.2-2.3)
Total	47.8 (35.3-60.5)	1,533	41.4 (31.3-52.3)	308	46.6 (36.2-57.4)	1,841	39.5 (26.8-53.8)	969	35.6 (29.6-42.2)	410	38.1 (29.8-47.1)	1,379	-8.3 (-27.1-10.5)	-5.7 (-18.0-6.6)	-8.6 (-22.3-5.2)
Community health worker	1.0 (0.1-9.6)	6	2.2 (0.3-16.6)	6	1.7 (0.3-8.5)	12	0.0	3	0.0	4	0.0	7	-1.0 (-3.4-1.3)	-2.2 (-6.8-2.5)	-1.7 (-4.5-1.1)
Tanzania – mainland - Total	8.6 (3.9-18.0)	317	0.9 (0.2-3.4)	284	2.8 (1.3-5.7)	601	5.9 (3.9-8.8)	596	1.6 (0.4-6.3)	191	3.2 (1.8-5.5)	787	-2.8 (-9.8-4.2)	0.7 (-1.9-3.2)	0.4 (-2.2-3.000)
Public health facility	16.0 (1.7-67.2)	5	1.2 (0.2-8.2)	51	1.2 (0.2-8.2)	56	17.2 (2.3-65.0)	7	0.0	48	0.8 (0.1-5.3)	55	1.2 (-42.9-45.3)	-	-0.4 (-3.2-2.3)
Private not-for-profit health facility	48.7 (20-78.3)	6	13.2 (3.4-39.4)	16	19.8 (7.9-41.5)	22	45.4 (10.0-86.2)	4	47.8 (4.9-94.2)	2	46.5 (13.5-82.9)	6	-3.3 (-62.5-55.9)	34.6 (-38-107.2)	26.8 (-18.6-72.1)
Private for-profit outlet															
Health facility/pharmacy	33.7 (19.3-51.9)	220	7.3 (1.2-34.3)	12	28.9 (16.5-45.4)	232	26.3 (17.5-37.5)	321	23.0 (3.3-72.3)	16	25.4 (14.9-39.9)	337	-7.5 (-26.8-11.9)	15.7 (-24.2-55.7)	-3.4 (-22.6-15.7)
Drug store	0.0	85	0.0	144	0.0	229	1.4 (0.7-2.7)	259	0.9 (0.1-5.9)	113	1.1 (0.4-2.9)	372	1.4 (0.4-2.3)	0.9 (-0.8-2.6)	1.1 (0.1-2.2)
General retailer/itinerant	0.0	1	0.0	60	0.0	61	0.0	5	0.0	12	0.0	17	0.0	0.0	0.0
Total	6.1 (3.4-10.7)	306	0.1 (0.0-0.5)	216	1.8 (0.9-3.3)	522	4.9 (3.2-7.6)	585	1.7 (0.3-9.1)	141	3.1 (1.7-5.7)	726	-1.1 (-5.2-3.0)	1.6 (-1.3-4.5)	1.3 (-0.8-3.5)
Community health worker	-	0	0.0	1	0.0	1	-	0	-	0	-	0	-	-	-

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Table 2.2.3: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE								
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Uganda - Total	25.4 (18.4-34)	533	6.5 (3.6-11.4)	1,863	10.4 (6.4-16.4)	2,396	25.6 (20.8-31.2)	1,411	16.1 (10.0-24.7)	1,717	18 (12.8-24.7)	3,128	-2.8 (-9.8-4.2)	0.7 (-1.9-3.2)	0.4 (-2.0.2.3)
Public health facility	8.8 (3.7-19.5)	76	0.4 (0.1-1.6)	686	1.2 (0.4-3.6)	762	13.4 (7.6-22.6)	144	2.7 (1.6-4.7)	534	4.3 (2.9-6.3)	678	4.7 (-5.6-14.9)	2.3 (0.8-3.9)	3 (0.9-5.2)
Private not-for-profit health facility	31.1 (3.4-85.3)	3	17.3 (5.0-45.5)	27	19.0 (6.2-45.2)	30	53.9 (42.9-64.6)	12	33.0 (14.8-58.3)	27	35.2 (17.8-57.6)	39	22.9 (-31.7-77.4)	15.6 (-14.3-45.6)	16.2 (-11.8-44.2)
Private for-profit outlet			24.0 (15.9-34.6)												
Health facility/pharmacy	37.1 (29.5-45.5)	381	34.6)	354	30.4 (24.6-36.8)	735	41.0 (34.3-48.2)	813	26.8 (20.6-34.1)	385	33.1 (29.0-37.5)	1,198	3.9 (-6.5-14.4)	2.8 (-8.6-14.2)	2.7 (-4.6-10.1)
Drug store	12.3 (3.3-36.5)	70	3.6 (1.9-7.0)	748	4.8 (2.4-9.4)	818	6.7 (4.5-9.7)	436	4.3 (2.5-7.3)	675	4.7 (3.0-7.1)	1,111	-5.6 (-20.6-9.5)	0.7 (-2.6-4)	-0.1 (-3.9-3.7)
General retailer/itinerant	0.0	2	0.0	19	0.0	21	0.0	4	0.0	14	0.0	18	0.0	0.0	0.0
Total	26.3 (18.4-36.2)	453	7.2 (4.1-12.4)	1,121	11.5 (7.2-18.1)	1,574	26.0 (21.1-31.7)	1,253	9.1 (5.7-14.2)	1,074	13.1 (9.5-17.8)	2,327	-0.3 (-10.5-9.9)	1.9 (-3.8-7.6)	1.6 (-5.1-8.2)
Community health worker	0.0	1	2.0 (0.1-22.8)	29	2.0 (0.1-21.9)	30	53.7 (6.9-94.8)	2	71.0 (53.5-84)	82	71.0 (53.5-83.9)	84	53.7 (-14.5-121.9)	69.0 (52.7-85.3)	69 (52.8-85.2)
Zanzibar - Total	38.6	189	5.7	123	25.6	312	17.6	222	6.7	119	13.8	341	-21.1	1.0	-11.9
Public health facility	8.9	56	2.4	83	5.0	139	12.5	48	2.7	75	6.5	123	3.6	0.3	1.5
Private not-for-profit health facility	0.0	2	0.0	1	0.0	3	100.0	1	100.0	1	100.0	2	100.0	100.0	100.0
Private for-profit outlet															
Health facility/pharmacy	76.7	73	36.4	11	71.4	84	36.6	82	25.0	16	34.7	98	-40.1	-11.4	-36.7
Drug store	21.1	57	4.2	24	16.0	81	1.1	88	4.2	24	1.8	112	-19.9	0.0	-14.3
General retailer/itinerant	0.0	1	0.0	4	0.0	5	33.3	3	0.0	3	16.7	6	33.3	0.0	16.7
Total	51.9	131	12.8	39	42.9	170	18.5	173	11.6	43	17.1	216	-33.4	-1.2	-25.8
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.2.4: Outlets with oral artemisinin monotherapy in stock at baseline (2010) and endline (2011)

Percentage of outlets that had oral artemisinin monotherapy in stock (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE Urban % (95% CI)	N	BASELINE Rural % (95% CI)	N	BASELINE Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	ENDLINE Rural % (95% CI)	N	ENDLINE Total % (95% CI)	N	PPC Urban % (95% CI)	PPC Rural % (95% CI)	PPC Total % (95% CI)
Ghana - Total	61.1 (56.1-65.9)	601	46.4 (39-53.9)	543	49.2 (43.2-55.3)	1,144	46.8 (38.8-54.9)	574	30.8 (22.7-40.3)	382	40.5 (34.5-46.9)	956	-14.3 (-23.7- -4.9)	-15.6 (-27.1- -4.1)	-8.7 (-17.3-0)
Public health facility	6.2 (3.1-12.2)	68	6.3 (3.1-12.5)	135	6.3 (3.4-11.4)	203	0.9 (0.2-4.6)	94	1.8 (0.6-5.1)	204	1.5 (0.6-3.8)	298	-5.3 (-9.8- -0.8)	-4.5 (-9.3-0.2)	-4.8 (-8.8- -0.7)
Private not-for-profit health facility	0.0	5	13.8 (2.5-50.3)	9	11.4 (2.1-43.8)	14	0.0	4	21.8 (8.7-45.1)	9	13.3 (4.5-33)	13	0.0	8.1 (-20.3-36.4)	1.9 (-20.4-24.2)
Private for-profit outlet															
Health facility/pharmacy	69.5 (61.8-76.2)	315	41.8 (31.9-52.3)	62	58.8 (52.5-64.9)	377	61.5 (54.2-68.3)	271	13.6 (6.2-27.3)	26	55.2 (47.3-62.9)	297	-8.0 (-18.0-2.1)	-28.2 (-42.5- -13.8)	-3.6 (-13.5-6.3)
Drug store	63.1 (55.4-70.1)	211	52.6 (44-61.1)	331	53.9 (46.3-61.4)	542	47.3 (38.5-56.3)	202	42.8 (31.9-54.5)	140	45.5 (38.6-52.7)	342	-15.8 (-27.3- -4.2)	-9.8 (-24.0-4.4)	-8.4 (-18.6-1.9)
General retailer/itinerant	0.0	2	0.0	3	0.0	5	0.0	3	0.0	3	0.0	6	0.0	0.0	0.0
Total	65.7 (60.5-70.6)	528	51.3 (43.1-59.5)	396	54.2 (47.4-60.8)	924	50.6 (42.7-58.5)	476	39.6 (29.4-50.9)	169	46.9 (40.4-53.4)	645	-15.1 (-24.4- -5.8)	-11.7 (-25.3-1.8)	-7.3 (-16.6-2.0)
Community health worker	-	0	-	3	-	3	-	0	-	0	-	0			
Kenya - Total	1.2 (0.3-4.4)	1,024	5.3 (0.9-26)	870	4.3 (0.8-20.6)	1,894	0.3 (0.0-2.0)	1,044	0 (0.0-0.3)	800	0.1 (0.0-0.5)	1,844	-0.9 (-2.5-0.8)	-5.3 (-14.4-3.8)	-4.2 (-11.4-2.9)
Public health facility	0.0	137	0.0	259	0.0	396	0.0	137	0.0	294	0.0	431	0.0	0.0	0.0
Private not-for-profit health facility	0.0	23	0.0	15	0.0	38	0.0	19	0.0	27	0.0	46	0.0	0.0	0.0
Private for-profit outlet															
Health facility/pharmacy	3.5 (0.8-14.6)	357	0.0	103	1.6 (0.4-6.7)	460	1.0 (0.1-6.7)	405	0.2 (0.0-1.8)	112	0.5 (0.1-2.4)	517	-2.6 (-8.1-3.0)	0.2 (-0.2-0.7)	-1.1 (-3.5-1.4)
Drug store	0.4 (0.1-2.4)	267	17.2 (4.6-47.1)	155	13.5 (3.1-42.9)	422	0.0	328	0.0	145	0.0	473	-0.4 (-1.2-0.3)	-17.2 (-37.6-3.3)	-13.5 (-31.6-4.6)
General retailer/itinerant	0.0	236	0.0	318	0.0	554	0.0	155	0.0	222	0.0	377	0.0	0.0	0.0
Total	1.4 (0.3-5.1)	860	6.5 (1.1-30)	576	5.2 (1.0-23.8)	1436	0.3 (0.0-2.2)	888	0.1 (0.0-0.4)	479	0.1 (0.0-0.6)	1,367	-1.1 (-2.9-0.8)	-6.4 (-17.3-4.5)	-5.1 (-13.6-3.4)
Community health worker	0.0	4	0.0	20	0.0	24	-	0	-	0	-	0			
Madagascar - Total	0.2 (0.1-0.6)	1,438	0 (0-0.2)	962	0.1 (0.0-0.2)	2,400	0.1 (0.0-0.3)	971	0.0	1,347	0.0	2,318	-0.1 (-0.4-0.1)	0.0 (-0.1-0.0)	-0.1 (-0.1-0.0)
Public health facility	0.0	67	0.0	444	0.0	511	0.0	62	0.0	514	0.0	576	0.0	0.0	0.0
Private not-for-profit health facility	0.0	6	-	0	0.0	6	0.0	25	0.0	5	0.0	30	0.0	-	0/0
Private for-profit outlet															
Health facility/pharmacy	1.5 (0.5-4.8)	122	0.0	9	0.9 (0.3-2.6)	131	0.6 (0.2-1.7)	102	0.0	12	0.3 (0.1-1.2)	114	-1.0 (-2.8-0.9)	0.0	-0.6 (-1.6-0.5)
Drug store	0.5 (0.1-3.2)	28	0.6 (0.1-4.8)	227	0.6 (0.1-2.6)	255	0.0	28	0.0	347	0.0	375	-0.5 (-1.5-0.4)	-0.6 (-1.9-0.7)	-0.6 (-1.5-0.3)
General retailer/itinerant	0.0	1,213	0.0	244	0.0	1,457	0.0	739	0.0	404	0.0	1,143	0.0	0.0	0.0
Total	0.2 (0.1-0.6)	1,363	0 (0-0.3)	480	0.1 (0.0-0.2)	1,843	0.1 (0.0-0.3)	869	0.0	763	0.0 (0.0-0.1)	1,632	-0.2 (-0.4-0.1)	0.0 (-0.1-0.0)	-0.1 (-0.1-0.0)
Community health worker	0.0	2	0.0	38	0.0	40	0.0	15	0.0	65	0.0	80	0.0	0.0	0.0
Niger - Total	1.6 (0.8-3.0)	833	0 (0-0.2)	1,198	0.3 (0.2-0.7)	2,031	1.1 (0.7-1.6)	924	0.0	738	0.3 (0.2-0.5)	1,662	-0.5 (-1.6-0.6)	0.0 (-0.1-0.0)	-0.1 (-0.3-0.2)
Public health facility	0.0	91	0.5 (0.1-1.9)	385	0.4 (0.1-1.7)	476	0.8 (0.2-3.2)	102	0.0	220	0.1 (0.0-0.4)	322	0.8 (-0.3-1.8)	-0.5 (-1.1-0.2)	-0.3 (-0.9-0.3)
Private not-for-profit health facility	0.0	4	-	0	0.0	4	0.0	2	0.0	1	0.0	3	0.0	-	0.0
Private for-profit outlet															
Health facility/pharmacy	14.8 (8.5-24.4)	106	0.0	12	12.6 (7.1-21.5)	118	9.8 (5.5-17)	95	0.0	4	9.3 (5.2-16.1)	99	-4.9 (-14.5-4.6)	0.0	-3.4 (-12.1-5.4)
Drug store	12.1 (2.3-45.2)	14	0.0	7	4.5 (0.6-25)	21	13.1 (3.1-41.7)	15	0.0	3	5.8 (1.3-22.5)	18	1.0 (-24.7-26.8)	0.0	1.4 (-10.4-13.2)
General retailer/itinerant	0.8 (0.2-2.5)	617	0.0	792	0.2 (0.0-0.5)	1,409	0.4 (0.2-1.2)	710	0.0	510	0.1 (0.0-0.3)	1,220	-0.3 (-1.3-0.7)	0.0	0.0 (-0.3-0.2)
Total	1.6 (0.8-3.2)	737	0.0	811	0.3 (0.2-0.7)	1,548	1.1 (0.7-1.6)	820	0.0	517	0.3 (0.2-0.5)	1,337	-0.6 (-1.7-0.6)	0.0	0.0 (-0.3-0.2)
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0	-	-	-
Nigeria - Total	46.6 (34.6-59.1)	1,726	33.3 (23.3-45.1)	361	43.8 (34.0-54.1)	2,087	35.9 (24.7-48.8)	1,020	30.2 (25.0-35.9)	469	33.6 (26.7-41.4)	1,489	-10.8 (-28.2-6.7)	-3.1 (-15.4-9.1)	-10.1 (-22.6-2.3)
Public health facility	17.3 (10.7-26.7)	181	3.9 (1.3-11.6)	45	4.7 (1.9-11.4)	226	24.6 (10.6-47.3)	42	10.4 (4.4-22.3)	52	14.9 (7.8-26.6)	94	7.3 (-13.0-27.6)	6.5 (-3.0-15.9)	10.2 (0.1-20.3)
Private not-for-profit health facility	30.9 (7.3-71.7)	6	0.0	2	2.6 (0.3-17.1)	8	26.4 (3.3-79.3)	6	46.3 (5.7-92.4)	3	33.9 (8.0-75.1)	9	-4.5 (-63.2-54.3)	46.3 (-19.4-111.9)	31.3 (-8.5-71.1)
Private for-profit outlet															
Health facility/pharmacy	66.5 (60.3-72.1)	733	63.9 (44.5-79.6)	24	64.5 (50.4-76.5)	757	55.8 (37.8-72.4)	95	5.6 (1.6-17.5)	30	37.5 (22.4-55.5)	125	-10.7 (-29.6-8.2)	-58.3 (-77.6- -39.0)	-27.0 (-48.6- -5.4)
Drug store	47.7 (35.3-60.3)	715	41.7 (31.0-53.3)	268	46.7 (36.1-57.7)	983	35.9 (23.4-50.7)	801	36.6 (30.4-43.3)	361	36.2 (27.7-45.6)	1,162	-11.8 (-30.6-7.1)	-5.1 (-18.0-7.9)	-10.6 (-24.7-3.6)
General retailer/itinerant	39.0 (21.4-60.0)	85	3.1 (0.4-19.3)	16	32.0 (17.5-51.1)	101	14.7 (5.0-36.0)	73	10.2 (2.5-34.1)	19	13.6 (5.6-29.5)	92	-24.3 (-49.3-0.7)	7.2 (-7.9-22.2)	-18.4 (-39.2-2.3)
Total	47.0 (34.8-59.5)	1,533	40.9 (30.8-51.9)	308	45.9 (35.7-56.4)	1,841	36.3 (24.6-50.0)	969	32.8 (27.2-38.8)	410	35.0 (27.3-43.5)	1,379	-10.6 (-28.6-7.3)	-8.1 (-20.2-4)	-10.9 (-24.1-2.4)
Community health worker	1.0 (0.1-9.6)	6	2.2 (0.3-16.6)	6	1.7 (0.3-8.5)	12	0.0	3	0.0	4	0.0	7	-1.0 (-3.4-1.3)	-2.2 (-6.8-2.5)	-1.7 (-4.5-1.1)
Tanzania – mainland - Total	0.2 (0.1-0.6)	317	0.1 (0.0-0.4)	284	0.1 (0.0-0.3)	601	0.0 (0.0-0.1)	596	0.0	191	0 (0.0-0.1)	787	-0.1 (-0.4-0.1)	-0.1 (-0.2-0.1)	-0.1 (-0.2-0.0)
Public health facility	0.0	5	0.0	51	0.0	56	0.0	7	0.0	48	0.0	55	0.0	0.0	0.0
Private not-for-profit health facility	0.0	6	0.0	16	0.0	22	0.0	4	0.0	2	0.0	6	0.0	0.0	0.0
Private for-profit outlet															
Health facility/pharmacy	1.1 (0.4-3.3)	220	5.2 (0.6-34.7)	12	1.8 (0.6-5.8)	232	0.2 (0-1)	321	0.0	16	0.2 (0.0-0.7)	337	-0.9 (-2.1-0.4)	-5.2 (-16.2-5.9)	-1.7 (-3.8-0.5)
Drug store	0.0	85	0.0	144	0.0	229	0.0	259	0.0	113	0.0	372	0.0	0.0	0.0
General retailer/itinerant	0.0	1	0.0	60	0.0	61	0.0	5	0.0	12	0.0	17	0.0	0.0	0.0
Total	0.2 (0.1-0.7)	306	0.1 (0.0-0.6)	216	0.1 (0.0-0.4)	522	0.0	585	0.0	141	0.0	726	-0.2 (-0.4-0.1)	-0.1 (-0.2-0.1)	-0.1 (-0.2-0.0)
Community health worker	-	0	-	1	-	1	-	0	-	0	-	0	-	-	-

Table 2.2.4: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE						PERCENTAGE POINT CHANGE		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Uganda – Total	0.3 (0.1-0.7)	527	0.2 (0.1-0.7)	1,862	0.3 (0.1-0.6)	2,389	0.1 (0.0-1.0)	1,408	0.0	1,715	0.0	3,123	-0.2 (-0.5-0.2)	-0.2 (-0.5-0.0)	-0.2 (-0.4- 0.0)
Public health facility	0.0	76	0.0	686	0.0	762	0.0	144	0.0	534	0.0	678	0.0	0.0	0.0
Private not-for-profit health facility	0.0	3	3.8 (0.4-26.6)	27	3.3 (0.4-23.5)	30	0.0	12	0.0	27	0.0	39	0.0	-3.8 (-11.7-4.1)	-3.3 (-10.2-3.5)
Private for-profit outlet															
Health facility/pharmacy	0.5 (0.3-0.9)	375	0.4 (0.1-1.3)	354	0.5 (0.3-0.8)	729	0.3 (0-2.3)	810	0.0	383	0.1 (0.0-0.8)	1,193	-0.3 (-0.9-0.3)	-0.4 (-0.8-0.1)	-0.3 (-0.7- 0.0)
Drug store	0.0	70	0.1 (0-0.8)	747	0.1 (0.0-0.7)	817	0.0	436	0.0	675	0.0	1,111	0.0	-0.1 (-0.4-0.1)	-0.1 (-0.3-0.1)
General retailer/itinerant	0.0	2	0.0	19	0.0	21	0.0	4	0.0	14	0.0	18	0.0	0.0	0.0
Total	0.3 (0.1-0.7)	447	0.2 (0.1-0.5)	1,120	0.2 (0.1-0.4)	1,567	0.1 (0.0-1.1)	1,250	0.0	1,072	0.0	2,322	-0.2 (-0.6-0.2)	-0.2 (-0.4-0)	-0.2 (-0.3- 0.0)
Community health worker	0.0	1	0.0	29	0.0	30	0.0	2	0.0	82	0.0	84	0.0	0.0	0.0
Zanzibar – Total	26.5	189	3.3	123	17.3	312	0.9	222	0.8	119	0.9	341	-25.6	-2.4	-16.4
Public health facility	5.4	56	0.0	83	2.2	139	0.0	48	0.0	75	0.0	123	-5.4	0.0	-2.2
Private not-for-profit health facility	-	2	0.0	1	0.0	3	0.0	1	0.0	1	0.0	2	0.0	0.0	0.0
Private for-profit outlet															
Health facility/pharmacy	47.9	73	27.3	11	45.2	84	1.2	82	6.3	16	2.0	98	-46.7	-21.0	-43.2
Drug store	21.1	57	4.2	24	16	81	0.0	88	0.0	24	0.0	112	-21.1	-4.2	-16.0
General retailer/itinerant	0.0	1	0.0	4	0.0	5	33.3	3	0.0	3	16.7	6	33.3	0.0	16.7
Total	35.9	131	10.3	39	30	170	1.2	173	2.3	43	1.4	216	-34.7	-7.9	-28.6
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.2.5: Outlets with non-quality-assured ACTs in stock at baseline (2010) and endline (2011)

Indicator 1.4 Percentage of outlets that had non-quality-assured ACTs in stock (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N	PERCENTAGE POINT CHANGE Urban % (95% CI)	Rural % (95% CI)	Total % (95% CI)
Ghana - Total	85.3 (80.6-89.0)	601	66.7 (61.0-71.9)	543	70.2 (65.5-74.6)	1,144	73.7 (67.2-79.3)	574	56.5 (48.8-63.9)	382	67.0 (61.8-71.8)	956	-11.6 (-18.9- -4.3)	-10.1 (-19.4- -0.9)	-3.2 (-9.9-3.4)
Public health facility	69.9 (54.4-81.9)	68	67.8 (57.2-76.9)	135	68.1 (58.7-76.2)	203	65.1 (54.7-74.2)	94	61.5 (51.6-70.5)	204	62.6 (55-69.5)	298	-4.8 (-21.8-12.1)	-6.3 (-20.0-7.3)	-5.5 (-16.8-5.7)
Private not-for-profit health facility	100.0	5	100.0	9	100.0	14	61.6 (23.6-89.3)	4	88.3 (52.2-98.1)	9	77.8 (52.9-91.7)	13	-38.4 (-76.9-0.2)	-11.7 (-31.4-8.1)	-22.2 (-41.6- -2.7)
Private for-profit outlet															
Health facility/pharmacy	98.7 (96.6-99.5)	315	96.8 (86.3-99.3)	62	98.0 (94.4-99.3)	377	91.6 (82.8-96.2)	271	73.7 (48.1-89.5)	26	89.3 (80.8-94.3)	297	-7.0 (-13.4- -0.7)	-23.1 (-44.9- -1.3)	-8.7 (-15.4- -1.9)
Drug store	75.7 (70.3-80.3)	211	64.6 (58.3-70.4)	331	66.0 (60.4-71.2)	542	69.2 (62.6-75.1)	202	52.7 (42.7-62.4)	140	62.7 (57.1-68.1)	342	-6.5 (-14.4-1.5)	-11.9 (-23.5- -0.4)	-3.3 (-10.9-4.4)
General retailer/itinerant	0.0	2	0.0	3	0.0	5	0.0	3	0.0	3	0.0	6	0.0	0.0	0.0
Total	86.0 (81.5-89.5)	528	66.3 (60.2-71.9)	396	70.2 (65.1-74.9)	924	74.5 (67.9-80.1)	476	53.2 (43.5-62.7)	169	67.3 (61.5-72.6)	645	-11.5 (-18.7- -4.3)	-13.1 (-24.3 -1.9)	-3.0 (-10.3-4.3)
Community health worker	-	0	0.0	3	0.0	3	-	0	-	0	-	0			
Kenya - Total	43.6 (36.5-51.0)	1,025	11.2 (8.5-14.6)	870	18.9 (15.8-22.4)	1,895	40.8 (33.7-48.4)	1,046	15.6 (11.3-21.2)	801	22.7 (18.7-27.3)	1,847	-2.8 (-13.1-7.5)	4.4 (-1.3-10.1)	3.8 (-1.6-9.2)
Public health facility	8.0 (4.4-14.0)	137	2.4 (1.0-5.5)	259	3.7 (2.0-6.5)	396	11.5 (5.7-21.8)	137	5.8 (2.8-11.8)	294	6.2 (3.3-11.5)	431	3.5 (-5.4-12.5)	3.4 (-1.2-8.1)	2.6 (-1.8-7.0)
Private not-for-profit health facility	59.7 (41.8-75.2)	23	17.7 (3.8-53.8)	15	29.7 (13.6-53)	38	24.2 (9.9-48.3)	19	5.4 (1.3-19.4)	27	9.1 (3.9-19.9)	46	-35.4 (-61.4- -9.5)	-12.3 (-37.6-13.1)	-20.6 (-42.2-1.0)
Private for-profit outlet															
Health facility/pharmacy	73.8 (61.4-83.2)	358	39.9 (27.8-53.4)	103	55.1 (44.6-65.2)	461	54.8 (43.9-65.2)	407	33.6 (21.6-48.2)	113	41.7 (33.3-50.7)	520	-19.0 (-34.3- -3.7)	-6.3 (-25-12.4)	-13.4 (-26.9-0.1)
Drug store	68.5 (58.0-77.4)	267	18.1 (13.7-23.5)	155	29.2 (20.5-39.8)	422	54.0 (44.2-63.5)	328	30 (20.7-41.4)	145	39.6 (31.5-48.4)	473	-14.5 (-28.2- -0.9)	11.9 (0.5-23.4)	10.4 (-2.4-23.2)
General retailer/itinerant	0.0	236	0.0	318	0.0	554	0.0	155	1.8 (0.6-5.2)	222	1.5 (0.5-4.3)	377		1.8 (-0.1-3.7)	1.5 (-0.1-3.1)
Total	47.5 (39.5-55.6)	861	12.3 (9.2-16.3)	576	21.0 (17.3-25.3)	1,437	42.3 (34.7-50.2)	890	17.9 (12.9-24.3)	480	25.5 (21.0-30.6)	1,370	-5.2 (-16.4-5.9)	5.6 (-1.1-12.2)	4.5 (-1.7-10.7)
Community health worker	0.0	4	9.0 (1.2-45.1)	20	8.8 (1.2-43.9)	24	-	-	-	-	-	-			
Madagascar - Total	5.9 (2.9-11.8)	1,440	2.7 (1.4-5.2)	962	3.4 (2.0-5.6)	2,402	4.8 (2.4-9.3)	971	0.7 (0.4-1.2)	1,348	1.3 (0.8-2.1)	2,319	-1.1 (-6.4-4.1)	-2.0 (-3.8- -0.2)	-2.1 (-3.9- -0.3)
Public health facility	19.3 (11.7-30.2)	67	30.5 (20.3-43.1)	444	27.4 (19.7-36.7)	511	0.4 (0.1-2.2)	62	4.1 (2.4-6.8)	515	3.7 (2.2-6.1)	577	-18.9 (-28.0-9.8)	-26.4 (-38- -14.9)	-23.7 (-32.3- -15.1)
Private not-for-profit health facility	21.0 (5.6-54.5)	6	-	0	21.0 (5.6-54.5)	6	6.3 (2.0-18.4)	25	0.0	5	2.4 (0.7-8.5)	30	-14.7 (-39.6-10.2)	-	-18.6 (-42.7-5.5)
Private for-profit outlet															
Health facility/pharmacy	36.3 (20.6-55.7)	124	0.0	9	20.6 (8.9-40.8)	133	31.9 (17.4-51.2)	102	0.0	12	17.3 (7.0-36.8)	114	-4.4 (-29.4-20.6)	0.0	-3.3 (-24.6-18.1)
Drug store	0.0	28	0.3 (0-1.8)	227	0.2 (0.0-1.2)	255	10.6 (4.5-23.2)	28	0.8 (0.3-2.4)	347	1.8 (0.8-4.0)	375	10.6 (1.9-19.4)	0.5 (-0.5-1.5)	1.7 (0.2-3.1)
General retailer/itinerant	0.0	1,213	0.0	244	0.0	1,457	0.0	739	0.0	404	0.0	1,143			
Total	4.2 (1.4-11.7)	1,365	0.0 (0.0-0.1)	480	0.9 (0.3-2.7)	1,845	5.3 (2.7-10.3)	869	0.1 (0.0-0.2)	763	0.9 (0.4-2.0)	1,632	1.1 (-4.5-6.8)	0.1 (0.0-0.1)	-0.1 (-1.3-1.1)
Community health worker	0.0	2	2.9 (0.3-23.4)	38	2.9 (0.3-23.3)	40	1.8 (0.4-7.7)	15	1.8 (0.4-7.7)	65	1.8 (0.4-7.5)	80	0.0	-1.1 (-8.1-5.9)	-1.1 (-5.8-3.6)
Niger - Total	9.5 (7.0-12.7)	833	2.5 (1.8-3.5)	1,198	3.9 (3.1-5.0)	2,031	13.0 (10.9-15.4)	924	6.6 (4.9-8.7)	738	8.3 (6.9-10.0)	1,662	3.5 (0.0-7.0)	4.0 (2.0-6.1)	4.4 (2.6-6.2)
Public health facility	55.8 (38.8-71.4)	91	23.3 (16.8-31.4)	385	26.5 (20.1-34.0)	476	60.2 (45.2-73.5)	102	29.2 (19.7-40.8)	220	33.5 (24.8-43.6)	322	4.5 (-17.6-26.5)	5.8 (-6.9-18.6)	7.0 (-4.6-18.7)
Private not-for-profit health facility	6.6 (0.6-43.7)	4	-	0	6.6 (0.6-43.7)	4	49.2 (11.3-88.1)	2	100.0	1	83.3 (41.4-97.2)	3	42.6 (-9.9-95.1)	-	76.7 (46.1-107.3)
Private for-profit outlet															
Health facility/pharmacy	62.5 (43.2-78.5)	106	32.5 (7.9-73.2)	12	58.1 (39.6-74.6)	118	57.4 (45.8-68.3)	95	91.6 (61.9-98.6)	4	59.4 (47.8-70.0)	99	-5.0 (-26.5-16.5)	59.0 (18.6-99.5)	1.3 (-20.0-22.6)
Drug store	62.6 (36.1-83.1)	14	0.0	7	23 (8.9-47.7)	21	87.6 (68.1-95.9)	15	0.0	3	38.8 (19.1-63)	18	25.0 (-3.2-53.3)	0.0	15.8 (-14.5-46.2)
General retailer/itinerant	3.7 (1.9-6.9)	617	0.4 (0.1-1.1)	792	1.0 (0.6-1.9)	1,409	6.8 (5.2-8.9)	710	3.5 (2.3-5.4)	510	4.4 (3.3-5.8)	1,220	3.2 (0.2-6.1)	3.1 (1.6-4.7)	3.4 (2.0-4.7)
Total	7.6 (5.4-10.5)	737	0.4 (0.2-1.1)	811	1.9 (1.4-2.7)	1,548	10.5 (8.8-12.5)	820	3.6 (2.4-5.5)	517	5.6 (4.4-7.0)	1,337	3.0 (-0.1-6.0)	3.2 (1.6-4.7)	3.7 (2.2-5.1)
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0			-
Nigeria - Total	24.8 (14.6-38.9)	1,726	15.5 (10.6-22.1)	359	22.8 (14.5-34.0)	2,085	30.0 (19.6-43.1)	1,020	21.4 (15.9-28.2)	469	26.6 (20.1-34.4)	1,489	5.2 (-11.8-22.3)	5.9 (-2.4-14.3)	3.8 (-8.3-15.9)
Public health facility	44.0 (33.3-55.3)	180	16.0 (6.0-36.5)	45	17.7 (7.7-35.8)	225	44.3 (19.8-72.0)	42	16.1 (6.9-33.2)	52	25.2 (13.8-41.4)	94	0.3 (-30.6-31.2)	0.1 (-19.4-19.6)	7.5 (-12.1-27.1)
Private not-for-profit health facility	70.2 (33.9-91.5)	7	85.5 (29.0-98.8)	2	83.9 (34.0-98.1)	9	1.2 (0.1-10.8)	6	0.0	3	0.7 (0.1-6.2)	9	-69.0 (-100.8-37.2)	-85.5 (-118.4- -52.5)	-83.1 (-114.2- -52.0)
Private for-profit outlet															
Health facility/pharmacy	63.3 (53.2-72.4)	734	42.4 (30.9-54.7)	24	47.5 (41.2-53.9)	758	55.2 (42.8-66.9)	95	20.6 (8.4-42.6)	30	42.6 (31.2-54.8)	125	-8.2 (-23.8-7.5)	-21.7 (-42.7- -0.8)	-4.9 (-18.5-8.7)
Drug store	24.7 (14.1-39.7)	714	12.1 (7.0-20.0)	266	22.8 (13.6-35.7)	980	27.6 (16.9-41.5)	801	23.3 (17.4-30.4)	361	25.9 (18.9-34.5)	1,162	2.9 (-15.0-20.7)	11.2 (2.2-20.3)	3.1 (-10.4-16.6)
General retailer/itinerant	22.1 (10.7-40.3)	85	0.0	16	17.8 (8.0-35.0)	101	21.8 (8.9-44.3)	73	7.7 (1.3-34.6)	19	18.2 (8.1-35.8)	92	-0.3 (-23.5-22.9)	7.7 (-5.4-20.8)	0.4 (-18.6-19.4)
Total	24.9 (14.6-39.1)	1,533	15.5 (9.8-23.7)	306	23.2 (14.5-35.0)	1,839	29.8 (19.1-43.2)	969	22.4 (16.6-29.5)	410	27.1 (20.1-35.4)	1,379	4.9 (-12.4-22.3)	6.9 (-2.5-16.3)	3.8 (-8.9-16.6)
Community health worker	0.0	6	2.3 (0.3-17.3)	6	1.3 (0.2-9.4)	12	0.0	3	0.0	4	0.0	7		-2.3 (-7.1-2.6)	-1.3 (-3.9-1.3)
Tanzania – mainland - Total	36.6 (27.2-47.0)	317	7.3 (3.4-14.9)	284	14.2 (10-19.9)	601	48.9 (35.1-62.9)	596	11.7 (5.2-24.2)	191	25.3 (16.7-36.5)	787	12.3 (-4.9-29.6)	4.5 (-6-14.9)	11.1 (0.2-22.1)
Public health facility	16.0 (1.7-67.2)	5	4.2 (1.4-12.0)	51	5.1 (1.9-12.6)	56	14.5 (1.9-60.2)	7	5.1 (1.6-14.8)	48	5.5 (2.0-14.5)	55	-1.5 (-42.9-39.9)	0.9 (-6.3-8.1)	0.4 (-6.8-7.7)
Private not-for-profit health facility	48.7 (20.0-78.3)	6	25.9 (8.8-56)	16	30.1 (13.1-55.3)	22	75.2 (22.9-96.9)	4	0.0	2	40.0 (11.7-77.1)	6	26.4 (-27.5-80.4)	-25.9 (-50.4- -1.4)	9.9 (-34.2-54)
Private for-profit outlet															
Health facility/pharmacy	89.4 (64.2-97.5)	220	33.0 (12.5-63.0)	12	79.0 (60.0.1-90.4)	232	74.3 (54.8-87.4)	321	43.5 (11.7-81.7)	16	66.3 (45.8-82.1)	337	-15.1 (-37.0-6.8)	10.5 (-40.1-61.0)	-12.7 (-36.7-11.3)
Drug store	25.9 (16.0-39.1)	85	9.4 (3.0-25.9)	144	15.0 (9.0-23.9)	229	45.3 (28.8-62.8)	259	15.0 (6.3-31.7)	113	28.2 (17.7-41.9)	372	19.3 (-1.6-40.3)	5.7 (-10.2-21.5)	13.2 (-0.9-27.4)
General retailer/itinerant	0.0	1	0.9 (0.1-6.4)	60	0.9 (0.1-6.4)	61	31.3 (4.3-82.3)	5	0.0	12	2.8 (0.3-23.9)	17	31.3 (-17.9-80.5)	-0.9 (-2.6-0.9)	1.9 (-4.7-8.5)
Total	37.2 (26.5-49.3)	306	6.6 (2.3-17.5)	216	15.1 (10.1-22.0)	522	49.3 (35.3-63.3)	585	14.6 (6.0-31.1)	141	29.8 (19.9-42.1)	726	12.1 (-6.2-30.4)	8.0 (-5.7-21.7)	14.7 (2.2-27.3)
Community health worker	-	0	0.0	1	0.0	1	-	0	-	0	-	0	-	-	-

Table 2.2.5: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE						PERCENTAGE POINT CHANGE		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Uganda - Total	75.7 (61.6-85.8)	540	40.2 (28.9-52.6)	1,866	47.5 (36.0-59.2)	2,406	51.9 (37.5-66.1)	1,412	22.0 (12.9-35.0)	1,717	28.1 (19.2-39.2)	3,129	-23.7 (-42.6- -4.9)	-18.1 (-34.3- -2.0)	-19.4 (-34.7- -4)
Public health facility	22.1 (14.3-32.5)	76	6.4 (3.5-11.3)	687	8.0 (5.0-12.6)	763	28.7 (20.1-39)	144	2.3 (1.2-4.1)	534	6.0 (4.1-8.8)	678	6.5 (-6.4-19.5)	-4.1 (-8- -0.3)	-1.9 (-6.2-2.3)
Private not-for-profit health facility	100.0	4	25.8 (12.8-45.2)	27	36.7 (19.6-58.1)	31	72.3 (30-94.1)	12	14.8 (4.4-39.2)	27	20.8 (8.9-41.2)	39	-27.7 (-63.6-8.2)	-11.1 (-34-11.9)	-16.0 (-41.4-9.5)
Private for-profit outlet															
Health facility/pharmacy	83.9 (72.4-91.2)	387	63.5 (45.6-78.3)	355	73.4 (60.5-83.3)	742	64.7 (56.9-71.8)	814	47.7 (32.4-63.4)	385	55.2 (45.7-64.4)	1,199	-19.2 (-30.9- -7.5)	-15.8 (-38.7-7.1)	-18.2 (-32.8- -3.6)
Drug store	72.0 (57.6-82.9)	70	40.7 (28.8-53.8)	749	44.8 (33.3-57.0)	819	38.6 (27.0-51.8)	436	23.0 (15.6-32.6)	675	25.4 (18.7-33.5)	1,111	-33.4 (-51.1- -15.6)	-17.6 (-32.6- -2.6)	-19.4 (-33.3- -5.6)
General retailer/itinerant	0.0	2	14.5 (5.3-34.1)	19	12.6 (4.5-30.2)	21	33.7 (4.7-83.9)	4	0.0	14	1.9 (0.2-14.3)	18	33.7 (-17.8-85.3)	-14.5 (-28- -1.0)	-10.6 (-23.1-1.9)
Total	77.9 (65.0-87.0)	459	44.1 (30.9-58.2)	1,123	51.8 (39.1-64.3)	1,582	53.3 (39.3-66.8)	1,254	27.8 (17.4-41.3)	1,074	33.8 (24.3-44.8)	2,328	-24.6 (-42.2- -6.9)	-16.3 (-34.4-1.9)	-18.0 (-34.2- -1.8)
Community health worker	100.0	1	65.1 (29.7-89.2)	29	65.9 (31.7-89.0)	30	0.0	2	0.2 (0.0-2.0)	82	0.2 (0.0-2.0)	84	-100.0	-64.9 (-95.9- -33.9)	-65.7 (-95.2- -36.3)
Zanzibar - Total	43.4	189	21.1	123	34.6	312	23.9	222	9.2	119	18.8	341	-19.5	-11.9	-15.8
Public health facility	46.4	56	22.9	83	32.4	139	8.3	48	8.0	75	8.1	123	-38.1	-14.9	-24.2
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3	100.0	1	0.0	1	50.0	2	0.0	-100.0	-50.0
Private for-profit outlet															
Health facility/pharmacy	61.6	73	36.4	11	58.3	84	43.9	82	31.3	16	41.8	98	-17.7	-5.1	-16.5
Drug store	15.8	57	8.3	24	13.6	81	13.6	88	0.0	24	10.7	112	-2.2	-8.3	-2.9
General retailer/itinerant	0.0	1	0.0	4	0.0	5	0.0	3	0.0	3	0.0	6	0.0	0.0	0.0
Total	41.2	131	15.4	39	35.3	170	27.7	173	11.6	43	24.5	216	-13.5	-3.8	-10.8
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Table 2.2.6: Outlets with quality-assured ACTs in stock at baseline (2010) and endline (2011)

Indicator 1.5 Percentage of censused outlets that had quality-assured ACTs in stock (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

| | BASELINE | | | | | | ENDLINE | | | | | | PERCENTAGE POINT CHANGE | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | | Urban | Rural | Total |
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Ghana – Total	49.7 (43.0-56.3)	601	26.2 (21.5-31.5)	543	30.7 (26.6-35.2)	1,144	85.2 (80.3-89.0)	574	78.7 (71.3-84.6)	382	82.7 (78.5-86.2)	956	35.5 (27.7-43.4)	52.5 (44.2-60.8)	51.9 (46.2-57.7)
Public health facility	84.0 (74.5-90.4)	68	86.6 (79.0-91.7)	135	86.2 (79.7-90.8)	203	73.2 (58.5-84.1)	94	83.9 (73.3-90.8)	204	80.7 (72.5-86.9)	298	-10.7 (-25.7-4.3)	-2.7 (-13.2-7.9)	-5.5 (-14.5-3.5)
Private not-for-profit health facility	49.2 (17.0-82.0)	5	52.1 (22.5-80.2)	9	51.6 (25.8-76.5)	14	100.0	4	87.5 (57.3-97.3)	9	92.4 (69-98.5)	13	50.8 (12.5-89.1)	35.4 (-1.7-72.5)	40.8 (10.8-70.9)
Private for-profit outlet															
Health facility/pharmacy	69.6 (64.6-74.2)	315	41.4 (28.5-55.7)	62	58.8 (52.3-65.0)	377	93.5 (89.2-96.1)	271	96.9 (89.4-99.1)	26	93.9 (90.2-96.3)	297	23.9 (18.1-29.7)	55.5 (41.2-69.8)	35.1 (28.2-42.1)
Drug store	28.6 (22.4-35.8)	211	17.7 (13.2-23.2)	331	19.0 (15.0-23.9)	542	82.6 (75.0-88.2)	202	75.2 (65.6-82.8)	140	79.7 (73.9-84.5)	342	54.0 (44.7-63.2)	57.5 (47.6-67.4)	60.6 (53.8-67.5)
General retailer/itinerant	0.0	2	0.0	3	0.0	5	100.0	3	66.3 (36.4-87.2)	3	83.1 (51.4-95.8)	6	100.0	66.3 (39-93.6)	83.1 (61.8-104.4)
Total	47.5 (40.4-54.8)	528	19.2 (14.8-24.6)	396	24.8 (20.8-29.4)	924	85.7 (80.0-89.9)	476	76.7 (67.6-83.9)	169	82.6 (77.8-86.6)	645	38.1 (29.5-46.8)	57.5 (48.1-66.9)	57.8 (51.7-63.8)
Community health worker	-	0	100.0	3	100.0	3	-	0	-	0	-	0			
Kenya – Total	43.7 (37.8-49.8)	1,025	27.3 (20.4-35.5)	870	31.2 (25.6-37.5)	1,895	71.9 (64.2-78.5)	1,049	63.4 (54.5-71.5)	801	65.8 (59.0-72.0)	1,850	28.2 (18.9-37.4)	36.1 (24.8-47.4)	34.6 (25.8-43.4)
Public health facility	72.8 (42.2-90.7)	137	91.8 (83.4-96.2)	259	87.5 (76.1-93.9)	396	92.0 (81.5-96.8)	137	97.4 (93.7-98.9)	294	97 (93.7-98.6)	431	19.2 (-7.2-45.6)	5.5 (-0.9-11.9)	9.5 (0.7-18.3)
Private not-for-profit health facility	69.0 (36.8-89.5)	23	85.0 (49.1-97.1)	15	80.4 (57.6-92.5)	38	93.9 (74.3-98.8)	19	100.0	27	98.8 (94.5-99.7)	46	24.9 (-5.0-54.8)	15.0 (-7.3-37.4)	18.4 (1.1-35.7)
Private for-profit outlet															
Health facility/pharmacy	63.3 (51-74.1)	358	37.4 (28.5-47.2)	103	49.0 (40.7-57.5)	461	78.2 (69.5-85.0)	408	74.5 (67.2-80.6)	113	75.9 (70.3-80.8)	521	14.9 (1.0-28.9)	37.1 (25.7-48.6)	26.9 (17.0-36.8)
Drug store	54 (42.2-65.4)	267	26.9 (20.8-34)	155	32.9 (27.5-38.8)	422	91.9 (87.3-94.9)	329	84.1 (76.2-89.7)	145	87.2 (82.3-90.9)	474	37.9 (25.6-50.1)	57.2 (47.8-66.5)	54.3 (47.3-61.4)
General retailer/itinerant	0.0	236	0.0	318	0.0	554	14.6 (6.9-28.5)	156	26.1 (14.6-36.9)	222	24.0 (14.6-36.9)	378	14.6 (4.2-25.0)	26.1 (12.7-39.4)	24.0 (12.9-35.1)
Total	39.2 (31.6-47.4)	861	15.3 (9.7-23.3)	576	21.2 (16.5-26.8)	1,437	70.6 (62.7-77.5)	893	55.4 (44.5-65.8)	480	60.2 (52.1-67.7)	1,373	31.4 (20.6-42.2)	40.1 (27.5-52.7)	38.9 (29.7-48.2)
Community health worker	79.5 (26.1-97.7)	4	59.2 (15.2-92.1)	20	59.7 (16.3-91.9)	24	-	0	-	0	-	0			
Madagascar – Total	19.9 (11.6-32.0)	1,442	24.3 (14.4-38.0)	963	23.4 (15.2-34.3)	2,405	28.4 (23.3-34.1)	973	28 (20.6-36.9)	1,369	28.1 (21.5-35.7)	2,342	8.4 (-2.9-19.8)	3.7 (-10.6-17.9)	4.6 (-7.2-16.5)
Public health facility	66.1 (55.1-75.6)	68	89.8 (85.2-93)	445	83.2 (77.1-87.9)	513	91.1 (84.5-95.1)	64	94 (90.8-96.2)	536	93.7 (90.8-95.7)	600	25 (13.6-36.4)	4.2 (-0.4-8.9)	10.5 (4.7-16.4)
Private not-for-profit health facility	47.8 (18.5-78.8)	6	-	0	47.8 (18.5-78.8)	6	89.6 (76.7-95.7)	25	60.8 (18.9-91.2)	5	71.9 (41.4-90.3)	30	41.8 (7.1-76.4)	-	24.1 (-18.2-66.4)
Private for-profit outlet															
Health facility/pharmacy	54.9 (40.4-68.6)	125	37.6 (9.8-77)	9	47.4 (30.0-65.4)	134	90.0 (84.8-93.5)	102	30.2 (9.1-65)	12	62.6 (42.7-79.1)	114	35.1 (20.2-49.9)	-7.4 (-57.3-42.6)	15.2 (-10.9-41.4)
Drug store	64.2 (56.9-70.9)	28	51 (42.5-59.4)	227	56.1 (50.1-61.9)	255	87.9 (67.9-96.2)	28	52.5 (42-62.8)	347	56.2 (46.1-65.9)	375	23.7 (9.0-38.5)	1.5 (-12-14.9)	0.2 (-11.3-11.7)
General retailer/itinerant	0.5 (0.2-1.3)	1,213	3.1 (1.2-8.0)	244	2.6 (1.1-6.4)	1,457	0.4 (0.2-1.2)	739	2.7 (1.3-4.9)	404	2.4 (1.3-4.3)	1143	-0.1 (-0.7-0.5)	-0.4 (-3.8-2.9)	-0.3 (-2-2.5)
Total	13.9 (7.8-23.5)	1,366	6.5 (3.6-11.5)	480	8.1 (5.1-12.6)	1846	18.5 (14.2-23.8)	869	7.5 (5.3-10.5)	763	9.2 (6.9-12)	1632	4.6 (-4.3-13.6)	1 (-3.5-5.5)	1 (-3.3-5.4)
Community health worker	0.0	2	100.0	38	99.8 (99.2-100)	40	100.0	15	91.8 (78.4-97.2)	65	92.0 (79.0-97.2)	80	100.0	-8.2 (-16.6-0.2)	-7.8 (-16.0-0.3)
Niger – Total	14.8 (10.4-20.8)	833	8.0 (6.1-10.4)	1,198	9.4 (7.4-11.7)	2,031	27.3 (24.0-30.8)	924	16.4 (14-19.3)	738	19.4 (17.3-21.7)	1662	12.4 (6.2-18.6)	8.5 (5.1-11.9)	10 (7-13.1)
Public health facility	75.1 (55.4-88)	91	41.4 (32.6-50.9)	385	44.8 (36.3-53.5)	476	86.2 (70.7-94.1)	102	70.7 (61.6-78.3)	220	72.9 (65.0-79.5)	322	11.1 (-8.8-30.9)	29.2 (16.8-41.6)	28.1 (16.9-39.3)
Private not-for-profit health facility	6.6 (0.6-43.7)	4	-	0	6.6 (0.6-43.7)	4	49.2 (11.3-88.1)	2	100.0	1	83.3 (41.4-97.2)	3	42.6 (-9.9-95.1)	-	76.7 (46.1-107.3)
Private for-profit outlet															
Health facility/pharmacy	58.4 (40.9-74.0)	106	71.1 (33.3-92.4)	12	60.2 (43.5-74.9)	118	59.8 (49.6-69.3)	95	100.0	4	62.1 (51.8-71.4)	99	1.4 (-18.3-21.1)	28.9 (-3.6-61.5)	1.9 (-17.0-20.7)
Drug store	54.7 (37.2-71.2)	14	14.6 (1.8-61.8)	7	29.3 (12.4-54.9)	21	68.4 (48.1-83.5)	15	63 (18.5-92.8)	3	65.4 (35.8-86.5)	18	13.7 (-11.6-39)	48.4 (-5.8-102.6)	36.1 (0.9-71.2)
General retailer/itinerant	9.2 (4.7-17.3)	617	4.4 (2.6-8.0)	792	5.4 (3.6-7.9)	1,409	21.6 (17.7-26.1)	710	9.2 (7-12.1)	510	12.6 (10.5-15.0)	1,220	12.4 (5.1-19.8)	4.8 (1.6-8.0)	7.3 (4.2-10.3)
Total	12.4 (7.9-18.9)	737	4.6 (3.0-7.2)	811	6.3 (4.5-8.7)	1,548	24.3 (20.7-28.2)	820	9.7 (7.4-12.6)	517	13.8 (11.8-16.2)	1,337	11.9 (5.3-18.4)	5.0 (1.7-8.3)	7.6 (4.6-10.6)
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0			
Nigeria – Total	28.8 (22.6-36)	1,718	23.7 (16.3-33.1)	359	27.7 (22.4-33.9)	2,077	53.7 (39.4-67.5)	1,020	53.2 (46.6-59.8)	469	53.5 (44.4-62.4)	1,489	24.9 (9.1-40.7)	29.5 (18.8-40.2)	25.8 (15.1-36.5)
Public health facility	18.3 (11.1-28.7)	181	48.1 (27.4-69.5)	45	46.3 (26.6-67.3)	226	57.4 (42.3-71.2)	42	56.4 (39.3-72.0)	52	56.7 (44.1-68.5)	94	39.1 (21.9-56.3)	8.3 (-19.7-36.3)	10.4 (-14.4-35.2)
Private not-for-profit health facility	77.1 (36.2-95.2)	6	100.0	2	98.1 (85.8-99.8)	8	79.7 (39.3-96.0)	6	100.0	3	87.3 (51.3-97.8)	9	2.6 (-40.0-45.3)	0.0	-10.7 (-31.8-10.4)
Private for-profit outlet															
Health facility/pharmacy	42.2 (28.9-56.8)	725	24.9 (19.6-31.1)	24	29.1 (22.7-36.5)	749	81.7 (67.7-90.4)	95	30.3 (14.5-52.8)	30	63.0 (46.1-77.2)	125	39.4 (21.3-57.6)	5.4 (-15.3-26.0)	33.8 (16.4-51.2)
Drug store	29.4 (22.7-37.2)	715	19.3 (12.4-28.7)	266	27.9 (21.9-34.8)	981	52.8 (37.7-67.4)	801	56.5 (49.4-63.3)	361	54.2 (44.1-64.0)	1,162	23.4 (6.5-40.3)	37.2 (26.6-47.8)	26.3 (14.4-38.3)
General retailer/itinerant	18.5 (8.5-35.6)	85	0.6 (0.1-4.3)	16	15.0 (6.4-31.1)	101	19.4 (7.3-42.3)	73	7.5 (2.0-24.1)	19	16.3 (7.2-33.0)	92	1.0 (-20.9-22.8)	6.9 (-2.6-16.4)	1.4 (-15.9-18.7)
Total	28.5 (22.2-35.8)	1,525	18.1 (12.6-25.2)	306	26.6 (21.0-33.0)	1,831	53.3 (38.9-67.3)	969	52.2 (44.8-59.4)	410	52.9 (43.4-62.2)	1,379	24.9 (8.8-40.9)	34.1 (24.5-43.7)	26.3 (15.1-37.5)
Community health worker	99.5 (95.0-99.9)	6	23.5 (3.4-72.6)	6	56.9 (19.8-87.6)	12	100.0	3	80.9 (29.6-97.7)	4	81.6 (32.1-97.7)	7	0.5 (-0.7-1.7)	57.4 (5.0-109.7)	24.7 (-28.0-77.4)
Tanzania – mainland – Total	24.8 (18.5-32.5)	317	25.7 (20.7-31.5)	284	25.5 (21.3-30.2)	601	71.6 (62.4-79.4)	596	68.3 (57.9-77)	191	69.5 (62.2-75.9)	787	46.8 (35.8-57.8)	42.5 (31.6-53.4)	44.0 (35.8-52.1)
Public health facility	86.5 (37.6-98.6)	5	79.6 (63.8-89.6)	51	80.1 (65.3-89.6)	56	100.0	7	80.6 (64.3-90.5)	48	81.4 (65.9-90.9)	55	13.5 (-13.8-40.8)	0.9 (-17.2-19)	1.3 (-15.8-18.4)
Private not-for-profit health facility	55.6 (10.4-93.1)	6	53.6 (25.3-79.8)	16	54.0 (28.2-77.9)	22	75.2 (22.9-96.9)	4	100.0	2	86.8 (42.3-98.3)	6	19.5 (-52.6-91.7)	46.4 (16.2-76.5)	32.8 (-3.9-69.4)
Private for-profit outlet															
Health facility/pharmacy	56.7 (40.4-71.7)	220	26.7 (8.5-58.8)	12	51.2 (37.1-65.1)	232	82.9 (70.9-90.6)	321	68.4 (17.1-95.8)	16	79.2 (60.0-90.6)	337	26.2 (7.5-44.9)	41.8 (-14.9-98.5)	28.0 (7.2-48.7)
Drug store	11.4 (5.9-20.7)	85	8.9 (4.9-15.6)	144	9.8 (6.3-14.8)	229	68.9 (57.8-78.1)	259	68.6 (56.5-78.5)	113	68.7 (60.5-75.8)	372	57.5 (45.2-69.8)	59.6 (47.5-71.7)	58.9 (50.3-67.6)
General retailer/itinerant	0.0	1	4.3 (1.8-10.1)	60	4.3 (1.7-10.1)	61	69.4 (28.8-92.7)	5	15.8 (6.3-34.4)	12	20.6 (8.5-42.1)	17	69.4 (33.3-105.6)	11.5 (-2.4-25.5)	16.4 (-0.7-33.4)
Total	19.4 (12.9-28.2)	306	7.5 (4.7-11.8)	216	10.8 (7.9-14.7)	522	70.9 (61.2-79.0)	585	62.9 (48.6-75.3)	141	66.4 (57.3-74.5)	726	51.5 (39.9-63.0)	55.5 (41.5-69.4)	55.6 (46.4-64.8)
Community health worker	-	0	-	1	-	1	-	0	-	0	-	0			

Table 2.2.6: *Cont.*

Country/Type of outlet	BASELINE Urban % (95% CI)	N	BASELINE Rural % (95% CI)	N	BASELINE Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	ENDLINE Rural % (95% CI)	N	ENDLINE Total % (95% CI)	N	PERCENTAGE POINT CHANGE Urban % (95% CI)	PERCENTAGE POINT CHANGE Rural % (95% CI)	PERCENTAGE POINT CHANGE Total % (95% CI)
Uganda - Total	19.7 (17.0-22.7)	534	21.3 (17.2-26.0)	1,866	21.0 (17.7-24.6)	2,400	77.0 (72.9-80.7)	1,412	64.6 (57.3-71.3)	1,720	67.1 (61.1-72.7)	3,132	57.3 (52.6-62.0)	43.3 (35.2-51.5)	46.2 (39.5-52.9)
Public health facility	83.9 (63.5-94.0)	76	87.7 (81.9-91.9)	690	87.3 (82-91.3)	766	90.2 (83-94.5)	144	91.9 (87.5-94.9)	534	91.7 (87.9-94.4)	678	6.3 (-9.1-21.8)	4.2 (-1.8-10.2)	4.3 (-1.2-9.8)
Private not-for-profit health facility	77.2 (23.1-97.5)	3	41.0 (25.7-58.2)	26	45.5 (29.1-62.9)	29	91.1 (51.9-99)	12	79.1 (59.7-90.7)	27	80.4 (62.5-91.0)	39	13.8 (-31.5-59.2)	38.2 (15.6-60.7)	34.9 (12.7-57.1)
Private for-profit outlet															
Health facility/pharmacy	21.2 (18.2-24.6)	382	12.0 (7.5-18.6)	355	16.5 (13.0-20.7)	737	80.9 (78.4-83.1)	814	75.5 (69.6-80.5)	387	77.9 (74.3-81.0)	1,201	59.6 (55.7-63.5)	63.5 (55.9-71.1)	61.4 (56.4-66.4)
Drug store	7.8 (5.4-11.2)	70	9.9 (6.1-15.6)	747	9.6 (6.3-14.5)	817	69.8 (62.9-75.9)	436	58.0 (49.6-65.9)	676	59.7 (52.6-66.5)	1,112	61.9 (54.9-68.9)	48.1 (38.8-57.4)	50.1 (42.1-58.1)
General retailer/itinerant	0.0	2	4.4 (0.9-19.4)	19	3.8 (0.7-17.6)	21	56.0 (13.0-91.6)	4	74.7 (35.8-94)	14	73.7 (36.6-93.1)	18	56.0 (3.8-108.3)	70.3 (38.4-102.3)	69.9 (38.9-100.8)
Total	15.4 (12.8-18.4)	454	10.1 (6.8-14.9)	1,121	11.3 (8.3-15.2)	1,575	76.0 (71.3-80.1)	1,254	62.3 (54.3-69.6)	1,077	65.5 (59.2-71.3)	2,331	60.5 (55.4-65.7)	52.1 (43.6-60.7)	54.2 (47.3-61)
Community health worker	0.0	1	41.0 (18.4-68.2)	29	40.1 (18.6-66.1)	30	100.0	2	55.0 (27.6-79.7)	82	55.2 (27.8-79.8)	84	100.0	14 (-24.1-52.1)	15.1 (-22.0-52.2)
Zanzibar – Total	32.8	189	65.9	123	45.8	312	82.4	222	90	120	85.1	342	49.6	24.1	39.3
Public health facility	85.7	56	96.4	83	92.1	139	91.7	48	94.7	76	93.5	124	6.0	-1.6	1.5
Private not-for-profit health facility	0.0	2	0.0	1	0.0	3	100.0	1	100.0	1	100.0	2	100.0	100.0	100.0
Private for-profit outlet															
Health facility/pharmacy	16.4	73	9.1	11	15.5	84	87.8	82	93.8	16	88.8	98	71.4	84.7	73.3
Drug store	3.5	57	0	24	2.5	81	73.9	88	75.0	24	74.1	112	70.4	75.0	71.6
General retailer/itinerant	0.0	1	0.0	4	0.0	5	33.3	3	66.7	3	50.0	6	33.3	66.7	50.0
Total	10.7	131	2.6	39	8.8	170	79.8	173	81.4	43	80.1	216	69.1	78.8	71.3
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.2.7: Outlets with quality-assured ACTs with and without the AMFm logo in stock at endline, 2011

Percentage of censused outlets that had quality-assured ACTs with and without the AMFm logo in stock (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	WITH LOGO						WITHOUT LOGO					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	83.7 (78.0.8-87.6)	574	74.8 (67.1-81.2)	382	80.2 (76.0-83.8)	956	16.5 (12.3-21.7)	574	7.2 (4.6-11.2)	382	12.9 (9.9-16.6)	956
Public health facility	71.5 (56.6-82.8)	94	77.5 (62.4-87.7)	204	75.7 (64.7-84)	298	12.0 (6.4-21.4)	94	13.2 (7.5-22.2)	204	12.8 (8.3-19.4)	298
Private not-for-profit health facility	100.0	4	76.3 (47.7-91.9)	9	85.6 (63.0-95.4)	13	0.0	4	11.2 (1.8-46.7)	9	6.8 (1.1-31.8)	13
Private for-profit outlet												
Health facility/pharmacy	89.1 (85.0-92.2)	271	96.9 (89.4-99.1)	26	90.1 (86.4-92.9)	297	46.7 (42.1-51.4)	271	17.7 (6.6-39.5)	26	42.9 (37.7-48.3)	297
Drug store	82.1 (74.7-87.7)	202	72.8 (63.1-80.8)	140	78.4 (72.7-83.3)	342	6.4 (4-10.1)	202	3.6 (1.4-9.2)	140	5.3 (3.4-8.2)	342
General retailer/itinerant	100.0	3	33.7 (12.8-63.6)	3	66.7 (38.7-86.4)	6	0.0	3	32.7 (3.8-85.7)	3	16.4 (2.6-58.6)	6
Total	84.1 (78.6-88.5)	476	73.9 (64.7-81.4)	169	80.7 (75.9-84.7)	645	17.1 (12.8-22.4)	476	5.3 (2.7-10.3)	169	13.1 (9.8-17.2)	645
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya – Total	68.1 (60.6-74.8)	1,049	56.5 (47.2-65.4)	801	59.8 (52.7-66.5)	1,850	9.9 (8.6-11.3)	1,044	15.4 (12.1-19.5)	800	13.9 (11.5-16.7)	1,844
Public health facility	69.6 (57.7-79.4)	137	68.3 (55.2-78.9)	294	68.4 (56.3-78.4)	431	55.6 (43.7-67)	137	65.2 (50.2-77.6)	294	64.4 (50.6-76.2)	431
Private not-for-profit health facility	55.8 (23.9-83.5)	19	59.6 (37.2-78.6)	27	58.8 (39.6-75.7)	46	46 (17.3-77.5)	19	62.4 (40.4-80.2)	27	59.2 (40.2-75.7)	46
Private for-profit outlet												
Health facility/pharmacy	75.7 (67.9-82)	408	73.3 (65.8-79.6)	113	74.2 (68.8-78.9)	521	8.4 (5.6-12.6)	405	10.2 (6.1-16.6)	112	9.5 (6.5-13.6)	517
Drug store	88.9 (83.9-92.5)	329	81.9 (73.7-87.9)	145	84.7 (79.7-88.7)	474	10.2 (7.5-13.8)	328	4.9 (2.1-11)	145	7.0 (4.5-10.8)	473
General retailer/itinerant	14.6 (6.9-28.5)	156	25.6 (14.7-40.8)	222	23.6 (14.4-36.3)	378	0.0	155	0.5 (0.1-1.8)	222	0.4 (0.1-1.5)	377
Total	68.4 (60.7-75.2)	893	54.2 (43.4-64.6)	480	58.7 (50.8-66.1)	1,373	7.4 (5.8-9.5)	888	4 (2.5-6.3)	479	5.1 (3.8-6.8)	1,367
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar – Total	24.0 (18.9-29.9)	971	13.1 (9.7-17.5)	1,361	14.6 (11.3-18.6)	2,332	19.5 (15.6-24.2)	973	20.8 (14-29.7)	1,364	20.6 (14.6-28.2)	2,337
Public health facility	70.7 (54.0-83.2)	62	72.6 (63.9-79.8)	528	72.4 (64.5-79.1)	590	63.6 (45.0-78.8)	64	72.3 (65.2-78.4)	531	71.3 (64.8-77.1)	595
Private not-for-profit health facility	61.9 (46.2-75.5)	25	21.1 (2.6-73.1)	5	36.9 (15.4-65.2)	30	69.9 (48.7-85.1)	25	60.8 (18.9-91.2)	5	64.3 (34.8-85.9)	30
Private for-profit outlet												
Health facility/pharmacy	83.7 (75.4-89.5)	102	10.9 (2.6-35.5)	12	50.4 (33.3-67.3)	114	69.6 (59.3-78.3)	102	20.4 (3.0-68)	12	47.1 (27.3-67.9)	114
Drug store	87.9 (67.9-96.2)	28	46.8 (36.3-57.6)	347	51.2 (41-61.2)	375	30.7 (15.2-52.3)	28	9.7 (6.3-14.6)	347	11.9 (8.4-16.7)	375
General retailer/itinerant	0.2 (0.1-0.7)	739	1.2 (0.4-3.3)	404	1.1 (0.4-2.8)	1,143	0.2 (0.0-1.2)	739	1.5 (0.6-3.6)	404	1.3 (0.5-3.1)	1,143
Total	17.4 (13.2-22.6)	869	5.3 (3.7-7.5)	763	7.1 (5.3-9.5)	1,632	12.2 (8.4-17.3)	869	2.6 (1.6-4.3)	763	4.0 (2.8-5.8)	1,632
Community health worker	62.3 (37.7-81.9)	15	9.5 (2-35.5)	65	10.8 (2.7-34.5)	80	79.2 (53.1-92.8)	15	82.9 (59.7-94.1)	65	82.8 (60.3-93.9)	80
Niger – Total	20.4 (17.8-23.3)	924	9.9 (7.9-12.5)	738	12.8 (11-14.9)	1,662	11.2 (9.5-13.3)	924	8.4 (6.8-10.3)	738	9.2 (7.9-10.6)	1,662
Public health facility	46.9 (39.2-54.7)	102	26.8 (17.8-38.2)	220	29.6 (21.6-39.2)	322	56.9 (45.2-67.9)	102	57.9 (49.2-66.1)	220	57.7 (50.1-65)	322
Private not-for-profit health facility	0.0	2	100.0	1	67.1 (23.4-93.1)	3	49.2 (11.3-88.1)	2	0.0	1	16.2 (2.7-57.6)	3
Private for-profit outlet												
Health facility/pharmacy	47.1 (38.8-55.5)	95	100.0	4	50.1 (41.3-58.8)	99	41.1 (30.1-53.1)	95	8.4 (1.4-38.1)	4	39.2 (28.6-51)	99
Drug store	56.0 (34.4-75.6)	15	63.0 (18.5-92.8)	3	59.9 (32.0-82.6)	18	21.4 (8.8-43.6)	15	32.3 (5.9-78.3)	3	27.5 (9.3-58.3)	18
General retailer/itinerant	17.1 (14.0-20.7)	710	7.2 (5.4-9.6)	510	9.9 (8.2-11.9)	1,220	6.8 (4.9-9.5)	710	2.2 (1.4-3.5)	510	3.5 (2.6-4.6)	1,220
Total	19.2 (16.3-22.4)	820	7.7 (5.8-10.2)	517	11 (9.2-13)	1,337	8.9 (7.1-11.1)	820	2.4 (1.6-3.7)	517	4.3 (3.4-5.3)	1,337
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria – Total	49.3 (36.2-62.6)	1,020	44.5 (37.0-52.2)	469	47.4 (39.1-55.9)	1,489	15.2 (9.9-22.5)	1,020	16.5 (12.9-20.7)	469	15.7 (12.0-20.3)	1,489
Public health facility	45.0 (31.0-59.9)	42	18.6 (9.3-33.7)	52	27.1 (18.0-38.6)	94	30.4 (14.9-52.1)	42	41.8 (24.8-60.9)	52	38.1 (25.1-53.0)	94
Private not-for-profit health facility	79.7 (39.3-96.0)	6	93.1 (54.1-99.4)	3	84.8 (52.2-96.6)	9	52.6 (18.0-84.9)	6	53.2 (7.4-94.1)	3	52.8 (21.3-82.3)	9
Private for-profit outlet												
Health facility/pharmacy	70.5 (50.4-84.9)	95	24.6 (11.2-45.8)	30	53.8 (36.4-70.4)	125	26.5 (17.0-38.8)	95	11.2 (3.1-32.9)	30	20.9 (13.7-30.5)	125
Drug store	49.7 (35.0-64.5)	801	51.7 (44.0-59.2)	361	50.5 (40.6-60.3)	1,162	13.3 (7.9-21.7)	801	13.2 (9.6-18.0)	361	13.3 (9.4-18.5)	1,162
General retailer/itinerant	12.2 (4.1-31.3)	73	7.5 (2.0-24.1)	19	11.0 (4.4-24.9)	92	8.3 (1.9-30.1)	73	0.0	19	6.2 (1.5-21.8)	92
Total	49.2 (35.8-62.7)	969	47.5 (39.5-55.6)	410	48.5 (39.7-57.5)	1,379	14.3 (9.0-21.9)	969	12.5 (9.2-16.9)	410	13.6 (9.9-18.4)	1,379
Community health worker	100.0	3	7.3 (0.6-50.4)	4	11.0 (1.4-51.8)	7	0.0	3	73.6 (21.7-96.5)	4	70.7 (20.3-95.8)	7
Tanzania - mainland - Total	68.6 (58.6-77.1)	596	57.4 (45.4-68.6)	191	61.5 (52.8-69.5)	787	14.9 (10.8-20.4)	596	23.9 (17.7-31.5)	191	20.6 (16.4-25.6)	787
Public health facility	82.8 (35-97.7)	7	53.3 (36.2-69.6)	48	54.6 (38.1-70.1)	55	64.4 (26.5-90.1)	7	64.2 (47.6-78)	48	64.2 (48.3-77.5)	55
Private not-for-profit health facility	50.7 (12-88.6)	4	47.8 (4.9-94.2)	2	49.3 (14.8-84.5)	6	45.4 (10-86.2)	4	52.2 (5.8-95.1)	2	48.6 (14.5-84.1)	6
Private for-profit outlet												
Health facility/pharmacy	82.0 (70.2-89.8)	321	27.6 (4.4-75.9)	16	67.9 (45.9-84.1)	337	25.5 (19.4-32.8)	321	43.4 (7.3-88.3)	16	30.1 (16.5-48.6)	337
Drug store	66.3 (54.4-76.4)	259	68.0 (55.9-78.1)	113	67.3 (58.8-74.7)	372	11.4 (7.4-17.1)	259	4.6 (1.7-11.6)	113	7.5 (4.7-11.9)	372
General retailer/itinerant	69.4 (28.8-92.7)	5	0.0	12	6.2 (1.1-28.9)	17	0.0	5	15.8 (6.3-34.4)	12	14.4 (6.0-30.7)	17
Total	68.6 (58.2-77.4)	585	59.2 (43.7-73)	141	63.3 (53.3-72.3)	726	13.3 (9.5-18.2)	585	7.3 (4.0-13.1)	141	9.9 (7.1-13.7)	726
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.2.7: *Cont.*

Country/Type of outlet	WITH LOGO						WITHOUT LOGO					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda – Total	69.6 (63.9-74.8)	1,412	54.7 (46-63.1)	1,718	57.7 (50.4-64.7)	3,130	14.8 (10.5-20.6)	1,409	15.8 (10.8-22.4)	1,717	15.6 (11.4-20.9)	3,126
Public health facility	69.2 (53.9-81.2)	144	85.6 (80.4-89.6)	534	83.3 (78.2-87.3)	678	49.3 (30.4-68.5)	144	41 (27.4-56.2)	534	42.2 (30.0-55.5)	678
Private not-for-profit health facility	38.2 (14.7-69)	12	39.4 (23-58.6)	27	39.3 (24.1-56.8)	39	70.2 (52.4-83.5)	12	52.2 (33.8-70.1)	27	54.1 (36.9-70.4)	39
Private for-profit outlet												
Health facility/pharmacy	75.3 (72.3-78)	814	71.2 (63.6-77.8)	385	73.0 (68.6-76.9)	1,199	13.1 (8.3-20)	811	11.8 (8.9-15.6)	385	12.4 (9.7-15.7)	1,196
Drug store	63.7 (55.3-71.2)	436	53.3 (43.9-62.5)	676	54.9 (46.8-62.7)	1,112	10.1 (6.9-14.6)	436	6.2 (4.5-8.5)	675	6.8 (5.2-8.8)	1,111
General retailer/itinerant	38.2 (5.8-86.2)	4	74.7 (35.8-94)	14	72.6 (35.4-92.8)	18	17.8 (2.1-68.5)	4	3.5 (0.4-25.4)	14	4.3 (0.7-22.6)	18
Total	70.1 (63.8-75.7)	1,254	57.8 (48.6-66.5)	1,075	60.7 (53.4-67.5)	2,329	11.8 (8.5-16.3)	1,251	7.4 (5.8-9.3)	1,074	8.4 (7.0-10.1)	2,325
Community health worker	46.3 (5.2-93.1)	2	11.0 (4.9-23.2)	82	11.2 (5-23.2)	84	53.7 (6.9-94.8)	2	44.6 (14.8-78.9)	82	44.7 (14.8-78.9)	84
Zanzibar – Total	79.3	222	89.1	119	82.7	341	6.8	222	4.2	120	5.8	342
Public health facility	81.3	48	93.3	75	88.6	123	10.4	48	3.9	76	6.5	124
Private not-for-profit health facility	100.0	1	100.0	1	100.0	2	0.0	1	0.0	1	0.0	2
Private for-profit outlet												
Health facility/pharmacy	85.4	82	93.8	16	86.7	98	11	82	6.3	16	10.2	98
Drug store	73.9	88	75.0	24	74.1	112	1.1	88	4.2	24	1.8	112
General retailer/itinerant	33.3	3	66.7	3	50.0	6	0.0	3	0.0	3	0.0	6
Total	78.6	173	81.4	43	79.2	216	5.8	173	4.7	43	5.6	216
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

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Table 2.2.8: Public health facilities with quality-assured ACTs in stock among ALL public health facilities at baseline (2010) and endline (2011)

Public health facilities that had quality-assured ACTs in stock (n) as a percentage of ALL PUBLIC HEALTH FACILITIES screened (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana	80.5 (68.5-88.7)	70	84.9 (77.0-90.4)	138	84.3 (77.4-89.3)	208	72.3 (58.1-83.1)	95	80.9 (71.4-87.8)	212	78.4 (70.8-84.4)	307
Kenya	59.6 (29.5-83.8)	157	87.6 (78.7-93.1)	269	80.4 (66.0-89.6)	426	87.4 (78.0-93.2)	145	94.5 (89.5-97.2)	300	93.9 (89.5-96.6)	445
Madagascar	-	-	-	-	-	-	91.1 (84.5-95.1)	64	90.6 (86.5-93.6)	558	90.7 (87.0-93.4)	622
Niger	69.2 (52.6-81.9)	97	30.9 (24.2-38.5)	526	34.0 (27.6-41.1)	623	86.2 (70.7-94.1)	102	64.3 (54.5-73.0)	244	67.2 (58.5-74.8)	346
Nigeria	-	-	-	-	-	-	56.6 (41.8-70.3)	47	43.4 (28.8-59.1)	61	46.9 (35.2-59.0)	108
Tanzania – mainland	76.2 (23.2-97.1)	6	75.0 (57.7-86.8)	55	75.1 (58.7-86.4)	61	100.0	7	75.0 (58.7-86.4)	52	76.1 (60.3-86.9)	59
Uganda	81.2 (59.0-92.8)	79	84.6 (77.8-89.5)	716	84.2 (77.8-89.1)	795	88.7 (81.4-93.3)	147	90.8 (84.9-94.5)	543	90.5 (85.5-93.9)	690
Zanzibar	73.8	65	92.0	87	84.2	152	62.9	70	80.9	89	73.0	159

Note: These data were not available at baseline for Nigeria and Madagascar.
CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.2.1 Stockouts of quality-assured ACTs

Table 2.2.9 shows stockouts of QAACTs among outlets that regularly stock them (defined as those with QAACTs in stock on the day of interview or that reported stocking them in the past four weeks). A stockout is defined as being out of stock of all QAACTs for at least one day in the last seven days, as reported by the respondent. It should be noted that this differs from the standard indicator for stockouts which relies on written records for each product to calculate the number of days that a product was out of stock in the preceding 12 months, for products for which data were available for at least six months. It was not feasible to use the standard indicator during the outlet surveys because of the lack of written records in most outlets (WHO 2006). Stockout levels ranged from 1.4% in Niger to 10% in Tanzania mainland at endline. The proportion of outlets experiencing stockouts fell significantly in Niger between baseline and endline in both the public and private for-profit sectors.

Table 2.2.9: Outlets with stock-outs of quality-assured ACTs at baseline (2010) and endline (2011)

Indicator 1.6 Percentage of outlets that were out of stock of all quality-assured ACTs for at least 1 day in the last 7 days (n) among outlets with any quality-assured ACTs in stock at the time of the survey visit or in the 4 weeks preceding the survey visit (N), by urban-rural location and type of outlet, according to country, 2010-2011

| | BASELINE | | | | | | ENDLINE | | | | | | PERCENTAGE POINT CHANGE | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | | Urban | Rural | Total |
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Ghana - Total	3.7 (2.0-6.7)	398	3.8 (1.8-8.2)	216	3.8 (2.1-6.6)	614	1.9 (1-3.7)	499	1.5 (0.5-4.4)	314	1.8 (1-3.1)	813	-1.7 (-4.3-0.8)	-2.3 (-5.7-1)	-2.0 (-4.4-0.3)
Public health facility	2.9 (1.0-8.0)	58	2.8 (0.9-8.4)	106	2.8 (1.1-7.2)	164	1.1 (0.2-5.1)	75	1.5 (0.6-4.1)	172	1.4 (0.6-3.3)	247	-1.8 (-5.2-1.6)	-1.2 (-4.7-2.2)	-1.4 (-4.3-1.6)
Private not-for-profit health facility	0.0	4	0.0	5	0.0	9	0.0	4	0.0	9	0.0	13	0/0	0/0	0/0
Private for-profit outlet															
Health facility/pharmacy	3.6 (2.3-5.8)	259	4.8 (1.0-19.8)	34	3.9 (2.2-7.0)	293	0.7 (0.3-1.6)	241	0.0	26	0.6 (0.3-1.4)	267	-2.9 (-4.7- -1.1)	-4.8 (-11.9-2.4)	-3.3 (-5.6- -1.0)
Drug store	4.3 (1.2-14.7)	77	4.5 (1.8-10.9)	68	4.5 (2.1-9.6)	145	2.5 (1.2-5.3)	176	1.8 (0.5-6.4)	105	2.3 (1.2-4.3)	281	-1.8 (-7.6-4)	-2.7 (-7.4-1.9)	-2.2 (-6-1.5)
General retailer/itinerant	-	0	-	0	-	0	0.0	3	0.0	2	0.0	5	-	-	-
Total	3.9 (2-7.4)	336	4.6 (1.8-11.1)	102	4.3 (2.2-8.2)	438	2 (1-3.9)	420	1.6 (0.4-5.7)	133	1.9 (1-3.4)	553	-1.9 (-4.7-1.0)	-3 (-7.6-1.7)	-2.4 (-5.4-0.6)
Community health worker	-	0	0.0	3	0.0	3	-	0	-	0	-	0	-	-	-
Kenya - Total	4.2 (2.8-6.4)	674	5.3 (2.7-10.1)	431	5.0 (2.9-8.2)	1,105	5.4 (3.1-9.3)	877	5.4 (3.7-7.8)	633	5.4 (4-7.3)	1510	1.2 (-2.3-4.6)	0.2 (-3.9-4.2)	0.5 (-2.5-3.5)
Public health facility	11.8 (6.2-21.3)	121	5.4 (2.1-12.8)	223	6.8 (3.6-12.4)	344	2.2 (0.9-5.2)	125	3.8 (1.4-9.6)	287	3.7 (1.4-9)	412	-9.6 (-17.1- -2.1)	-1.6 (-7.5-4.4)	-3.1 (-8.4-2.2)
Private not-for-profit health facility	15.6 (4.2-43.4)	21	14.4 (1.9-59.2)	14	14.8 (3.6-44.3)	35	2.4 (0.3-16.6)	17	5.1 (0.7-30.7)	25	4.6 (0.7-24)	42	-13.2 (-32.3-6)	-9.3 (-37.4-18.8)	-10.2 (-30.8-10.5)
Private for-profit outlet															
Health facility/pharmacy	1.4 (0.5-3.7)	296	1.6 (0.4-7.1)	79	1.5 (0.6-3.9)	375	6.4 (2.5-15.2)	366	3.9 (1.2-12.5)	103	4.9 (2.2-10.4)	469	5.0 (-0.9-10.8)	2.3 (-3.0-7.6)	3.3 (-0.7-7.4)
Drug store	3.6 (1.5-8.1)	204	9.6 (5.5-16.3)	75	7.7 (4.4-13.3)	279	5.7 (3.0-10.7)	316	8.8 (4.6-16)	131	7.5 (4.6-12.1)	447	2.2 (-2.5-6.8)	-0.8 (-8.3-6.7)	-0.2 (-5.8-5.4)
General retailer/itinerant	0.0	21	0.0	14	0.0	35	1.5 (0.3-6.3)	53	3.0 (1.0-8.8)	86	2.8 (1.0-7.7)	139	1.5 (-0.7-3.7)	3.0 (-0.3-6.3)	2.8 (-0.1-5.7)
Total	2.3 (1.3-4.0)	521	6 (2.9-11.9)	168	4.6 (2.5-8.6)	689	5.6 (3.1-9.9)	735	5.9 (3.8-9.2)	320	5.8 (4.1-8.3)	1,055	3.3 (-0.1-6.8)	-0.1 (-5.0-4.9)	1.2 (-2.4-4.7)
Community health worker	0.0	11	0.0	26	0.0	37	-	0	0.0	1	0.0	1	-	-	0.0
Madagascar - Total	-	-	-	-	-	-	2 (0.6-6.2)	205	1.6 (0.7-3.8)	786	1.7 (0.8-3.5)	991			
Public health facility	-	-	-	-	-	-	1.3 (0.2-6.5)	54	1.1 (0.4-3.2)	515	1.1 (0.4-2.9)	569	-	-	-
Private not-for-profit health facility	-	-	-	-	-	-	0.0	22	0.0	2	0.0	24	-	-	-
Private for-profit outlet															
Health facility/pharmacy	-	-	-	-	-	-	4.1 (1.2-12.5)	86	0.0	2	3.7 (1.1-12)	88	-	-	-
Drug store	-	-	-	-	-	-	0.0	24	4.2 (1.7-10)	198	3.5 (1.4-8.6)	222	-	-	-
General retailer/itinerant	-	-	-	-	-	-	0.0	3	0.0	5	0.0	8	-	-	-
Total	-	-	-	-	-	-	2.9 (0.8-10.6)	113	3.3 (1.2-8.3)	205	3.1 (1.4-6.7)	318	-	-	-
Community health worker	-	-	-	-	-	-	0.0	16	1.5 (0.2-9.9)	64	1.4 (0.2-9.6)	80	-	-	-
Niger - Total	5.3 (2.5-10.7)	205	6.7 (3.4-12.9)	282	6.3 (3.7-10.8)	487	2.4 (1.4-4.3)	415	0.9 (0.3-2.5)	331	1.4 (0.8-2.4)	746	-2.9 (-6.9-1.2)	-5.8 (-10.4- -1.2)	-4.9 (-8.4- -1.5)
Public health facility	2.9 (0.6-12.1)	61	6.4 (3.8-10.7)	234	6.0 (3.6-9.8)	295	0.7 (0.2-2.8)	89	1.7 (0.5-5.1)	180	1.5 (0.5-4.4)	269	-2.2 (-6.6-2.1)	-4.8 (-8.6- -0.9)	-4.5 (-7.9- -1.1)
Private not-for-profit health facility	0.0	1	-	0	0.0	1	0.0	1	0.0	1	0.0	2	0.0	-	0.0
Private for-profit outlet															
Health facility/pharmacy	1.0 (0.1-7.8)	78	0.0	4	0.9 (0.1-6.5)	82	0.7 (0.2-3.2)	72	0.0	3	0.7 (0.2-2.9)	75	-0.3 (-2.7-2.1)	0.0	-0.2 (-2.2-1.9)
Drug store	0.0	12	0.0	3	0.0	15	0.0	10	0.0	1	0.0	11	0.0	0.0	0.0
General retailer/itinerant	8.4 (4.5-15.1)	53	7.7 (2.6-20.7)	41	7.9 (3.8-15.9)	94	2.9 (1.6-5.2)	243	0.7 (0.1-3.3)	146	1.4 (0.7-2.7)	389	-5.5 (-10.9- -0.1)	-7.0 (-15.2-1.1)	-6.5 (-12.3- -0.7)
Total	5.8 (2.7-12.2)	143	7 (2.4-19.1)	48	6.6 (3.1-13.4)	191	2.6 (1.5-4.6)	325	0.7 (0.1-3.3)	150	1.4 (0.7-2.6)	475	-3.2 (-7.9-1.4)	-6.4 (-13.8-1.1)	-5.2 (-10.1- -0.3)
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Nigeria - Total	-	-	-	-	-	-	5.1 (2.8-9.3)	739	6.6 (3.7-11.5)	334	5.7 (3.8-8.6)	1,073	-	-	-
Public health facility	-	-	-	-	-	-	1.1 (0.2-5.4)	36	2.4 (0.3-15.6)	39	2.0 (0.4-10.0)	75	-	-	-
Private not-for-profit health facility	-	-	-	-	-	-	0.0	6	0.0	3	0.0	9	-	-	-
Private for-profit outlet															
Health facility/pharmacy	-	-	-	-	-	-	0.7 (0.2-3.3)	78	0.0	25	0.5 (0.1-2.1)	103	-	-	-
Drug store	-	-	-	-	-	-	5.6 (3.0-10.2)	583	8.3 (4.5-15.1)	251	6.7 (4.3-10.2)	834	-	-	-
General retailer/itinerant	-	-	-	-	-	-	13.6 (4.8-33.0)	33		12	10.6 (3.6-27.8)	45	-	-	-
Total	-	-	-	-	-	-	5.4 (2.9-9.9)	694	7.3 (3.9-13.2)	288	6.1 (4.0-9.4)	982	-	-	-
Community health worker	-	-	-	-	-	-	0.0	3	0.0	4	0.0	7	-	-	-
Tanzania – mainland - Total	1.4 (0.8-2.5)	177	3.3 (0.9-11.3)	72	2.9 (0.9-8.7)	249	8 (5.6-11.2)	485	11.4 (7.4-17.3)	151	10.2 (7.3-14.1)	636	6.6 (3.8-9.4)	8.1 (1.8-14.5)	7.3 (2.7-11.9)
Public health facility	0.0	3	2.9 (0.4-19.4)	39	2.7 (0.4-18.1)	42	9.2 (1.1-49.1)	5	7.4 (2.5-19.9)	47	7.5 (2.6-19.3)	52	9.2 (-9.4-27.8)	4.4 (-5.2-14.1)	4.7 (-4.5-13.9)
Private not-for-profit health facility	0.0	4	0.0	7	0.0	11	0.0	3	0.0	2	0.0	5	0.0	0.0	0.0
Private for-profit outlet															
Health facility/pharmacy	3.6 (2-6.3)	161	0.0	4	3.3 (1.8-5.9)	165	2.3 (1.1-4.7)	291	1.8 (0.2-16.4)	13	2.2 (1-4.6)	304	-1.3 (-3.9-1.3)	1.8 (-2.3-5.9)	-1.1 (-3.6-1.4)
Drug store	0.0	9	8.1 (1.7-30.7)	16	5.5 (1.3-21.3)	25	9.3 (6.5-13.2)	183	14.7 (8.7-23.8)	87	12.5 (8.6-17.7)	270	9.3 (6-12.6)	6.5 (-7.5-20.6)	6.9 (-2.1-16)
General retailer/itinerant	-	0	0.0	6	0.0	6	0.0	3	0.0	12	0.0	5	-	0.0	0.0
Total	2 (1.1-3.6)	170	5.2 (1.1-21.1)	26	3.9 (1.2-12.2)	196	8.1 (5.7-11.3)	477	13.8 (8.3-22.1)	102	11.3 (7.9-15.8)	579	6.1 (3.2-9.1)	8.6 (-1.6-18.9)	7.4 (1.4-13.3)
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Table 2.2.9: *Cont*.

Country/Type of outlet	BASELINE						ENDLINE						PERCENTAGE POINT CHANGE		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Uganda - Total	6.6 (1.8-21.5)	325	7.8 (4.9-12.3)	901	7.6 (4.8-11.8)	1,226	4.7 (3.2-6.9)	1208	6.5 (4.5-9.2)	1,449	6.1 (4.5-8.3)	2,657	-1.9 (-10.3-6.4)	-1.3 (-5.5-2.8)	-1.5 (-5.3-2.4)
Public health facility	20.2 (9.0-39.2)	68	8.3 (4.8-14.2)	616	9.6 (5.6-15.8)	684	2.2 (0.4-9.9)	133	2.9 (0.8-9.7)	497	2.8 (0.9-8.3)	630	-18.0 (-33.1- -3.0)	-5.5 (-11.2-0.2)	-6.8 (-12.5- -1.0)
Private not-for-profit health facility	44.7 (6.2-90.8)	3	0.0	12	10.6 (1.3-52.1)	15	0.0	11	0.0	24	0.0	35	-44.7 (-105-15.7)	0.0	-10.6 (-31.1-9.9)
Private for-profit outlet															
Health facility/pharmacy	2.5 (0.3-18.7)	244	4.9 (1.3-16.8)	119	3.5 (1.0-11.5)	363	3.4 (1.6-6.8)	730	9.4 (5.8-15)	325	6.6 (4.1-10.6)	1,055	0.9 (-4.8-6.6)	4.5 (-3.1-12.1)	3.1 (-2.1-8.4)
Drug store	0.0	10	6.8 (3.7-12.3)	131	6.2 (3.3-11.3)	141	7.5 (4.8-11.6)	329	7.4 (5.1-10.8)	514	7.5 (5.4-10.3)	843	7.5 (4.2-10.8)	1.3 (-3.2-5.8)	
General retailer/itinerant	-	0	0.0	2	0.0	2	0.0	3	11.7 (1.5-52.9)	12	11.1 (1.5-49.7)	15	-	11.7 (-10.2-33.5)	11.1 (-9.1-31.3)
Total	2.0 (0.3-13.6)	254	6.3 (3.6-10.7)	252	5.1 (2.7-9.2)	506	5.0 (3.3-7.5)	1062	8.0 (6.1-10.6)	851	7.3 (5.5-9.6)	1,913	3.0 (-1.4-7.4)	1.7 (-2.3-5.7)	2.2 (-1.4-5.8)
Community health worker	-	0	17.9 (4.7-49.5)	21	17.9 (4.7-49.5)	21	0.0	2	1.8 (0.3-9.0)	77	1.8 (0.3-8.9)	79	-	-16.2 (-37.9- 55.5)	-16.2 (-37.9-5.5)
Zanzibar - Total	1.4	69	2.3	86	1.9	155	5.2	192	5.5	109	5.3	301	3.8	3.2	3.4
Public health facility	2	49	2.4	82	2.3	131	4.1	49	5.6	71	5	120	2	3.2	2.7
Private not-for-profit health facility	0.0	1	-	0	0	1	0.0	1	0.0	1	0.0	2	0.0	-	0
Private for-profit outlet															
Health facility/pharmacy	0.0	16	0.0	2	0.0	18	5.4	74	6.3	16	5.6	90	5.4	6.3	5.6
Drug store	0.0	3	0.0	2	0.0	5	6.0	67	5.3	19	5.8	86	6	5.3	5.8
General retailer/itinerant	-	0	-	0	-	0	0.0	1	0.0	2	0.0	3	-	-	-
Total	0.0	19	0.0	4	0.0	23	5.6	142	5.4	37	5.6	179	5.6	5.4	5.6
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: This indicator measures stock-outs of quality-assured ACTs among outlets that have recently stocked these products. The denominator includes outlets which had no antimalarials in stock on the day of the survey but which had stocked them in the previous 3 months. A stock-out is defined as being out of stock of all quality-assured ACTs for at least 1 day in the last seven days. Outlets that have recently stocked QAACTs are defined as outlets with any QAACTs in stock at the time of the survey visit or in the 4 weeks preceding the survey visit. Nigeria baseline data collection was conducted in 2009.

*These data are not available for Madagascar and Nigeria at baseline as they were not collected in the ACTwatch questionnaire. CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

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2.2.2 Population coverage of outlets with quality-assured ACTs

Table 2.2.10 shows the percentage of the population living in "subdistricts" with at least one outlet that stocks QAACTs. At endline, Kenya and Madagascar reached 100% coverage (Ghana and Uganda had already reached this level at baseline); coverage in Niger was 88% and Tanzania mainland 92% (100% in urban areas and 90% in rural areas). In interpreting this indicator, it should be noted that the size of a subdistrict varied across countries to some degree in terms of both the number of residents and geographical size, so the percentage of the population covered is likely to be higher in countries with larger subdistricts, other things being equal. The study design aimed to choose for the sample administrative units with a population size of about 10,000-15,000 but in practice, the population size was often larger, meaning that having at least one QAACT outlet available in the subdistrict does not necessarily ensure good access to the whole population. It also captures only supply side availability and does not reflect other dimensions of access such as information, provider behavior and affordability.

Table 2.2.10: Percentage of the population living in "subdistricts" with outlets with quality-assured ACTs in stock at baseline (2010) and endline (2011)

Indicator 1.7 Population living in a censused "subdistrict" where there was at least one of a given type of outlet with a quality-assured ACT in stock at the time of the survey visit (n) as a percentage of the total population living in all the censused "subdistricts" (N), by urban-rural location, according to country

Country/Type of outlet	BASELINE						ENDLINE						PERCENTAGE POINT CHANGE		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	% (95% CI)	% (95% CI)
Ghana															
At least one public health facility stocking quality-assured ACTs	48.4 (33.7-63.3)	815,507	86.7 (72.2-94.2)	666,331	76.5 (66.5-84.3)	1,481,838	28.6 (16.4-44.9)	363,574	76.7 (60.4-87.6)	437,796	53.5 (43.1-63.6)	801,370	-19.8 (-40.7-1.1)	-10.0 (-27.1-7.1)	-23.0 (-36.6- -9.5)
At least one private not-for-profit health facility stocking quality-assured ACTs	8.1 (2.7-22)	815,507	13.3 (5.8-27.8)	666,331	11.9 (5.9-22.7)	1,481,838	21.4 (9.6-41.3)	363,574	23.3 (12.4-39.6)	437,796	22.4 (13.7-34.5)	801,370	13.3 (-4.6-31.3)	10.0 (-7.1-27.1)	10.5 (-2.6-23.5)
At least one private for-profit outlet stocking quality-assured ACTs	100.0	815,507	83.3 (68.4-92.0)	666,331	87.7 (76.4-94.1)	1,481,838	100.0	363,574	90.0 (75.3-96.4)	437,796	94.8 (86.7-98.1)	801,370	0.0	6.7 (-8.3-21.6)	7.1 (-2.7-16.9)
At least one community health worker stocking quality-assured ACTs	0.0	815,507	6.7 (2-19.9)	666,331	4.9 (1.5-14.9)	1,481,838	0.0	363,574	0.0	437,796	0.0	801,370	0.0	-6.7 (-14.4-1.0)	-4.9 (-10.6-0.7)
At least one outlet of any type stocking quality-assured ACTs	100.0	815,507	100.0	666,331	100.0	148,1838	100.0	363,574	100.0	437,796	100.0	801,370	0.0	0.0	0.0
Kenya															
At least one public health facility stocking quality-assured ACTs	73.9 (52.9-87.7)	590,950	88.2 (71.9-95.6)	534,059	85.2 (72.9-92.5)	1,125,009	63.4 (39.4-82.2)	582,959	96.4 (77.5-99.5)	579,885	89.4 (79-95)	1,162,844	-10.6 (-39.1-18.0)	8.2 (-4.9-21.2)	4.2 (-7.9-16.3)
At least one private not-for-profit health facility stocking quality-assured ACTs	52.2 (32.6-71.1)	590,950	29.4 (16.3-47.1)	534,059	34.2 (22.5-48.3)	1,125,009	44.3 (24.0-66.7)	582,959	47.7 (31.0-64.9)	579,885	47.0 (32.9-61.5)	1,162,844	-7.8 (-38.0-22.3)	18.3 (-5.1-41.7)	12.7 (-6.8-32.2)
At least one private for-profit outlet stocking quality-assured ACTs	95.7 (75.0-99.4)	590,950	58.8 (41.4-74.3)	534,059	66.6 (52.1-78.6)	1,125,009	97.9 (86.2-99.7)	582,959	87.5 (70.3-95.4)	579,885	89.7 (75.9-96)	1,162,844	2.2 (-6.9-11.4)	28.7 (8.1-49.2)	23.1 (6.7-39.4)
At least one community health worker stocking quality-assured ACTs	8.7 (2.2-28.7)	590,950	11.8 (4.4-28.1)	534,059	11.1 (4.7-23.9)	1,125,009	0.0	582,959	0.0	579,885	0.0	1,162,844	-8.7 (-20.0-2.6)	-11.8 (-22.8- -0.7)	-11.1 (-20.1- -2.1)
At least one outlet of any type stocking quality-assured ACTs	95.7 (75.0-99.4)	590,950	94.1 (78.6-98.6)	534,059	94.4 (82.7-98.4)	1,125,009	100.0	582,959	100.0	579,885	100.0	1,162,844	4.3 (-3.8-12.5)	5.9 (-2.2-13.9)	5.6 (-1.0-12.1)
Madagascar												,			
At least one public health facility stocking quality-assured ACTs	68.4 (51.5-81.5)	838,897	89.5 (65.1-97.5)	339,277	87.3 (68.1-95.7)	1,178,174	94.4 (78.4-98.8)	638,229	89.3 (71.1-96.6)	509,449	89.8 (73.5-96.5)	1,147,678	26.0 (8.9-43.2)	-0.2 (-18.4-18.0)	2.5 (-14.1-19.0)
At least one private not-for-profit health facility stocking quality-assured ACTs	15.8 (7.8-29.4)	838,897	0.0	339,277	1.6 (0.7-3.6)	1,178,174	77.8 (60.8-88.8)	638,229	7.1 (1.7-25.0)	509,449	14.1 (7.2-25.9)	1,147,678	62.0 (44.6-79.4)	7.1 (-2.5-16.8)	12.5 (3.3-21.6)
At least one private for-profit outlet stocking quality-assured ACTs	94.7 (78.9-98.9)	838,897	57.9 (34.9-77.9)	339,277	61.7 (40.1-79.4)	1,178,174	94.4 (74.6-99.0)	638,229	64.3 (45.0-79.8)	509,449	67.3 (49.4-81.2)	1,147,678	-0.3 (-12.2-11.6)	6.4 (-22.5-35.3)	5.6 (-20.5-31.7)
At least one community health worker stocking quality-assured ACTs	0.0	838,897	52.6 (30.4-73.9)	339,277	47.3 (27.9-67.5)	1,178,174	27.8 (12.7-50.4)	638,229	57.1 (38.3-74.1)	509,449	54.3 (37.4-70.2)	1,147,678	27.8 (8.5-47.1)	4.5 (-25.0-34.0)	7.0 (-19.7-33.7)
At least one outlet of any type stocking quality-assured ACTs	94.7 (78.9-98.9)	838,897	89.5 (65.1-97.5)	339,277	90.0 (68.3-97.4)	1,178,174	100.0	638,229	100.0	509,449	100.0	1,147,678	5.3 (-2.4-13.0)	10.5 (-3.6-24.6)	10.0 (-2.7-22.7)
Niger												,			
At least one public health facility stocking quality-assured ACTs	58.9 (40.0-75.5)	366,272	57.1 (42.0-71.0)	552,717	57.4 (44.4-69.5)	918,989	48.9 (35.2-62.7)	414,798	77.9 (63.5-87.7)	481,099	72.4 (61.1-81.4)	895,897	-10.0 (-33.1-13.1)	20.8 (1.8-39.9)	15.0 (-1.3-31.2)
At least one private not-for-profit health facility stocking quality-assured ACTs	0.5 (0.1-4.1)	366,272	0.0	552,717	0.1 (0.0-0.7)	918,989	3.3 (0.8-12.8)	414,798	3.5 (0.7-16.0)	481,099	3.4 (0.9-12.5)	895,897	2.7 (-2.0-7.5)	3.5 (-2.1-9.0)	3.3 (-1.2-7.9)
At least one private for-profit outlet stocking quality-assured ACTs	85.0 (67.6-93.9)	366,272	40.1 (26.6-55.3)	552,717	47.7 (35.6-60.1)	918,989	93.2 (82.6-97.5)	414,798	57.9 (43.2-71.3)	481,099	64.7 (52.3-75.4)	895,897	8.2 (-6.1-22.5)	17.8 (-2.6-38.3)	17.0 (0.0-34.0)
At least one community health worker stocking quality-assured ACTs	0.0	366,272	0.0	552,717	0.0	918,989	0.0	414,798	0.0	481,099	0.0	895,897	0.0	0.0	0.0
At least one outlet of any type stocking quality-assured ACTs	94.3 (78.7-98.7)	366,272	81.7 (67-90.7)	552,717	83.8 (71.4-91.5)	918,989	93.2 (82.6-97.5)	414,798	87.3 (73.9-94.3)	481,099	88.4 (77.7-94.3)	895,897	-1.1 (-11.5-9.3)	5.6 (-9.6-20.8)	4.6 (-8.0-17.2)

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Table 2.2.10: *Cont.*

Country/Type of outlet	BASELINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N	PERCENTAGE POINT CHANGE Urban % (95% CI)	Rural % (95% CI)	Total % (95% CI)
Nigeria															
At least one public health facility stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
At least one private not-for-profit health facility stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
At least one private for-profit outlet stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
At least one community health worker stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
At least one outlet of any type stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tanzania – mainland															
At least one public health facility stocking quality-assured ACTs	44.5 (16.8-76.0)	154,580	59.0 (42.7-73.5)	519,954	56.3 (41.8-69.8)	674,534	35.0 (20.1-53.5)	288,563	69.2 (49.8-83.5)	392,886	62.4 (47.3-75.5)	681,449	-9.5 (-47.2-28.2)	10.2 (-13.0-33.4)	6..1 (14.0-26.5)
At least one private not-for-profit health facility stocking quality-assured ACTs	11.1 (1.4-52.4)	154,580	20.5 (10.4-36.4)	519,954	18.8 (9.9-32.8)	674,534	15.0 (5.7-34.1)	288,563	6.9 (1.6-24.6)	392,886	8.5 (3.1-20.9)	681,449	3.9 (-21.3-29.1)	-13.7 (-29.6-2.3)	-10.3 (-24.2-3.5)
At least one private for-profit outlet stocking quality-assured ACTs	66.7 (31.9-89.5)	154,580	35.9 (22.2-52.3)	519,954	41.5 (28.4-55.9)	674,534	100.0	288,563	75.4 (55.9-88.1)	392,886	80.2 (63.8-90.3)	681,449	33.3 (1.4-65.2)	39.5 (17.2-61.7)	38.7 (19.6-57.8)
At least one community health worker stocking quality-assured ACTs	0.0	154,580	0.0	519,954	0.0	674,534	0.0	288,563	0.0	392,886	0.0	681,449	0.0	0.0	0.0
At least one outlet of any type stocking quality-assured ACTs	88.9 (47.6-98.6)	154,580	79.5 (63.6-89.6)	519,954	81.2 (67.2-90.1)	674,534	100.0	288563	89.7 (71.7-96.8)	392,886	91.7 (76.8-97.4)	681,449	11.1 (-10.2-32.4)	10.2 (-6.9-27.3)	10.6 (-3.9-57.8)
Uganda															
At least one public health facility stocking quality-assured ACTs	57.6 (10.9-93.8)	96,159	100.0	1,069,824	95.3 (72.7-99.4)	1,165,983	66.7 (23.7-92.8)	487,554	96.2 (76.1-99.5)	902,154	92.5 (74.9-98.1)	1,389,708	9.1 (-61.5-79.6)	-3.8 (-11.4-3.7)	-2.7 (-15.9-10.4)
At least one private not-for-profit health facility stocking quality-assured ACTs	57.6 (10.9-93.8)	96,159	26.0 (13.2-44.7)	1,069,824	29.5 (16.5-46.9)	1,165,983	27.8 (14.8-46.1)	487,554	46.2 (27.2-66.3)	902,154	43.9 (27.1-62.2)	1,389,708	-29.8 (-89.3-29.7)	20.2 (-5.6-45.9)	14.4 (-9.3-38.0)
At least one private for-profit outlet stocking quality-assured ACTs	100.0	96,159	70.2 (52.1-83.6)	1,069,824	73.5 (56.4-85.6)	1,165,983	100.0	487,554	100.0	902,154	100.0	1,389,708	0.0	29.8 (14.0-45.5)	26.5 (12.0-41.0)
At least one community health worker stocking quality-assured ACTs	0.0	96,159	6.6 (2.3-17.2)	1,069,824	5.9 (2.1-15.6)	1,165,983	11.1 (2.3-39.7)	487,554	19.2 (7.0-43.1)	902,154	18.2 (7.1-39.4)	1,389,708	11.1 (-5.1-27.4)	12.6 (-6.3-31.6)	12.4 (-4.5-29.2)
At least one outlet of any type stocking quality-assured ACTs	100.0	96,159	100.0	1,069,824	100.0	1,165,983	100.0	487,554	100.0	902,154	100.0	1,389,708	0.0	0.0	0.0
Zanzibar															
At least one public health facility stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
At least one private not-for-profit health facility stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
At least one private for-profit outlet stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
At least one community health worker stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
At least one outlet of any type stocking quality-assured ACTs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: This indicator could not be calculated for Zanzibar because subdistrict population numbers were unavailable. It could not be calculated for Nigeria because of the nature of the sample design.

CI = confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.3 Evaluation question on ACT affordability

Question 2: Has the cost of quality-assured ACTs to patients been reduced at public, private for-profit and not-for-profit outlets in rural/urban areas to a price comparable to the price of the most popular antimalarials?

2.3.1 Cost to patients of antimalarials

Table 2.3.1 shows the cost to patients of non-artemisinin therapies such as SP, amodiaquine, chloroquine and quinine. It should be noted that some of the variation across countries is likely to reflect differences in the shares of different generic drug types and formulations (for example, quinine tends to be more costly than other generic types, and injections and syrups tend to be more costly than tablets). In Kenya, Niger, Tanzania mainland, Uganda and Zanzibar, the median price per AETD was zero in public health facilities, reflecting generally free drug provision in these outlets. At endline, in the private for-profit sector, the median price was less than USD 1.00 in Madagascar, Niger and Nigeria. It was between USD 1.00 and 2.00 in Tanzania mainland, Ghana and Kenya; and it was most expensive in Zanzibar (USD 2.62) and Uganda (USD 4.93). There was no change in median price from baseline to endline in most countries in the private for-profit sector. There was a small increase in median price in Niger (USD 0.11). In Ghana, there were small but significant price decreases in both rural and urban areas, but an overall increase in median price of USD 0.40. This reflects the higher proportion of urban outlets enumerated at endline than at baseline, and the lower proportion of rural outlets that stocked antimalarials at endline (see Tables 2.1.4 and 2.2.1), combined with the higher median price in urban than rural outlets.

Table 2.3.2 shows the cost to patients of artemisinin monotherapies. These products were rare at endline in Madagascar, Niger and Zanzibar. Where they were more common, the median price per AETD in private for-profit outlets was more than USD 15.00 in Uganda, Tanzania mainland and Kenya. In Ghana the median price at endline was USD 5.63 and in Nigeria it was USD 2.95. In Nigeria this represented a significant fall from a baseline price of USD 4.09 at baseline.

Table 2.3.3 shows the cost to patients of oral artemisinin monotherapies at endline, distinguishing all oral dosage forms and tablets only. The median prices in private for-profit outlets are used in Success Benchmarks 3a and 3b. These products are very rare in most countries. In Ghana and Nigeria, where they were more common, the median price in private for-profit outlets for all oral dosage forms was USD 5.63 in Ghana and USD 2.83 in Nigeria. For tablets only, the median price was USD 1.88 in Ghana and USD 2.66 in Nigeria.

Table 2.3.4 shows the cost to patients of non-quality-assured ACTs. The median price in public health facilities was USD 0.00 in Kenya, Madagascar, Niger, Tanzania mainland, Uganda and Zanzibar, although these drugs were very rare in this sector in many countries. In private for-profit outlets at endline, prices ranged from USD 3.50 in Ghana to USD 9.36 in Tanzania

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mainland. In all countries, prices were higher in urban than in rural areas. Among private for-profit outlets, there was a significant decrease in median price in Ghana, Zanzibar and Tanzania mainland (though of a small size in the latter) and an increase in median price in Madagascar and Niger.

Table 2.3.5 shows the cost to patients of QAACTs. In the public sector, the median price at endline was zero in all countries, reflecting widespread free provision, except for Ghana where it was $0.94. It is recognised that users of public health facilities may face a variety of other direct (e.g., consultation or registration fees, transport costs) or indirect (opportunity cost of waiting time) costs associated with seeking care in the public sector, which may pose substantial barriers to careseeking even when drugs are provided free of charge. In the private for-profit sector, the lowest median prices were in Kenya (USD 0.58) and Madagascar (USD 0.60), followed by Tanzania mainland USD 0.94. In other countries, prices were USD 1.13 in Ghana, USD 1.17 in ZZB, USD 1.19 in Niger, USD 1.48 in Nigeria and USD 1.96 in Uganda. Large and significant falls in prices were seen in 6 of the 8 pilots, with the decline ranging from USD 1.28 to USD 4.82. In Uganda, no significant price change was observed overall, but there was a significant fall in urban areas of USD 2.68. In Madagascar, there was a significant increase in the median price of USD 0.46, but the median price at baseline was only USD 0.14, reflecting the presence of an ACT subsidy program at baseline (brand name ACTipal), which included a very low recommended retail price (USD 0.10-0.20 for an adult equivalent treatment dose). QAACTs were slightly more expensive in urban than rural areas, except in Uganda where the median prices were the same, and in Nigeria where the price was higher in rural areas.

Table 2.3.6 shows the cost to patients of QAACTs disaggregated by the presence of the AMFm logo. In Ghana and Zanzibar, the price of QAACTs without the logo in the private for-profit sector was around 7 times higher than those with the logo. In Kenya, Niger and Nigeria, QAACTs without the logo were somewhat more expensive. In Uganda, the median price was the same for the two types of product; while in Tanzania mainland, QAACTs without the logo were less expensive in rural areas, but considerably higher in urban areas. In Madagascar, QAACTs without the logo were much more expensive in urban areas than those with the logo, but in rural areas they were less expensive, possibly reflecting the presence of the subsidized ACT product ACTipal.

Table 2.3.7 presents the cost of pediatric formulations of QAACTs for which the age range included a two-year old child. As noted for all QAACTs, in the public sector the median price at endline was zero in all countries reflecting widespread free provision, except for Ghana where it was USD 0.31. In the private for-profit sector, prices ranged from USD 0.19 in Madagascar (reflecting the presence of ACTipal) to USD 0.89 in Nigeria. In most countries, pediatric QAACTs had the same or very similar median cost in urban and rural areas at endline; exceptions were Tanzania mainland and Zanzibar, where costs were higher in urban areas.

Significant declines in price between baseline and endline were observed in Ghana, Kenya, Niger, Zanzibar and urban areas of Tanzania mainland. There was no change in Nigeria, Uganda and rural areas in Tanzania mainland. In Uganda and rural Tanzania, this reflected the low median price in rural areas at baseline in both countries, possibly due to the low price of the CAPSS subsidized ACT product in Uganda. The median price increased in Madagascar, possibly reflecting the presence of the subsidized ACT product ACTipal at baseline.

Table 2.3.8 shows the cost to patients of pediatric formulations of QAACTs at endline disaggregated by the presence of the AMFm logo. Pediatric QAACTs without the logo were rare except in Kenya, Madagascar, Nigeria and Uganda, where the difference in price of QAACTs with and without the logo was not that large. In Madagascar, QAACTs without the logo were much more expensive in urban areas than those with the logo, but in rural areas they were less expensive, possible reflecting the presence of the subsidized ACT product ACTipal.

Table 2.3.1: Cost to patients of non-artemisinin therapy, in 2010 US dollars, at baseline (2010) and endline(2011)

Indicator 2.4 Median cost to patients of one adult equivalent treatment dose (AETD) of non-artemisinin monotherapy or non-artemisinin combination therapy for ALL DOSAGE FORMS, by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE						CHANGE IN MEDIAN		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
Country/Type of outlet	Median ost [IQR]	No. of Products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Change in median [p-value]	Change in median [p-value*]	Change in median [p-value*]
Ghana – Total	1.64 [0.34-4.03]	1,961	0.68 [0.34-3.08]	1,298	1.03 [0.34-3.08]	3,259	1.75 [0.31-3.38]	1,122	0.70 [0.31-3.19]	457	1.50 [0.31-3.19]	1,579	0.11 [0.022]	0.02 [0.0062]	0.47 [0.0234]
Public health facility	4.75 [0.21-10.55]	88	2.05 [0.00-6.27]	174	2.74 [0.00-6.65]	262	5.26 [0.00-13.02]	103	5.26 [0.00-10.85]	169	5.26 [0.00-10.85]	272	0.50 [0.8246]	3.20 [0.4828]	2.52 [0.3773]
Private not-for-profit health facility	0.21 [0.21-0.27]	3	5.75 [2.38-9.49]	25	5.75 [1.19-9.49]	28	13.14 [5.26-13.23]	9	0.06 [0.00-5.26]	17	5.26 [0.00-13.23]	26	12.93 [0.0089]	-5.69 [0.0399]	-0.50 [0.86671]
Private for-profit outlet															
Health facility/pharmacy	2.38 [0.82-7.98]	1,244	2.47 [0.55-8.17]	220	2.40 [0.68-7.98]	1,464	1.88 [0.38-5.26]	650	2.25 [0.31-3.94]	35	1.88 [0.38-5.26]	685	-0.50 [0.0004]	-0.21 [0.5861]	-0.52 [0.0011]
Drug store	0.51 [0.34-2.67]	620	0.68 [0.34-3.08]	873	0.64 [0.34-3.08]	1,493	0.94 [0.31-2.82]	359	0.63 [0.31-2.82]	232	0.63 [0.31-2.82]	591	0.42 [0.7542]	-0.06 [0.0041]	-0.01 [0.0036]
General retailer/itinerant	0.34 [0.34-0.34]	6	0.34 [0.34-2.47]	6	0.34 [0.34-2.47]	12	0.31 [0.31-0.31]	1	0.38 [0.31-0.38]	4	0.38 [0.31-0.38]	5	-0.03	0.03 [0.6796]	0.03[0.8171]
Total	1.64 [0.34-3.70]	1,870	0.68 [0.34-3.08]	1,099	0.91 [0.34-3.08]	2,969	1.56 [0.31-2.82]	1,010	0.63 [0.31-2.82]	271	1.31 [0.31-2.82]	1,281	-0.08 [0.006]	-0.06 [0.0024]	0.40 [0.0081]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Kenya – Total	1.31 [0.39-6.94]	1,801	0.79 [0.39-1.97]	1,694	0.98 [0.39-2.36]	3,495	1.55 [0.58-9.21]	1,622	0.58 [0.23-2.42]	1,563	0.73 [0.35-3.45]	3,185	0.24 [0.2708]	-0.21 [0.3080]	-0.26 [0.4781]
Public health facility	0.00 [0.00-0.00]	284	0.00 [0.00-0.00]	627	0.00 [0.00-0.00]	911	0.00 [0.00-0.00]	272	0.00 [0.00-0.00]	764	0.00 [0.00-0.00]	1,036	0.00 [0.9007]	0.00 [0.3705]	0.00 [0.2320]
Private not-for-profit health facility	3.54 [1.05-11.11]	43	0.00 [0.00-0.66]	29	0.00 [0.00-5.55]	72	2.07 [0.12-9.74]	37	0.35 [0.00-7.31]	67	0.69 [0.00-7.31]	104	-1.47 [0.4058]	0.35 [0.2056]	0.69 [0.5302]
Private for-profit outlet															
Health facility/pharmacy	5.55 [1.31-13.91]	627	2.36 [0.92-17.31]	197	3.15 [1.05-16.16]	824	3.38 [1.15-14.61]	661	2.76 [0.69-14.61]	221	2.76 [0.81-14.61]	882	-2.17 [0.5593]	0.40 [0.8105]	-0.39 [0.6118]
Drug store	1.97 [0.79-8.33]	593	1.64 [0.74-5.51]	474	1.77 [0.79-5.91]	1,067	1.73 [0.86-9.74]	510	1.73 [0.52-9.74]	314	1.73 [0.58-9.74]	824	-0.24 [0.2520]	0.09 [0.5940]	-0.05 [0.6946]
General retailer/itinerant	0.53 [0.39-0.79]	251	0.53 [0.39-0.83]	352	0.53 [0.39-0.83]	603	0.52 [0.35-0.86]	142	0.52 [0.35-1.04]	197	0.52 [0.35-1.04]	339	-0.01 [0.5681]	-0.01 [0.9999]	-0.01 [0.7975]
Total	1.97 [0.79-8.33]	1,471	1.05 [0.53-2.36]	1,023	1.18 [0.53-3.28]	2,494	1.73 [0.69-9.79]	1,313	1.04 [0.46-7.31]	732	1.15 [0.52-7.31]	2,045	-0.20 [0.9507]	-0.01 [0.8292]	-0.03 [0.9749]
Community health worker	1.97 [0.66-1.97]	3	0.46 [0.00-3.15]	15	0.46 [0.00-3.15]	18	-	0	-	0	-	0	-	-	-
Madagascar – Total	0.35 [0.35-6.87]	2,038	0.35 [0.35-0.42]	1,509	0.35 [0.35-0.56]	3,547	0.34 [0.32-6.33]	1,498	0.32 [0.32-0.43]	2,223	0.32 [0.32-0.64]	3,721	-0.01 [0.1092]	-0.03[<0.0001]	-0.03[<0.0001]
Public health facility	2.45 [0.0-10.13]	88	0.12 [0.00-5.08]	554	1.75 [0.00-5.08]	642	2.78 [0.00-3.98]	94	1.44 [0.00-3.98]	759	1.85 [0.00-3.98]	853	0.33 [<0.0001]	1.31 [0.1687]	0.10 [0.0040]
Private not-for-profit health facility	2.40 [0.00-7.36]	17	-	0	2.40 [0.00-7.36]	17	5.42 [0.38-7.23]	32	2.69 [0.96-3.62]	6	2.69 [0.73-6.33]	38	3.03 [0.5868]	-	2.69	0.30 [0.7130]
Private for-profit outlet															
Health facility/pharmacy	5.75 [0.33-8.56]	512	5.89 [0.35-8.84]	20	5.89 [0.35-8.84]	532	5.98 [0.91-10.09]	480	9.04 [0.35-13.56]	25	6.24 [0.77-10.85]	505	0.23 [0.1392]	3.15 [0.1813]	0.35 [0.0294]
Drug store	2.10 [0.33-11.78]	143	0.37 [0.28-6.87]	677	1.12 [0.30-8.84]	820	4.52 [0.30-7.69]	138	0.43 [0.32-7.23]	1,004	0.51 [0.32-7.23]	1,142	2.42 [0.07044]	0.05 [0.6082]	-0.61 [0.0748]
General retailer/itinerant	0.35 [0.35-0.35]	1,276	0.35 [0.35-0.35]	257	0.35 [0.35-0.35]	1,533	0.32 [0.32-0.32]	754	0.32 [0.32-0.32]	422	0.32 [0.32-0.32]	1,176	-0.03 [<0.0001]	-0.03 [<0.0001]	-0.03 [<0.0001]
Total	0.35 [0.35-6.87]	1,931	0.35 [0.35-0.35]	954	0.35 [0.35-0.47]	2,885	0.32 [0.32-6.67]	1,372	0.32 [0.32-0.34]	1,451	0.32 [0.32-0.43]	2,823	-0.03 [0.1056]	-0.03 [<0.0001]	-0.03 [<0.0001]
Community health worker	0.00 [0.00-0.21]	2	0.70 [0.70-0.70]	1	0.70 [0.70-0.70]	3	-	0	0.38 [0.32-0.38]	7	0.38 [0.32-0.38]	7	-	-0.32 [0.02081]	-0.32 [0.134]
Niger – Total	0.31 [0.26-0.99]	1,944	0.31 [0.26-0.46]	1,879	0.31 [0.26-0.51]	3,823	0.48 [0.36-1.19]	1,748	0.48 [0.28-0.62]	1,026	0.48 [0.30-0.69]	2,774	0.17 [0.004198]	0.17 [<0.0001]	0.17 [<0.0001]
Public health facility	0.00 [0.00-7.13]	246	0.00 [0.00-0.20]	854	0.00 [0.00-0.31]	1,100	0.00 [0.00-3.33]	257	0.00 [0.00-0.00]	451	0.00 [0.00-0.00]	708	0.00 [0.732]	0.00 [<0.0001]	0.00 [0.0000]
Private not-for-profit health facility	10.70 [10.70-14.26]	7	-	0	10.70 [10.70-14.26]	7	15.72 [4.13-25.15]	3	0.00 [0.00-0.00]	6	0.00 [0.00-0.00]	9	5.02 [0.202]	-	-10.7 [0.01923]
Private for-profit outlet															
Health facility/pharmacy	9.12 [2.05-16.07]	718	9.36 [4.64-13.37]	38	9.36 [2.36-16.05]	756	7.61 [1.03-15.47]	574	2.50 [0.50-3.57]	3	7.61 [1.03-15.47]	577	-1.51 [0.1516]	-6.86 [0.0001]	-1.75 [0.1393]
Drug store	3.57 [1.03-10.7]	36	4.28 [0.51-8.02]	22	3.57 [0.51-10.7]	58	3.96 [0.50-9.91]	66	7.73 [2.91-10.31]	8	4.76 [1.54-10.31]	74	0.40 [0.9125]	3.46 [0.1112]	1.19 [0.2946]
General retailer/itinerant	0.31 [0.26-0.48]	936	0.39 [0.31-0.46]	963	0.31 [0.31-0.46]	1,899	0.48 [0.36-0.60]	848	0.60 [0.40-0.72]	558	0.50 [0.37-0.62]	1,406	0.17 [<0.0001]	0.21 [<0.0001]	0.19 [<0.0001]
Total	0.36 [0.31-0.96]	1,690	0.39 [0.31-0.48]	1,023	0.39 [0.31-0.51]	2,713	0.50 [0.36-1.15]	1,488	0.60 [0.40-0.72]	569	0.50 [0.37-0.80]	2,057	0.14 [0.0014]	0.21 [<0.0001]	0.11 [<0.0001]
Community health worker	0.31 [0.31-0.31]	1	0.39 [0.23-0.39]	2	0.31 [0.23-0.39]	3	-	0	-	0	-	0	-	-	-
Nigeria – Total	0.93 [0.52-1.49]	9,424	0.93 [0.45-1.4]	1,820	0.93 [0.52-1.49]	11,244	1.01 [0.41-1.54]	5,827	0.89 [0.47-1.77]	2,371	1.00 [0.44-1.54]	8,198	0.08 [0.4519]	-0.04 [0.2525]	0.07 [0.7108]
Public health facility	0.00 [0.00-0.78]	463	0.60 [0.07-1.12]	85	0.60 [0.02-1.12]	548	0.92 [0.30-2.21]	78	0.53 [0.00-1.18]	79	0.71 [0.12-1.48]	157	0.92 [0.001]	-0.06 [0.6928]	0.11 [0.7195]
Private not-for-profit health facility	0.93 [0.67-2.01]	20	1.86 [0.43-4.69]	7	1.86 [0.67-4.69]	27	1.48 [0.59-1.77]	20	3.69 [1.14-6.25]	2	1.48 [0.89-1.77]	22	0.55 [0.7463]	1.83	-0.38 [0.3721]
Private for-profit outlet															
Health facility/pharmacy	1.19 [0.62-2.23]	4,268	1.49 [0.60-1.67]	63	1.30 [0.60-1.86]	4,331	1.18 [0.57-2.51]	576	1.33 [0.59-2.21]	61	1.18 [0.59-2.31]	637	-0.01 [0.1194]	-0.16 [0.8456]	-0.12 [0.2630]
Drug store	0.93 [0.52-1.49]	4,281	0.93 [0.52-1.49]	1,589	0.93 [0.52-1.49]	5,870	0.94 [0.41-1.54]	4,947	1.00 [0.47-1.77]	2,162	0.96 [0.46-1.54]	7,109	0.01 [0.2592]	0.07 [0.4208]	0.03 [0.4927]
General retailer/itinerant	0.93 [0.52-1.40]	384	0.70 [0.37-1.30]	62	0.93 [0.52-1.3]	446	0.89 [0.41-1.54]	206	0.59 [0.30-0.89]	58	0.71 [0.41-1.54]	264	-0.04 [0.4989]	-0.11 [0.2114]	-0.22 [0.2317]
Total	0.93 [0.52-1.49]	8,933	0.93 [0.52-1.4]	1,714	0.93 [0.52-1.49]	10,647	1.01 [0.41-1.54]	5,729	0.96 [0.47-1.77]	2,281	1.00 [0.47-1.54]	8,010	0.08 [0.4293]	0.03 [0.3396]	0.07 [0.7072]
Community health worker	1.21 [0.41-1.56]	8	0.74 [0.00-4.69]	14	0.74 [0.00-4.69]	22	-	0	0.59 [0.41-2.31]	9	0.59 [0.41-2.31]	9	-	-0.15 [0.7681]	-0.15 [0.7369]

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Table 2.3.1: *Cont.*														
	BASELINE						**ENDLINE**						**CHANGE IN MEDIAN**		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
Country/Type of outlet	Median ost [IQR]	No. of Products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Change in median [p-value]	Change in median [p-value*]	Change in median [p-value*]
Tanzania – mainland – Total	1.48 [0.85-3.17]	2,504	1.06 [0.49-2.54]	1,022	1.06 [0.63-2.54]	3,526	1.41 [0.94-2.81]	4,265	1.41 [0.62-3.75]	770	1.41 [0.81-2.81]	5,035	-0.07 [0.8915]	0.35 [0.0962]	0.35 [0.0554]
Public health facility	0.00 [0.00-0.00]	6	0.00 [0.00-0.00]	106	0.00 [0.00-0.00]	112	2.62 [0.35-3.97]	13	0.00 [0.00-2.64]	64	0.00 [0.00-2.64]	77	2.62 [<0.0001]	0.00 [0.01199]	0.00 [0.0024]
Private not-for-profit health facility	2.54 [1.06-5.5]	32	1.36 [0.56-7.45]	59	1.58 [0.63-7.45]	91	2.81 [1.31-13.22]	10	0.66 [0.00-3.94]	5	1.87 [0.66-13.22]	15	0.28 [0.6942]	-0.70 [0.3978]	0.29 [0.9795]
Private for-profit outlet															
Health facility/pharmacy	2.11 [1.06-4.47]	1,934	1.69 [0.63-14.79]	80	2.11 [0.85-5.92]	2,014	1.87 [0.94-4.88]	2,646	1.41 [0.62-5.25]	130	1.87 [0.94-5.25]	2,776	-0.24 [0.7722]	-0.28 [0.9351]	-0.24 [0.8867]
Drug store	1.37 [0.85-2.54]	5,31	1.48 [0.70-2.96]	691	1.41 [0.85-2.82]	1,222	1.41 [0.94-2.81]	1,584	1.41 [0.75-3.75]	559	1.41 [0.94-2.81]	2,143	0.03 [0.8617]	-0.07 [0.7496]	0.00 [0.7700]
General retailer/itinerant	0.42 [0.42-0.42]	1	0.7 [0.63-2.11]	83	0.63 [0.63-2.11]	84	1.87 [0.94-1.87]	12	0.37 [0.37-0.56]	12	0.42 [0.37-0.56]	24	1.45	-0.33 [0.0002]	-0.21 [0.0319]
Total	1.48 [0.85-2.96]	2,466	1.27 [0.63-2.82]	854	1.41 [0.70-2.82]	3,320	1.41 [0.94-2.81]	4,242	1.41 [0.70-3.75]	701	1.41 [0.94-2.81]	4,943	-0.07 [0.9743]	0.14 [0.4312]	0.00 [0.4522]
Community health worker	-	0	2.64 [0.21-14.9]	3	2.64 [0.21-14.9]	3	-	0	-	0	-	0	-	-	-
Uganda – Total	3.93 [0.93-7.25]	2,021	3.90 [0.70-6.04]	4,819	3.90 [0.70-7.25]	6,840	4.93 [0.78-8.14]	4,487	4.59 [0.78-7.13]	4,363	4.93 [0.78-7.13]	8,850	1.00 [0.8506]	0.69 [0.3077]	1.03 [0.3787]
Public health facility	0.00 [0.00-0.00]	168	0.00 [0.00-0.00]	1,372	0.00 [0.00-0.00]	1,540	0.00 [0.00-0.00]	284	0.00 [0.00-0.00]	1,109	0.00 [0.00-0.00]	1,393	0.00 [0.04336]	0.00 [0.2317]	0.00 [0.0481]
Private not-for-profit health facility	3.90 [0.56-6.04]	16	1.39 [0.00-4.83]	65	2.93 [0.14-5.07]	81	4.11 [0.35-6.11]	34	2.46 [0.00-6.11]	85	2.46 [0.00-6.11]	119	0.21 [0.7733]	1.07 [0.5992]	-0.47 [0.8893]
Private for-profit outlet															
Health facility/pharmacy	5.32 [1.16-8.46]	1,601	5.85 [1.21-7.86]	1,320	5.85 [1.16-8.46]	2,921	5.09 [1.17-8.28]	3,041	5.09 [1.17-8.28]	1,419	5.09 [1.17-8.28]	4,460	-0.23 [0.5805]	-0.76 [0.3044]	-0.76 [0.2461]
Drug store	3.90 [0.84-7.25]	228	4.83 [1.25-6.04]	2,042	4.18 [1.16-6.77]	2,270	4.11 [0.78-6.57]	1,127	4.93 [1.14-7.13]	1,742	4.93 [1.06-7.13]	2,869	0.21 [0.8975]	0.10 [0.1933]	0.75 [0.2388]
General retailer/itinerant	2.93 [0.42-7.25]	7	3.90 [1.95-6.04]	19	3.90 [0.70-6.04]	26	3.29 [3.29-3.29]	1	3.29 [0.59-3.29]	8	3.29 [0.59-3.29]	9	0.36	-0.61 [0.0381]	-0.61 [0.1189]
Total	4.83 [0.93-7.25]	1,836	4.83 [1.25-7.25]	3,381	4.83 [1.16-7.25]	5,217	4.93 [1.14-8.14]	4,169	4.93 [1.14-7.13]	3,169	4.93 [1.14-7.13]	7,338	0.10 [0.7339]	0.10 [0.1924]	0.10 [0.2240]
Community health worker	0.28	1	19.65	1	0.28 [0.28-19.65]	2	-	0	-	0	-	0	-	-	-
Zanzibar – Total	2.32 [0.63-3.17]	336	0.00 [0.00-2.39]	173	1.69[0.00-3.17]	509	2.45 [0.87-3.50]	175	1.05 [0.00-2.62]	69	2.10 [0.52-2.80]	244	0.12	1.05	0.41
Public health facility	0.00 [0.00-0.00]	56	0.00 [0.00-0.00]	92	0.00 [0.00-0.00]	148	0.00 [0.00-2.45]	23	0.00 [0.00-0.00]	23	0.00 [0.00-0.00]	46	0.00	0.00	0.00
Private not-for-profit health facility	2.96 [0.63-3.17]	5	16.96 [2.96-30.95]	2	2.96 [0.63-9.77]	7	-	0	-	0	-	0	-	-	-
Private for-profit outlet															
Health facility/pharmacy	3.17 [1.27-7.33]	163	3.17 [1.06-6.11]	28	3.17 [1.27-7.33]	191	4.55 [2.45-12.33]	71	2.45 [1.75-3.50]	22	2.62 [2.10-12.33]	93	1.38	-0.72	-0.55
Drug store	2.11 [0.63-3.17]	111	2.11 [1.27-3.17]	47	2.11 [0.95-3.17]	158	1.75 [0.87-2.62]	78	1.75 [0.58-2.62]	22	1.75 [0.87-2.62]	100	-0.36	-0.36	-0.36
General retailer/itinerant	0.42 [0.42-0.42]	1	0.58 [0.42-0.63]	4	0.53 [0.42-0.63]	5	0.87 [0.52-3.50]	3	3.50 [3.50-3.50]	2	3.50 [0.87-3.50]	5	0.45	2.92	2.97
Total	2.82 [1.06-4.23]	275	2.11 [1.06-3.17]	79	2.54 [1.06-3.66]	354	2.62 [1.24-3.50]	152	2.45 [1.05-2.62]	46	2.62 [1.05-3.50]	198	-0.19	0.34	0.09
Community health worker								0		0		0	-	-	-

Note: An AETD is the number of milligrams (mg) of a given drug that is required to treat a 60 kg adult. AETDs were calculated for every audited antimalarial.

*This is the *p*-value for the result of a Wilcoxon ranksum test of no difference in median between baseline and endline. Nigeria baseline data collection was conducted in 2009.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.2: Cost to patients of artemisinin monotherapy, in 2010 US dollars, at baseline (2010) and endline (2011)

Indicator 2.3 Median cost to patients of one adult equivalent treatment dose (AETD) of artemisinin monotherapy for ALL DOSAGE FORMS, by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE						CHANGE IN MEDIAN		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No.of products	Median Cost [IQR]	No. of products	Change in median [p-value*]	Change in median [p-value*]	Change in median [p-value*]
Ghana – Total	6.16 [2.74-9.86]	1,471	5.14 [2.40-7.19]	602	5.48 [2.40-7.67]	2,073	5.63 [2.19-7.61]	892	4.69 [1.88-7.51]	195	5.63 [2.19-7.51]	1,087	-0.53 [0.0324]	-0.44 [0.0732]	0.15 [0.33]
Public health facility	8.77 [4.11-13.15]	47	11.84 [6.99-15.62]	75	11.51 [6.16-15.62]	122	9.01 [7.51-11.41]	41	3.60 [1.50-10.01]	66	9.01 [1.88-11.26]	107	0.24 [0.8380]	-8.23 [<0.0001]	-2.50 [0<0.0001]
Private not-for-profit health facility	16.44 [11.51-16.44]	6	3.29 [0.82-9.21]	12	3.29 [0.99-9.86]	18	9.01 [7.51-15.01]	6	0.00 [0.00-9.01]	6	7.51 [0.90-15.01]	12	-7.43 [0.183]	-3.29 [0.0236]	4.22[0.911]
Private for-profit outlet															
Health facility/pharmacy	6.58 [3.84-10.96]	1,121	6.16 [2.40-12.05]	153	6.16 [3.29-10.96]	1,274	6.01 [2.40-10.01]	655	6.01 [2.00-9.76]	35	6.01 [2.40-10.01]	690	-0.57 [0.0814]	-0.16 [0.1445]	-0.16[0.0701]
Drug store	5.14 [2.40-7.19]	297	5.14 [2.40-6.58]	362	5.14 [2.40-6.58]	659	5.63 [2.19-6.61]	190	4.69 [2.00-6.57]	88	5.63 [2.19-6.57]	278	0.49 [0.1871]	-0.44 [0.3512]	0.49[0.2624]
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	5.96 [2.74-9.25]	1,418	5.14 [2.40-6.58]	515	5.14 [2.40-7.19]	1,933	5.63 [2.19-7.51]	845	5.00 [2.00-6.57]	123	5.63 [2.19-7.51]	968	-0.33 [0.0095]	-0.13 [0.2238]	0.49 [0.3279]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Kenya – Total	17.33 [12.60-28.49]	351	9.85 [3.28-15.12]	75	12.60 [7.88-22.05]	426	15.47 [11.05-27.63]	360	15.20 [11.60-16.58]	71	15.20 [11.05-22.1]	431	-1.86 [0.348]	5.35 [0.087]	2.59 [0.437]
Public health facility	12.60 [0.00-18.90]	8	7.88 [0.00-12.6]	6	12.60 [0.00-12.60]	14	8.29 [0.00-13.81]	26	0.00 [0.00-0.00]	6	0.00 [0.00-6.91]	32	-4.31 [0.761]	-7.88 [0.073]	-12.6 [0.148]
Private not-for-profit health facility	15.75 [10.87-18.90]	7	22.05 [18.90-25.2]	2	18.90 [12.60-18.90]	9	16.58 [9.21-27.63]	11	13.81 [11.05-16.58]	6	13.81 [11.05-22.1]	17	0.83 [0.679]	-8.24 [0.042]	-5.09 [0.539]
Private for-profit outlet															
Health facility/pharmacy	18.9 [11.81-31.51]	268	18.90 [15.12-25.2]	38	18.90 [12.60-28.35]	306	18.65 [12.66-33.16]	196	16.58 [12.09-17.96]	51	16.58 [12.66-23.21]	247	-0.25 [0.801]	-2.33 [0.082]	-2.33 [0.261]
Drug store	16.38 [12.60-28.49]	68	6.56 [2.63-11.55]	29	9.19 [3.28-12.60]	97	13.81 [11.05-22.10]	127	15.20 [13.81-15.47]	8	14.37 [11.05-20.15]	135	-2.57 [0.064]	8.63 [0.002]	5.18 [0.006]
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	17.64 [12.60-30.63]	336	9.85 [3.28-15.12]	67	12.60 [7.88-22.68]	403	15.47 [11.05-27.63]	323	15.20 [13.26-16.58]	59	15.47 [11.6-22.1]	382	-2.17 [0.304]	5.35 [0.045]	2.87 [0.37]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Madagascar – Total	22.45 [22.45-22.45]	8	25.81	1	22.45 [22.45-22.45]	9	36.83 [31.62-42.04]	2	0.00 [0.00-0.00]	2	31.62 [0.00-42.04]	4	14.39 [<0.0001]	-25.81	9.17 [0.4395]
Public health facility	-	0	-	0	-	0	-	0	0.00 [0.00.0.00]	2	0.00 [0.00-0.00]	2	-	-	-
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Private for-profit outlet															
Health facility/pharmacy	22.45 [22.45-22.45]	8	-	0	22.45 [22.45-22.45]	8	36.83 [31.62-42.04]	2	-	0	36.83 [31.62-42.04]	2	14.39 [<0.0001]	-	14.39
Drug store	-	0	25.81	1	25.81	1	-	0	-	0	-	0	-	-	-
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	22.45 [22.45-22.45]	8	25.81	1	22.45 [22.45-22.45]	9	36.83 [31.62-42.04]	2	-	0	36.83 [31.62-42.04]	2	14.39 [<0.0001]	--	14.39 [0.0001]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Niger – Total	13.32 [6.43-22.52]	150	-	11	6.58 [3.29-18.5]	161	17.12 [6.21-28.35]	158	0.00 [0.00-0.00]	10	6.25 [0.00-22.59]	168	3.80 [0.37]	0.00 [0.2]	-0.33 [0.59]
Public health facility	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	11	0.0 [0.00-0.00]	12	0.00 [0.00-1.11]	5	0.0 [0.00-0.00]	7	0.0 [0.00-0.00]	12	0.00 [0.14]	0.00 [0.2]	0.00 [0.43]
Private not-for-profit health facility	-	0	-	0	-	0	-	0	0.0 [0.00-0.00]	3	0.0 [0.00-0.00]	3	-	-	-
Private for-profit outlet															
Health facility/pharmacy	15.87 [6.50-24.56]	140	-	0	15.87 [6.50-24.56]	140	21.7 [11.89-33.13]	144	-	0	21.7 [11.89-33.13]	144	5.84 [0.06]	-	5.84 [0.06]
Drug store	6.58 [6.58-6.58]	2	-	0	6.58 [6.58-6.58]	2	6.34 [4.76-16.65]	5	-	0	6.34 [4.76-16.65]	5	-0.24	-	-0.24
General retailer/itinerant	3.29 [0.00-4.93]	7	-	0	3.29 [0.00-4.93]	7	1.27 [0.63-6.34]	4	-	0	1.27 [0.63-6.34]	4	-2.02 [0.98]	-	-2.02 [0.98]
Total	13.35 [6.43-22.52]	149	-	0	13.35 [6.43-22.52]	149	17.28 [6.26-30.76]	153	-	0	17.28 [6.26-30.76]	153	3.93 [0.24]	-	3.93 [0.24]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Nigeria – Total	3.81 [2.98-10.05]	2,378	4.52 [2.98-17.86]	230	4.17 [2.98-11.16]	2,608	3.25 [2.36-9.74]	958	3.31 [2.83-9.74]	271	3.31 [2.36-9.74]	1,229	-0.56 [0.0001]	-1.22 [0.0083]	-0.86 [<0.0001]
Public health facility	9.82 [2.98-15.00]	108	40.19 [2.62-44.65]	15	40.19 [2.62-44.65]	123	5.67 [2.08-10.63]	23	5.67 [4.25-9.74]	24	5.67 [2.08-10.63]	47	-4.16 [0.0756]	-34.52 [0.1771]	-34.52 [0.1827]
Private not-for-profit health facility	22.1 [11.91-35.72]	10	17.86	1	17.86 [17.86-17.86]	11	21.26 [0.94-24.80]	6	5.67	1	21.26 [5.67-24.80]	7	-0.85 [0.4971]	-12.19	3.39 [0.9459]
Private for-profit outlet															
Health facility/pharmacy	4.52 [3.57-14.29]	1,544	11.16 [2.98-17.86]	23	11.16 [3.35-17.86]	1,567	7.09 [2.83-15.94]	186	16.53 [7.97-28.93]	19	7.97 [2.83-15.94]	205	2.56 [0.05474]	5.37 [0.1513]	-3.19 [0.02191]
Drug store	3.81 [2.98-10.05]	663	4.17 [2.98-10.72]	188	3.81 [2.98-10.05]	851	2.83 [2.36-7.97]	722	3.31 [2.66-9.45]	224	2.95 [2.36-7.97]	946	-0.98 [<0.0001]	-0.86 [0.0258]	-0.86 [<0.0001]
General retailer/itinerant	3.57 [3.57-7.74]	51	11.83 [3.57-20.09]	2	3.57 [3.57-8.93]	53	8.86 [2.83-10.63]	21	2.83 [2.83-2.83]	3	8.86 [2.83-10.63]	24	5.28 [0.9078]	-90.00 [0.0213]	5.28 [0.5550]
Total	3.81 [2.98-10.05]	2,258	4.17 [2.98-12.28]	213	4.09 [2.98-10.72]	2,471	3.25 [2.36-9.74]	929	3.31 [2.83-9.74]	246	3.31 [2.36-9.74]	1,175	-0.56 [<0.0001]	-0.86 [0.0046]	-0.79 [<0.0001]
Community health worker	1.79 [0.00-3.57]	2	29.02	1	29.02	3	-	0	-	0	-	0	-	-	-

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Table 2.3.2: *Cont.*

	BASELINE						ENDLINE						CHANGE IN MEDIAN		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
Country/Type of outlet	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No.of products	Median Cost [IQR]	No. of products	Change in median [p-value*]	Change in median [p-value*]	Change in median [p-value*]
Tanzania – mainland – Total	18.31 [6.52-29.58]	122	0.94 [0.94-1.41]	7	16.90 [1.41-25.35]	129	21.00 [15.00-31.25]	227	22.50 [5.25-22.5]	10	22.50 [15.00-30.00]	237	2.69 [0.0448]	21.56 [0.2501]	5.60 [0.0401]
Public health facility	0.00 [0.00-0.00]	2	-	0	0.00 [0.00-0.00]	2	5.62 [3.75-7.50]	2	-	0	5.62 [3.75-7.50]	2	5.62	-	5.62
Private not-for-profit health facility	29.58 [16.90-40.56]	4	0.94 [0.94-1.41]	2	16.90 [0.94-29.58]	6	21.00 [15.00-974.91]	3	0.00	1	15.00 [0.00-21.00]	4	-8.58 [0.8747]	-0.94	-1.90 [0.8135]
Private for-profit outlet															
Health facility/pharmacy	18.59 [6.52-25.35]	116	8.11 [3.72-21.13]	5	18.31 [6.52-25.35]	121	22.5 [18.75-37.5]	217	22.50 [22.5-22.5]	8	22.50 [21.00-37.50]	225	3.91 [0.0002]	14.39 [0.0031]	4.19 [0.0002]
Drug store	-	0	-	0	-	0	18.00 [11.25-18.75]	5	22.5	1	22.50 [12.50-22.50]	6	-	-	-
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	18.59 [6.52-25.35]	116	8.11 [3.72-21.13]	5	18.31 [6.52-25.35]	121	22.5 [18.75-37.50]	222	22.50 [22.5-22.5]	9	22.5 [18.75-30.00]	231	3.91 [0.0067]	14.39 [0.0004]	4.19 [0.0015]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Uganda – Total	16.72 [11.14-27.86]	383	16.72 [11.14-22.29]	197	16.72 [11.14-27.86]	580	14.08 [10.52-21.91]	635	0.17 [0.00-14.08]	281	11.27 [0.00-18.78]	916	-2.64 [0.362]	-16.55 [0.0249]	-5.45 [0.0313]
Public health facility	0.00 [0.00-0.00]	10	13.93 [0.00-13.93]	2	0.00 [0.00-0.00]	12	0.00 [0.00-0.00]	27	0.00 [0.00-0.00]	15	0.00 [0.00-0.00]	42	0.00 [0.314]	-13.93 [0.1236]	0.00 [0.5548]
Private not-for-profit health facility	11.14	1	2.97 [2.97-13.37]	5	11.14 [2.97-13.37]	6	14.08 [9.39-35.21]	7	12.78 [11.27-14.08]	11	12.78 [11.27-14.08]	18	2.94 [0.1263]	9.81 [0.3247]	1.64 [0.1156]
Private for-profit outlet															
Health facility/pharmacy	16.72 [11.14-27.86]	366	16.72 [13.37-22.29]	157	16.72 [11.14-27.86]	523	15.02 [11.27-23.47]	572	15.02 [11.27-23.47]	169	15.02 [11.27-23.47]	741	-1.70 [0.6188]	-1.70 [0.8378]	-1.70 [0.5898]
Drug store	19.5 [16.72-27.86]	6	16.72 [11.14-27.86]	32	18.57 [13.37-27.86]	38	11.74 [9.39-15.65]	28	15.02 [14.08-18.78]	30	14.08 [11.74-18.78]	58	-7.76 [<0.0001]	-1.70 [0.9404]	-4.49 [0.3646]
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	16.72 [11.14-27.86]	372	16.72 [13.37-25.07]	189	16.72 [11.14-27.86]	561	15.02 [11.27-22.82]	600	15.02 [11.74-23.47]	199	15.02 [11.74-23.47]	799	-1.70 [0.2922]	-1.70 [0.9325]	-1.70 [0.4319]
Community health worker	-	0	-	1	0.00	1	-	1	0.00 [0.00-0.00]	56	0.00 [0.00-0.00]	57	-	0 [0.007987]	0.00 [<0.0001]
Zanzibar - Total	19.01 [6.76-25.35]	102	5.63 [4.79-18.17]	8	12.96 [5.63-25.35]	110	20.99 [13.99-24.49]	46	20.99 [4.08-24.49]	11	20.99 [13.99-24.49]	57	1.97	15.35	8.03
Public health facility	5.63 [0.00-21.13]	9	14.79 [0.00-29.58]	2	5.63 [0.00-29.58]	11	5.25 [0.00-83.95]	6	0.00 [0.00-0.00]	2	0.00 [0.00-47.22]	8	-0.39	-14.79	-5.63
Private not-for-profit health facility	-	0	-	0	-	0	20.99 [13.99-27.98]	2	24.49 [20.99-27.98]	2	24.49 [17.49-27.98]	4	-	-	-
Private for-profit outlet															
Health facility/pharmacy	21.13 [6.76-25.35]	80	5.63 [5.07-6.76]	5	21.13 [6.76-25.35]	85	20.99 [17.49-24.49]	35	18.89 [4.66-20.99]	5	20.99 [17.49-24.49]	40	-0.14	13.25	-0.14
Drug store	6.76 [4.51-6.76]	13	5.63	1	6.2 [4.51-6.76]	14	17.49	1	24.49 [24.49-24.49]	2	24.49 [17.49-24.49]	3	10.73	18.85	18.29
General retailer/itinerant	-	0	-	0	-	0	12.48 [7.46-17.49]	2	-	0	12.48 [7.46-17.49]	2	-	-	-
Total	21.13 [6.76-25.35]	93	5.63 [5.07-6.76]	6	16.9 [6.76-25.35]	99	20.99 [17.49-24.49]	38	20.99 [4.66-24.49]	7	20.99 [17.49-24.49]	45	-0.14	15.35	4.09
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: An AETD is the number of milligrams (mg) of a given drug that is required to treat a 60 kg adult. AETDs were calculated for every audited antimalarial. Nigeria baseline data collection was conducted in 2009.

*This is the *p*-value for the result of a Wilcoxon ranksum test of no difference in median between baseline and endline.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.3: Cost to patients of oral artemisinin monotherapy, in 2010 US dollars, at endline, 2011

Median cost to patients of one adult equivalent treatment dose (AETD) of oral artemisinin monotherapy by ALL ORAL DOSAGE FORMS and TABLETS, by urban-rural location and type of outlet, according to country

Country/Type of outlet	ALL ORAL DOSAGE FORMS						TABLETS					
	Urban		Rural		Total		Urban		Rural		Total	
	Median Cost [IQR]	No. of Products	Median Cost [IQR]	No. of Products	Median Cost [IQR]	No. of product	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products
Ghana – Total	5.63 [2.19-6.57]	582	4.69 [1.88-6.57]	101	5.63 [2.19-6.57]	683	1.88 [1.88-2.19]	224	1.88 [1.56-2.19]	42	1.88 [1.88-2.19]	266
Public health facility	1.88	1	6.01 [1.90-11.41]	4	6.01 [1.90-7.01]	5	1.88	1	7.01 [1.90-11.41]	3	1.90 [1.90-11.41]	4
Private not-for-profit health facility	-	0	0.00	1	0.00	1	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	5.63 [2.19-6.61]	403	2.19 [1.75-6.01]	12	5.63 [2.19-6.57]	415	1.94 [1.88-2.19]	152	1.88 [1.56-2.19]	7	1.88 [1.88-2.19]	159
Drug store	5.63 [2.19-6.57]	178	4.69 [2.00-6.57]	84	5.63 [2.19-6.57]	262	1.88 [1.88-2.19]	71	1.88 [1.56-2.19]	32	1.88 [1.88-2.19]	103
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	5.63 [2.19-6.57]	581	4.69 [1.88-6.57]	96	5.63 [2.19-6.57]	677	1.88 [1.88-2.19]	223	1.88 [1.56-2.19]	39	1.88 [1.88-2.19]	262
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya – Total	3.45 [3.45-10.36]	3	3.45	1	3.45 [3.45-10.36]	4	3.45 [3.45-3.45]	2	3.45	1	3.45 [3.45-3.45]	3
Public health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	3.45 [3.45-10.36]	3	3.45	1	3.45 [3.45-10.36]	4	3.45 [3.45-3.45]	2	3.45	1	3.45 [3.45-3.45]	3
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	3.45 [3.45-10.36]	3	3.45	1	3.45 [3.45-10.36]	4	3.45 [3.45-3.45]	2	3.45	1	3.45 [3.45-3.45]	3
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar – Total	-	0	-	0	-	0	-	0	-	0	-	0
Public health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	-	0	-	0	-	0	-	0	-	0	-	0
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	-	0	-	0	-	0	-	0	-	0	-	0
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Niger – Total	2.22 [1.11-6.26]	22	-	0	2.22 [1.11-6.26]	22	2.22 [1.11-6.26]	20	-	0	2.22 [1.11-6.26]	20
Public health facility	1.11	1	-	0	1.11	1	1.11	1	-	0	1.11	1
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	6.25 [2.22-6.34]	15	-	0	6.25 [2.22-6.34]	15	6.25 [2.22-6.26]	14	-	0	6.25 [2.22-6.26]	14
Drug store	5.55 [4.28-11.49]	4	-	0	5.55 [4.28-11.49]	4	4.76 [3.80-6.34]	3	-	0	4.76 [3.80-6.34]	3
General retailer/itinerant	0.63 [0.63-1.27]	2	-	0	0.63 [0.63-1.27]	2	0.63 [0.63-1.27]	2	-	0	0.63 [0.63-1.27]	2
Total	3.8 [1.27-6.26]	21	-	0	3.80 [1.27-6.26]	21	2.22 [1.27-6.26]	19	-	0	2.22 [1.27-6.26]	19
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria – Total	2.83 [2.36-8.86]	745	3.31 [2.66-9.45]	230	2.83 [2.36-8.86]	975	2.65 [2.17-2.83]	515	2.83 [2.36-3.31]	163	2.66 [2.36-2.83]	678
Public health facility	1.98 [0.47-2.08]	7	9.74 [2.83-10.63]	11	2.08 [1.98-9.74]	18	1.98 [0.47-2.08]	5	2.83 [2.83-4.72]	7	2.08 [2.08-2.83]	12
Private not-for-profit health facility	24.80 [24.80-24.80]	2	5.67	1	5.67 [5.67-24.80]	3	2.27	1	5.67	1	5.67 [5.67-5.67]	2
Private for-profit outlet												
Health facility/pharmacy	3.25 [2.66-9.74]	121	4.13 [3.78-9.39]	10	3.31 [2.66-9.74]	131	2.66 [2.36-2.83]	75	3.78 [3.25-3.78]	6	2.66 [2.36-2.83]	81
Drug store	2.83 [2.36-7.97]	594	3.31 [2.36-8.86]	205	2.83 [2.36-7.97]	799	2.36 [2.17-2.83]	419	2.83 [2.36-3.31]	146	2.65 [2.36-2.83]	565
General retailer/itinerant	8.86 [2.83-10.63]	21	2.83 [2.83-2.83]	3	8.86 [2.83-10.63]	24	2.83 [2.83-2.83]	15	2.83 [2.83-2.83]	3	2.83 [2.83-2.83]	18
Total	2.83 [2.36-8.86]	736	3.31 [2.65-8.86]	218	2.83 [2.36-8.86]	954	2.65 [2.36-2.83]	509	2.83 [2.36-3.31]	155	2.66 [2.36-2.83]	664
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Tanzania – mainland – Total	27.00 [27.00-27.00]	2	-	0	27.00 [27.00-27.00]	2	27.00 [27.00-27.00]	2	-	0	27.00 [27.00-27.00]	2
Public health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	27.00 [27.00-27.00]	2	-	0	27.00 [27.00-27.00]	2	27.00 [27.00-27.00]	2	-	0	27.00 [27.00-27.00]	2
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	27.00 [27.00-27.00]	2	-	0	27.00 [27.00-27.00]	2	27.00 [27.00-27.00]	2	-	0	27.00 [27.00-27.00]	2
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.3: *Cont.*

Median cost to patients of one adult equivalent treatment dose (AETD) of oral artemisinin monotherapy by ALL ORAL DOSAGE FORMS and TABLETS, by urban-rural location and type of outlet, according to country

| | ALL ORAL DOSAGE FORMS | | | | | | TABLETS | | | | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | |
Country/Type of outlet	Median Cost [IQR]	No. of Products	Median Cost [IQR]	No. of Products	Median Cost [IQR]	No. of product	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products
Uganda – Total	19.56	1	-	0	19.56	1	19.56	1	-	0	19.56	1
Public health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	19.56	1	-	0	19.56	1	19.56	1	-	0	19.56	1
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	19.56	1	-	0	19.56	1	19.56	1	-	0	19.56	1
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Zanzibar – Total	7.46	2	4.66	1	7.46	3	7.46	2	4.66	1	7.46	3
Public health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	7.46	1	4.66	1	6.06 [4.66-7.46]	2	7.46	1	4.66	1	6.06 [4.66-7.46]	2
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	7.46	1	-	0	7.46	1	7.46	1	-	0	7.46	1
Total	7.46	2	4.66	1	7.46 [4.66-7.46]	3	7.46	2	4.66	1	7.46	3
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: An AETD is the number of milligrams (mg) of a given drug that is required to treat a 60 kg adult. AETDs were calculated for every audited antimalarial.

*This is the *p*-value for the result of a Wilcoxon ranksum test of no difference in median between baseline and endline.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

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Table 2.3.4: Cost to patients of non-quality-assured ACTs, in 2010 US dollars, at baseline (2010) and endline (2011)

Indicator 2.2 Median cost to patients of one adult equivalent treatment dose (AETD) of non-quality-assured ACTs for ALL DOSAGE FORMS, by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE Urban Median Cost [IQR]	No. of products	Rural Median Cost [IQR]	No. of products	Total Median Cost [IQR]	No. of products	ENDLINE Urban Median Cost [IQR]	No. of products	Rural Median Cost [IQR]	No. of products	Total Median Cost [IQR]	No. of products	CHANGE IN MEDIAN Urban Change in median [p-value*]	Rural Change in median [p-value*]	Total Change in median [p-value*]
Ghana - Total	4.11 [3.22-6.65]	3,636	3.42 [3.08-5.48]	1,385	3.70 [3.08-6.03]	5,021	3.52 [2.82-6.26]	1,978	3.13 [1.88-5.00]	450	3.44 [2.82-5.63]	2,428	-0.59 [0.0010]	-0.3 [<0.0001]	-0.26 [0.0038]
Public health facility	4.11 [3.29-6.65]	127	3.42 [2.95-5.92]	195	3.42 [3.07-5.97]	322	1.88 [0.94-3.75]	118	2.28 [0.94-4.55]	202	1.88 [0.94-5.00]	320	-2.23 [<0.0001]	-1.15 [<0.0001]	-1.55 [<0.0001]
Private not-for-profit health facility	4.11 [2.74-5.92]	22	3.42 [3.08-5.48]	27	3.42 [2.96-5.48]	49	4.5 [1.88-4.5.00]	3	1.88 [0.94-5.00]	13	1.88 [0.94-5.00]	16	0.39 [0.297]	-1.55 [0.02057]	-1.55 [0.0112]
Private for-profit outlet															
Health facility/pharmacy	4.11 [3.42-6.85]	2,753	4.11 [3.29-6.14]	423	4.11 [3.42-6.65]	3,176	4.17 [3.13-8.34]	1,420	2.82 [1.88-4.75]	59	3.75 [3.13-7.51]	1,479	0.06 [0.0439]	-1.29 [0.0029]	-0.36 [0.0990]
Drug store	3.42 [3.08-6.16]	734	3.42 [3.08-5.48]	740	3.42 [3.08-5.48]	1,474	3.13 [2.82-5.63]	437	3.13 [2.5-5.00]	176	3.13 [2.50-5.00]	613	-0.30 [0.0108]	-0.30 [0.0013]	-0.30 [0.0054]
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	4.11 [3.29-6.76]	3,487	3.42 [3.08-5.48]	1,163	3.77 [3.08-6.16]	4,650	3.75 [2.82-6.26]	1,857	3.13 [2.5-5.00]	235	3.50 [2.82-5.84]	2,092	-0.36 [0.002543]	-0.30 [0.000142]	-0.26 [0.03394]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Kenya - Total	7.88 [4.59-12.60]	1,919	5.91 [3.94-9.80]	283	6.96 [4.56-12.25]	2,202	7.37 [4.03-11.94]	1,842	5.76 [3.63-11.05]	247	6.45 [4.03-11.67]	2,089	-0.51 [0.016]	-0.15 [0.948]	-0.51 [0.154]
Public health facility	1.97 [0.00-2.36]	15	0.00 [0.00-0.00]	13	0.00 [0.00-1.97]	28	2.30 [0.46-6.14]	23	0.00 [0.00-0.00]	8	0.00 [0.00-0.00]	31	0.33 [0.302]	0.00 [0.25]	0.00 [0.184]
Private not-for-profit health facility	5.25 [3.15-8.86]	24	3.15 [0.00-8.12]	6	5.25 [1.90-8.86]	30	6.14 [5.76-10.36]	12	0.00 [0.00-0.00]	2	5.76 [0.00-7.67]	14	0.89 [0.306]	-3.15 [0.331]	0.51 [0.716]
Private for-profit outlet															
Health facility/pharmacy	7.88 [4.59-13.3]	1,296	5.91 [3.94-9.45]	181	7.35 [4.46-12.25]	1,477	6.91 [4.03-11.94]	1,134	8.06 [4.03-13.26]	160	7.67 [4.03-12.28]	1,294	-0.97 [0.077]	2.15 [0.199]	0.32 [0.704]
Drug store	7.88 [5.17-12.25]	584	6.13 [4.43-12.25]	81	6.65 [4.59-12.25]	665	7.67 [4.03-11.94]	673	4.72 [4.03-10.74]	74	6.16 [4.03-11.05]	747	-0.20 [0.019]	-1.41 [0.244]	-0.49 [0.082]
General retailer/itinerant	-	0	-	0	-	0	-	0	0.46 [0.46-0.46]	3	0.46 [0.46-0.46]	3	-	-	-
Total	7.88 [4.73-13.13]	1,880	5.91 [4.14-9.98]	262	7.00 [4.59-12.25]	2,142	7.52 [4.03-11.94]	1,807	5.76 [4.03-11.67]	237	6.91 [4.03-11.67]	2,044	-0.35 [0.005]	-0.15 [0.931]	-0.09 [0.108]
Community health worker	-	0	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	2	-	0	-	0	-	0	-	-	-
Madagascar - Total	4.77 [0.00-7.23]	51	0.00 [0.00-0.00]	132	0.00 [0.00-2.81]	183	9.14 [7.48-10.25]	57	0.00 [0.00-0.00]	26	7.90 [0.00-9.74]	83	4.37 [0.007]	0.00 [0.8]	7.90 [0.004]
Public health facility	0.00 [0.00-0.00]	16	0.00 [0.00-0.00]	130	0.00 [0.00-0.00]	146	4.70	1	0.00 [0.00-0.00]	21	0.00 [0.00-0.00]	22	4.70 [<0.0001]	0.00 [0.681]	0.00 [0.248]
Private not-for-profit health facility	0.00 [0.00-0.00]	2		0	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	2	-	0	0.00 [0.00-0.00]	2	0.00 [0.583]	-	0.00 [0.583]
Private for-profit outlet															
Health facility/pharmacy	5.82 [4.77-11.22]	33	-	0	5.82 [4.77-11.22]	33	9.14 [7.90-10.25]	50	-	0	9.14 [7.90-10.25]	50	3.33 [0.015]	-	3.33 [0.015]
Drug store	-	0	4.49	1	4.49	1	1.71 [1.37-12.82]	4	0.85 [0.34-10.25]	3	1.71 [0.85-10.25]	7	-	-3.63 [0.447]	-2.78
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	5.82 [4.77-11.22]	33	4.49	1	5.61 [4.77-11.22]	34	9.14 [7.48-10.25]	54	0.85 [0.34-10.25]	3	9.14 [7.48-10.25]	57	3.33 [0.025]	-3.63 [0.447]	3.53 [0.04]
Community health worker	-	0	2.81	1	2.81	1	-	0	0.00 [0.00-0.34]	2	0.00 [0.00-0.34]	2	-	-2.81	-2.81
Niger - Total	9.38 [7.78-16.08]	1,525	0.00 [0.00-2.26]	173	8.80 [2.31-12.25]	1,698	8.19 [2.38-11.89]	1,411	0.00 [0.00-1.19]	128	3.75 [0.15-10.18]	1,539	3.80 [0.0016]	0.00 [0.1869]	-0.33 [0.0047]
Public health facility	0.00 [0.00-3.29]	110	0.00 [0.00-1.85]	139	0.00 [0.00-1.85]	249	0.00 [0.00-0.92]	122	0.00 [0.00-0.00]	103	0.00 [0.00-0.00]	225	0.00 [0.4589]	0.00 [0.0001]	0.00 [0.0009]
Private not-for-profit health facility	1.85 [1.23-2.47]	2	-	0	1.85 [1.23-2.47]	2	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	3	0.00 [0.00-0.00]	4	0.00	-	0.0 0
Private for-profit outlet															
Health facility/pharmacy	11.27 [8.79-18.66]	1,363	10.09 [6.31-17.7]	31	11.27 [8.79-18.66]	1,394	9.87 [7.24-14.47]	1,207	0.92 [0.92-1.39]	4	9.87 [7.24-14.00]	1,211	5.84 [<0.0001]	0.00 [0.00701]	5.84 [<0.0001]
Drug store	10.29 [6.94-14.31]	22	-	0	10.29 [6.94-14.31]	22	7.93 [2.18-12.29]	35	-	0	7.93 [2.18-12.29]	35	-0.24 [0.1522]	-	-0.24 [0.1522]
General retailer/itinerant	2.31 [2.06-4.11]	28	2.88 [2.26-9.25]	3	2.47 [2.06-4.11]	31	1.19 [0.89-2.38]	46	1.19 [1.07-1.78]	18	1.19 [0.89-1.78]	64	-2.02 [<0.0001]	0.00 [<0.0001]	-2.02 [<0.0001]
Total	10.26 [8.31-17.17]	1,413	6.31 [2.87-9.25]	34	10.24 [8.05-16.61]	1,447	8.51 [4.95-12.92]	1,288	1.19 [0.92-1.78]	22	7.58 [1.78-11.79]	1,310	3.93 [0.0002]	0.00 [<0.0001]	3.93 [<0.0001]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Nigeria - Total	4.60 [3.35-5.95]	4,072	4.47 [3.35-5.21]	117	4.47 [3.35-5.95]	4,189	4.13 [2.95-6.30]	1,253	4.13 [2.36-7.87]	285	4.13 [2.95-6.49]	1,538	-0.47 [0.3942]	-0.33 [0.9277]	-0.33 [0.372]
Public health facility	0.00 [0.00-4.09]	180	4.54	10	2.98 [0.00-4.54]	190	6.30 [5.90-11.81]	30	0.00 [0.00-3.84]	32	4.72 [0.00-9.45]	62	6.30 [0.0001]	-4.54 [0.5167]	1.75 [0.3133]
Private not-for-profit health facility	5.21 [2.23-10.42]	5	5.21	1	5.21 [5.21-5.21]	6	3.19 [2.83-5.31]	4	-	0	3.19 [2.83-5.31]	4	-2.02	-5.21	-2.02
Private for-profit outlet															
Health facility/pharmacy	5.86 [4.35-8.93]	3,405	4.47 [3.72-8.93]	33	5.21 [3.72-8.93]	3,438	4.13 [3.25-6.49]	372	4.72 [3.54-6.61]	43	4.13 [3.32-6.49]	415	-1.73 [<0.0001]	0.26 [0.3429]	-1.08 [0.0632]
Drug store	4.47 [3.35-5.95]	443	4.09 [3.72-5.21]	71	4.47 [3.35-5.95]	514	4.13 [2.95-5.90]	822	4.43 [2.95-7.87]	207	4.13 [2.95-6.49]	1,029	-0.33 [0.4082]	0.33 [0.7946]	-0.33 [0.4823]
General retailer/itinerant	5.58 [4.19-6.7]	39	-	0	5.58 [4.19-6.7]	39	2.95 [2.07-6.64]	25	1.77 [1.77-2.95]	3	2.95 [2.07-5.90]	28	-2.63 [0.2809]	-	-2.63 [0.1724]
Total	4.60 [3.35-5.95]	3,887	4.47 [3.72-5.95]	104	4.47 [3.35-5.95]	3,991	4.13 [2.95-6.20]	1,219	4.43 [2.95-7.87]	253	4.13 [2.95-6.49]	1,472	-0.47 [0.3186]	-0.04 [0.974]	-0.33 [0.3440]
Community health worker	0.00 [0.00-0.00]	0	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	2	-	0	-	0	-	0	-	-	-

Table 2.3.4: *Cont.*

	BASELINE						ENDLINE						CHANGE IN MEDIAN		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
Country/Type of outlet	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Change in median [p-value*]	Change in median [p-value*]	Change in median [p-value*]
Tanzania – mainland - Total	10.30 [7.04-14.6]	1,317	6.34 [3.17-11.36]	90	8.56 [5.28-14.08]	1,407	9.37 [5.00-14.4]	2,131	6.25 [2.50-14.4]	118	8.44 [3.75-14.40]	2,249	-0.93 [0.064]	-0.09 [0.55]	-0.12 [0.273]
Public health facility	0.00	1	0.00 [0.00-0.00]	3	0.00 [0.00-0.00]	4	0.75	1	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	5	0.75 [0.404]	0.00 [0.702]	0.00 [0.404]
Private not-for-profit health facility	6.34 [3.52-11.27]	12	3.96 [3.17-7.92]	8	6.34 [3.17-11.27]	20	9.37	10	-	0	9.37 [6.25-15.00]	10	3.04 [0.436]	-	3.04 [0.153]
Private for-profit outlet															
Health facility/pharmacy	11.09 [7.04-15.02]	1,241	7.92 [3.38-13.38]	44	11.09 [7.04-15.02]	1,285	11.25 [5.62-14.4]	1,783	6.56 [3.56-14.4]	62	10.8 [5.31-14.40]	1,845	0.16 [0.015]	-1.36 [0.832]	-0.29 [0.009]
Drug store	9.51 [7.04-14.08]	63	7.13 [3.52-13.52]	35	8.45 [6.18-14.08]	98	8.75 [4.06-14.4]	336	6.25 [3.12-15.00]	52	8.33 [3.75-14.40]	388	-0.76 [0.327]	-0.88 [0.979]	-0.12 [0.509]
General retailer/itinerant	-	0	-	0	-	0	1.25	1	-	0	1.25	1	-	-	-
Total	10.56 [7.04-14.6]	1,304	7.13 [3.52-13.52]	79	9.51 [6.73-14.6]	1,383	9.37 [5.00-14.4]	2,120	6.25 [3.12-15.00]	114	9.36 [3.75-14.40]	2,234	-1.19 [0.016]	-0.88 [0.977]	-0.15 [0.047]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Uganda - Total	5.57 [3.34-11.14]	2,229	3.48 [2.79-5.57]	1,474	4.18 [2.79-7.43]	3,703	5.09 [3.13-10.43]	3,322	3.91 [2.74-7.82]	1,265	4.69 [2.74-8.80]	4,587	-0.48 [0.5122]	0.43 [0.5271]	0.51 [0.7435]
Public health facility	0.00 [0.00-0.00]	28	0.00 [0.00-0.00]	53	0.00 [0.00-0.00]	81	0.00 [0.00-0.00]	75	0.00 [0.00-0.00]	17	0.00 [0.00-0.00]	92	0.00 [0.0779]	0.00 [0.5857]	0.00 [0.6018]
Private not-for-profit health facility	3.25 [2.48-3.25]	4	0.31 [0.00-1.86]	8	2.32 [0.31-3.25]	12	7.04 [2.20-7.82]	15	2.35 [1.56-9.39]	16	5.48 [1.56-9.39]	31	3.79 [0.2217]	2.04 [0.102]	3.16 [0.1136]
Private for-profit outlet															
Health facility/pharmacy	6.04 [3.71-11.14]	2,108	4.64 [3.25-7.84]	855	5.57 [3.71-9.91]	2,963	5.87 [3.91-10.43]	2,893	4.69 [3.08-10.43]	889	5.22 [3.13-10.43]	3,782	-0.17 [0.2505]	0.05 [0.8871]	-0.35 [0.4094]
Drug store	5.22 [3.25-7.84]	88	3.34 [2.79-4.64]	539	3.71 [2.79-5.57]	627	3.91 [2.74-8.35]	338	3.52 [2.35-6.57]	342	3.91 [2.54-7.04]	680	-1.31 [0.6001]	0.18 [0.9615]	0.20 [0.9289]
General retailer/itinerant	-	0	2.79 [1.86-3.71]	3	2.79 [1.86-3.71]	3	0.78	1	-	0	0.78	1	-	-	-2.01
Total	5.57 [3.71-11.14]	2,196	3.71 [2.79-5.57]	1,397	4.64 [3.25-7.84]	3,593	5.09 [3.13-10.43]	3,232	3.91 [2.74-7.82]	1,231	4.69 [2.82-8.87]	4,463	-0.48 [0.4827]	0.20 [0.7713]	0.05 [0.9913]
Community health worker	2.32	1	0.00 [0.00-0.00]	16	0.00 [0.00-0.00]	17	-	0	1.96 [1.96-1.96]	1	1.96 [1.96-1.96]	1	-	1.96	1.96
Zanzibar - Total	7.13 [3.52-11.88]	172	0.00 [0.00-3.17]	30	5.59 [2.11-10.56]	202	6.41 [2.91-11.66]	143	2.48 [0.00-5.83]	16	5.83 [2.91-11.66]	159	-0.72	2.48	0.24
Public health facility	0.00 [0.00-0.00]	33	0.00 [0.00-0.00]	21	0.00 [0.00-0.00]	54	4.08 [2.91-6.41]	5	0.00 [0.00-0.00]	7	0.00 [0.00-3.50]	12	4.08	0.00	0.00
Private not-for-profit health facility	7.44 [3.52-11.36]	2	3.52	1	3.52 [3.52-11.36]	3	4.08 [0.79-5.83]	3	-	0	4.08 [0.79-5.83]	3	-3.36	-	0.56
Private for-profit outlet													-0.93 [0.025]	1.54 [0.677]	-1.07 [0.015]
Health facility/pharmacy	7.92 [5.24-13.66]	124	4.29 [3.17-10.30]	6	7.92 [4.36-13.52]	130	7 [3.21-11.66]	113	5.83 [3.50-6.22]	9	6.85 [3.21-11.66]	122	-0.93 [0.025]	1.54 [0.677]	-1.07 [0.015]
Drug store	4.23 [3.52-11.36]	13	3.17 [2.82-3.52]	2	4.23	15	4.81 [2.33-11.81]	22	-	0	4.81 [2.33-11.81]	22	0.58	-3.17	0.58
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	7.92 [4.23-13.52]	137	3.87 [2.99-7.33]	8	7.92 [4.23-12.98]	145	7 [2.91-11.81]	135	5.83 [3.50-6.22]	9	6.46 [2.91-11.73]	144	-0.93	1.96	-1.46
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: An AETD is the number of milligrams (mg) of a given drug that is required to treat a 60 kg adult. AETDs were calculated for every audited antimalarial. Nigeria baseline data collection was conducted in 2009.
*This is the *p*-value for the result of a Wilcoxon ranksum test of no difference in median between baseline and endline.
na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.5: Cost to patients of quality-assured ACTs (including formulations for adults and children), in 2010 US dollars, at baseline (2010) and endline (2011)

Indicator 2.1 Median cost to patients of one ADULT equivalent treatment dose (AETD) of quality-assured ACTs, by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE						CHANGE IN MEDIAN		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Change in median [p-value*]	Change in median [p-value*]	Change in median [p-value*]
Ghana - Total	7.40 [2.74-8.22]	735	2.74 [2.05-5.48]	357	3.42 [2.40-7.53]	1,092	1.25 [0.94-1.88]	1,527	0.94 [0.94-1.25]	540	0.94 [0.94-1.88]	2,067	-6.15 [<0.0001]	-1.80 [<0.0001]	-2.49 [<0.0001]
Public health facility	2.74 [2.33-6.58]	126	2.74 [2.74-5.48]	214	2.74 [2.74-5.48]	340	0.94 [0.94-1.25]	121	0.94 [0.94-0.94]	285	0.94 [0.94-0.95]	406	-1.80 [<0.0001]	-1.80 [<0.0001]	-1.80 [<0.0001]
Private not-for-profit health facility	4.79 [3.42-5.48]	7	6.85 [2.95-9.97]	5	5.48 [2.95-9.97]	12	0.94 [0.94-1.50]	12	0.94 [0.00-0.94]	12	0.94 [0.00-0.95]	24	-3.86 [0.0118]	-5.91 [0.0002]	-4.54 [<0.0001]
Private for-profit outlet															
Health facility/pharmacy	8.22 [6.85-8.90]	528	6.85 [2.60-7.88]	54	7.53 [4.11-8.77]	582	1.25 [0.94-2.5]	1,008	0.94 [0.94-1.25]	64	1.25 [0.94-2.50]	1,072	-6.97 [<0.0001]	-5.91 [<0.0001]	-6.28 [<0.0001]
Drug store	2.74 [1.37-4.11]	74	2.6 [1.71-3.42]	76	2.60 [1.64-3.42]	150	0.94 [0.94-1.88]	384	0.94 [0.94-1.88]	177	0.94 [0.94-1.88]	561	-1.80 [<0.0001]	-1.66 [<0.0001]	-1.66 [<0.0001]
General retailer/itinerant	-	0	-	0	-	0	1.25 [0.94-1.25]	2	10.01 [0.94-10.01]	2	1.25 [0.94-10.01]	4	-	-	-
Total	7.53 [3.08-8.22]	602	2.74 [1.71-4.11]	130	3.42 [2.05-8.22]	732	1.25 [0.94-2.00]	1,394	0.94 [0.94-1.88]	243	1.13 [0.94-1.88]	1,637	-6.28 [<0.0001]	-1.80 [<0.0001]	-2.30 [<0.0001]
Community health worker	-	0	3.42 [2.23-5.48]	8	3.42 [2.23-5.48]	8	-	0	-	0	-	0	-	-	-
Kenya - Total	1.58 [0.00-6.04]	1,008	0.00 [0.00-0.79]	1,014	0.00 [0.00-1.97]	2,022	0.58 [0.46-1.15]	1,999	0.46 [0.00-0.46]	1,605	0.46 [0.00-0.69]	3,604	-1.00 [0.0115]	0.46 [0.2514]	0.46 [0.6381]
Public health facility	0.00 [0.00-0.00]	340	-	832	0.00 [0.00-0.00]	1,172	0.00 [0.00-0.00]	396	0.00 [0.00-0.00]	1,102	0.00 [0.00-0.00]	1,498	0.00 [0.6754]	0.00 [0.5216]	0.00 [0.5336]
Private not-for-profit health facility	0.00 [0.00-1.31]	49	0.00 [0.00-0.53]	41	0.00 [0.00-0.66]	90	0.46 [0.00-0.92]	41	0.00 [0.00-0.77]	81	0.00 [0.00-0.77]	122	0.46 [0.6525]	0.00 [0.5760]	0.00 [0.5339]
Private for-profit outlet															
Health facility/pharmacy	3.94 [1.31-6.71]	390	1.31 [0.00-3.15]	79	2.63 [0.92-6.30]	469	0.69 [0.46-1.38]	824	0.58 [0.46-1.15]	167	0.58 [0.46-1.15]	991	-3.25 [<0.0001]	-0.74 [0.6343]	-2.05 [0.0002]
Drug store	3.94 [1.31-7.22]	226	2.63 [1.84-4.59]	47	2.63 [1.58-6.30]	273	0.61 [0.46-1.15]	697	0.46 [0.46-0.69]	185	0.58 [0.46-0.92]	882	-3.32 [<0.0001]	-2.16 [<0.0001]	-2.05 [<0.0001]
General retailer/itinerant	-	0	-	0	-	0	0.46 [0.46-0.69]	41	0.46 [0.46-0.46]	70	0.46 [0.46-0.46]	111	-	-	-
Total	3.94 [1.31-6.96]	616	2.36 [1.31-3.94]	126	2.63 [1.31-6.30]	742	0.61 [0.46-1.15]	1,562	0.46 [0.46-0.92]	422	0.58 [0.46-0.92]	1,984	-3.32 [<0.0001]	-1.90 [<0.0001]	-2.05 [<0.0001]
Community health worker	1.97 [1.97-1.97]	3	0.00 [0.00-0.00]	15	0.00 [0.00-0.00]	18	-	0	-	0	-	0	-	-	-
Madagascar - Total	0.00 [0.00-0.56]	398	0.00 [0.00-0.09]	1,379	0.00 [0.00-0.09]	1,777	0.43 [0.00-1.03]	861	0.00 [0.00-0.34]	2,385	0.00 [0.00-0.34]	3,246	0.43 [0.004642]	0.00 [0.1007]	0.00 [0.00495]
Public health facility	0.00 [0.00-0.00]	150	0.00 [0.00-0.00]	1,203	0.00 [0.00-0.00]	1,353	0.00 [0.00-0.00]	201	0.00 [0.00-0.00]	1,780	0.00 [0.00-0.00]	1,981	0.00 [0.08834]	0.00 [0.2448]	0.00 [0.7278]
Private not-for-profit health facility	0.00 [0.00-0.00]	5	-	0	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	75	0.00 [0.00-0.00]	7	0.00 [0.00-0.00]	82	0.00 [0.01841]	-	0.00 [0.0758]
Private for-profit outlet															
Health facility/pharmacy	6.55 [0.09-11.22]	212	0.09 [0.09-0.09]	3	1.54 [0.09-11.22]	215	0.68 [0.38-7.35]	471	0.43 [0.34-0.85]	9	0.68 [0.34-4.61]	480	-5.86 [0.543]	0.33 [0.01307]	-0.86 [0.6443]
Drug store	0.56 [0.09-0.56]	25	0.09 [0.09-0.19]	125	0.14 [0.09-0.56]	150	0.68 [0.38-1.71]	86	0.60 [0.43-1.03]	478	0.64 [0.40-1.37]	564	0.12 [0.0006]	0.50 [<0.0001]	0.50 [<0.0001]
General retailer/itinerant	0.19 [0.09-0.28]	6	0.14 [0.09-0.28]	9	0.14 [0.09-0.28]	15	0.51 [0.51-1.03]	3	0.51 [0.34-0.85]	10	0.51 [0.34-0.85]	13	0.33 [0.0009]	0.37 [0.0292]	0.37 [0.0205]
Total	0.56 [0.09-9.65]	243	0.09 [0.09-0.28]	137	0.14 [0.09-1.54]	380	0.68 [0.38-5.98]	560	0.51 [0.34-1.03]	497	0.60 [0.34-1.37]	1,057	0.12 [0.5423]	0.42 [<0.0001]	0.46 [0.0001]
Community health worker	-	0	0.09 [0.09-0.09]	39	0.09 [0.09-0.09]	39	0.34 [0.17-0.68]	25	0.17 [0.17-0.34]	101	0.17 [0.17-0.34]	126	-	0.08 [<0.0001]	0.08 [<0.0001]
Niger - Total	2.67 [1.64-8.89]	419	1.23 [0.00-2.47]	280	2.06 [0.00-3.08]	699	1.19 [0.69-1.98]	743	0.00 [0.00-1.19]	294	0.79 [0.00-1.49]	1,037	-1.48 [<0.0001]	-1.23 [0.0054]	-1.26 [<0.0001]
Public health facility	0.00 [0.00-1.64]	116	0.00 [0.00-0.00]	228	0.00 [0.00-0.00]	344	0.00 [0.00-0.69]	216	0.00 [0.00-0.00]	226	0.00 [0.00-0.00]	442	0.00 [0.9854]	0.00 [0.04638]	0.00 [0.4272]
Private not-for-profit health facility	1.03 [1.03-1.03]	1	-	0	1.03 [1.03-1.03]	1	0.00	1	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	6	-1.03 [<0.0001]	-	-1.03 [<0.0001]
Private for-profit outlet															
Health facility/pharmacy	9.38 [8.93-12.77]	222	8.79 [8.79-8.79]	5	9.38 [8.93-12.77]	227	3.17 [0.99-9.04]	327	0.69 [0.69-0.69]	8	1.98 [0.79-9.02]	335	-6.21 [<0.0001]	-8.10 [0.0042]	-7.40 [<0.0001]
Drug store	4.11 [4.11-7.2]	13	2.67 [2.47-2.88]	2	4.11 [2.88-6.17]	15	0.99 [0.79-2.77]	19	1.39 [1.19-2.97]	4	1.39 [1.09-2.77]	23	-3.12 [0.0024]	-1.29 [<0.0001]	-2.72 [0.0019]
General retailer/itinerant	2.06 [1.92-3.08]	67	2.47 [2.06-2.88]	45	2.47 [2.06-2.88]	112	1.19 [0.99-1.78]	180	1.19 [0.79-1.59]	51	1.19 [0.99-1.59]	231	-0.87 [<0.0001]	-1.28 [<0.0001]	-1.28 [<0.0001]
Total	3.29 [2.06-8.93]	302	2.47 [2.06-2.96]	52	2.47 [2.06-4.11]	354	1.39 [0.99-2.38]	526	1.19 [0.79-1.59]	63	1.19 [0.99-1.98]	589	-1.90 [<0.0001]	-1.28 [<0.0001]	-1.28 [<0.0001]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Nigeria - Total	4.47 [2.23-6.7]	963	2.38 [0.00-3.57]	131	3.72 [2.08-5.95]	1,094	1.48 [0.89-2.66]	1,464	1.48 [0.89-2.36]	586	1.48 [0.89-2.36]	2,050	-2.99 [<0.0001]	-0.91 [0.4602]	-2.25 [<0.0001]
Public health facility	0.00 [0.00-0.00]	55	0.00 [0.00-2.60]	24	0.00 [0.00-2.60]	79	0.00 [0.00-0.00]	70	0.00 [0.00-0.00]	65	0.00 [0.00-0.00]	135	0.00 [0.9454]	0.00 [0.1703]	0.00 [0.1658]
Private not-for-profit health facility	2.98 [1.49-2.98]	3	0.89 [0.00-0.89]	3	0.89 [0.00-0.89]	6	0.71 [0.71-2.95]	10	1.48 [1.48-4.72]	3	1.48 [0.71-3.54]	13	-2.27 [0.7836]	0.58 [0.1697]	0.58 [0.5065]
Private for-profit outlet															
Health facility/pharmacy	7.07 [4.47-7.81]	588	1.49 [1.49-8.19]	5	6.70 [2.98-7.81]	593	1.77 [0.89-3.25]	168	2.36 [1.18-7.09]	15	1.77 [0.89-3.25]	183	-5.30 [<0.0001]	0.87 [0.9187]	-4.93 [<0.0001]
Drug store	4.47 [2.23-6.55]	293	2.98 [2.38-4.47]	95	4.47 [2.23-5.95]	388	1.48 [0.89-2.36]	1,166	1.57 [1-2.36]	497	1.48 [0.89-2.36]	1,663	-2.99 [<0.0001]	-1.40 [<0.0001]	-2.99 [<0.0001]
General retailer/itinerant	5.95 [2.98-7.44]	19	4.47 [4.47-4.47]	1	5.95 [2.98-7.44]	20	1.77 [1.48-2.07]	44	1.89 [1.77-5.2]	4	1.77 [1.48-2.36]	48	-4.18 [<0.0001]	-2.58 [0.1094]	-4.18 [<0.0001]
Total	4.47 [2.38-6.7]	900	2.98 [2.23-5.21]	101	4.47 [2.38-6.33]	1,001	1.48 [0.89-2.66]	1,378	1.57 [1.06-2.36]	516	1.48 [0.89-2.36]	1,894	-2.99 [<0.0001]	-1.40 [<0.0001]	-2.99 [<0.0001]
Community health worker	1.49 [0.89-1.49]	5	0.00 [0.00-0.00]	3	0.89 [0.00-1.49]	8	0.00 [0.00-0.00]	6	3.54 [3.54-3.54]	2	3.54 [3.54-3.54]	8	-1.49 [<0.0001]	3.54 [<0.0001]	2.65 [0.0505]

Table 2.3.5: *Cont.*

Country/Type of outlet	BASELINE Urban Median ost [IQR]	No. of products	Rural Median ost [IQR]	No. of products	Total Median Cost [IQR]	No. of products	ENDLINE Urban Median Cost [IQR]	No. of products	Rural Median ost [IQR]	No. of products	Total Median ost [IQR]	No. of products	CHANGE IN MEDIAN Urban Change in median [p-value*]	Rural Change in median [p-value*]	Total Change in median [p-value*]
Tanzania – mainland - Total	5.63 [0.70-8.45]	275	0.00 [0.00-0.42]	141	0.00 [0.00-0.85]	416	1.25 [0.62-2.50]	1,661	0.62 [0.00-0.94]	354	0.83 [0.62-1.25]	2,015	-4.38 [0.0235]	0.62 [0.0004]	0.83 [0.0015]
Public health facility	0.00 [0.00-0.35]	9	0.00 [0.00-0.00]	101	0.00 [0.00-0.00]	110	0.31 [0.00-0.62]	22	0.00 [0.00-0.62]	129	0.00 [0.00-0.62]	151	0.31 [0.2237]	0.00[0.07051]	0.00 [0.0513]
Private not-for-profit health facility	0.85 [0.35-4.93]	7	0.00 [0.00-0.00]	13	0.00 [0.00-0.47]	20	1.25 [0.94-1.87]	6	0.00 [0.00-0.00]	7	0.00 [0.00-0.94]	13	0.40 [0.1305]	0.00[0.1321]	0.00 [0.8682]
Private for-profit outlet															
Health facility/pharmacy	8.45 [6.34-9.86]	245	0.00 [0.00-8.45]	5	8.45 [5.99-9.51]	250	1.25 [0.62-2.50]	1,205	0.62 [0.31-0.75]	48	1.25 [0.62-2.5]	1,253	-7.20 [<0.0001]	0.62 [0.5872]	-7.20 [<0.0001]
Drug store	5.99 [5.63-9.86]	14	1.41 [0.85-3.52]	17	4.23 [1.41-7.04]	31	1.25 [0.83-2.50]	422	0.94 [0.62-1.25]	165	0.94 [0.62-1.25]	587	-4.74 [<0.0001]	-0.47 [0.0058]	-3.29 [0.0001]
General retailer/itinerant	-	0	0.85 [0.56-1.13]	5	0.85 [0.56-1.13]	5	0.62 [0.62-2.62]	6	0.00 [0.00-0.00]	5	0.00 [0.00-0.62]	11	0.62 [<0.0001]	-0.85 [0.1065]	-0.85 [0.1512]
Total	7.04 [5.63-9.86]	259	1.41 [0.85-2.11]	27	5.28 [1.41-8.45]	286	1.25 [0.75-2.5]	1,633	0.87 [0.62-1.25]	218	0.94 [0.62-1.25]	1,851	-5.79 [<0.0001]]	-0.53 [0.0778]	-4.34 [<0.0001]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Uganda - Total	2.79 [0.00-4.64]	543	0.00 [0.00-0.00]	2,331	0.00 [0.00-0.93]	2,874	1.96 [0.98-3.13]	2,477	1.17 [0.00-1.96]	2,944	1.37 [0.00-2.35]	5,421	-0.83 [0.9521]	1.17 [0.0002]	1.37 [0.0005]
Public health facility	0.00 [0.00-0.00]	169	0.00[0.00-0.00]	2,063	0.00 [0.00-0.00]	2,232	0.00 [0.00-0.00]	350	0.00 [0.00-0.00]	1,614	0.00 [0.00-0.00]	1,964	0.00 [0.0049]	0.00 [0.0186]	0.00 [0.0049]
Private not-for-profit health facility	2.79 [0.00-2.79]	7	0.00 [0.00-0.46]	27	0.00 [0.00-0.93]	34	0.00 [0.00-1.17]	23	0.00 [0.00-1.17]	62	0.00 [0.00-1.17]	85	-2.79 [0.7546]	0.00 [0.3746]	0.00 [0.8554]
Private for-profit outlet															
Health facility/pharmacy	4.64 [3.25-9.29]	359	3.71 [2.32-4.64]	125	3.71 [3.02-8.36]	484	2.09 [1.56-3.91]	1,644	1.96 [1.56-3.13]	635	1.96 [1.56-3.13]	2,279	-2.55 [0.0059]	-1.75 [0.2554]	-1.75 [0.0042]
Drug store	3.71 [3.25-6.97]	8	2.23 [1.16-2.79]	90	2.32 [1.39-3.25]	98	1.96 [1.17-2.74]	455	1.88 [1.17-2.35]	544	1.88 [1.17-2.54]	999	-1.75 [<0.0001]	-0.35 [0.8932]	-0.44 [0.6574]
General retailer/itinerant	-	0	2.79	1	2.79	1	1.96 [1.96-28.17]	2	1.17 [0.94-2.35]	11	1.17 [0.94-2.35]	13	-	-1.62 [0.0042]	-1.62 [0.0017]
Total	4.64 [3.25-8.36]	367	2.32 [1.39-3.25]	216	2.79 [1.39-3.71]	583	1.96 [1.37-3.13]	2,101	1.96 [1.17-2.74]	1,190	1.96 [1.17-2.82]	3,291	-2.68 [0.0011]	-0.36 [0.8261]	-0.83 [0.2647]
Community health worker	-	0	0.00 [0.00-0.00]	25	0.00 [0.00-0.00]	25	0.00 [0.00-1.96]	3	-	78	0.00 [0.00-0.00]	81	-	0.00 [0.0222]	0.00 [0.0112]
Zanzibar - Total	0.00 [0.00-0.00]	139	0.00 [0.00-0.00]	221	0.00 [0.00-0.00]	360	0.58 [0.47-1.87]	523	0.00 [0.00-0.58]	335	0.58 [0.00-1.17]	858	0.58	0.00	0.58
Public health facility	0.00 [0.00-0.00]	124	0.00 [0.00-0.00]	220	0.00 [0.00-0.00]	344	0.00 [0.00-0.00]	135	0.00 [0.00-0.00]	232	0.00 [0.00-0.00]	367	0.00	0.00	0.00
Private not-for-profit health facility	-	0	-	0	-	0	0.58 [0.58-0.58]	1	0.35 [0.29-1.40]	3	0.47 [0.32-0.99]	4	-	-	-
Private for-profit outlet															
Health facility/pharmacy	7.04 [5.63-8.45]	13	5.63 [5.63-5.63]	1	6.69 [5.63-8.45]	14	1.17 [0.58-2.33]	212	0.93 [0.58-1.87]	50	1.17 [0.58-2.33]	262	-5.88	-4.70	-5.52
Drug store	1.76 [0.00-3.52]	2	-	0	1.76 [0.00-3.52]	2	1.17 [0.58-2.33]	173	0.93 [0.58-2.33]	47	1.17 [0.58-2.33]	220	-0.59	0.93	-0.59
General retailer/itinerant	-	0	-	0	-	0	1.46 [0.58-2.33]	2	0.58 [0.58-0.58]	3	0.58 [0.58-0.58]	5	-	-	-
Total	6.34 [4.23-8.45]	15	5.63 [5.63-5.63]	1	5.99 [4.23-8.45]	16	1.17 [0.58-2.33]	387	0.93 [0.58-1.87]	100	1.17 [0.58-2.33]	487	-5.17	-4.70	-4.82
Community health worker		0		0		0		0		0		0			

Note: An AETD is the number of milligrams (mg) of a given drug that is required to treat a 60 kg adult. AETDs were calculated for every audited antimalarial. Nigeria baseline data collection was conducted in 2009.

*This is the *p*-value for the result of a Wilcoxon ranksum test of no difference in median between baseline and endline.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.6: Cost to patients of quality-assured ACTs (including formulations for adults and children) by presence of the AMFm logo, in 2010 US dollars, at endline, 2011

Median cost to patients of one ADULT equivalent treatment dose (AETD) of quality-assured ACTs, by presence of the AMFm logo, urban-rural location and type of outlet, according to country

Country/Type of outlet	WITH LOGO						WITHOUT LOGO					
	Urban		Rural		Total		Urban		Rural		Total	
	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products
Ghana - Total	0.95 [0.94-1.88]	1,304	0.94 [0.94-1.25]	502	0.94 [0.94-1.88]	1,806	7.51 [2.50-8.76]	223	0.95 [0.94-2.50]	36	6.88 [1.25-8.76]	259
Public health facility	0.94 [0.94-1.25]	107	0.94 [0.94-0.94]	259	0.94 [0.94-0.94]	366	0.94 [0.94-6.88]	14	0.95 [0.94-2.50]	25	0.94 [0.94-2.50]	39
Private not-for-profit health facility	0.94 [0.94-1.50]	12	0.00 [0.00-0.94]	11	0.94 [0.00-0.95]	23	-	0	0.94 [0.94-0.94]	1	0.94 [0.94-0.94]	1
Private for-profit outlet												
Health facility/pharmacy	1.25 [0.94-1.88]	811	0.94 [0.94-1.25]	61	1.25 [0.94-1.88]	872	8.13 [3.44-8.76]	197	2.50 [1.25-12.51]	3	8.13 [3.25-8.76]	200
Drug store	0.94 [0.94-1.88]	372	0.94 [0.94-1.88]	170	0.94 [0.94-1.88]	542	3.13 [0.94-8.13]	12	1.00 [0.94-7.51]	6	2.50 [0.94-7.82]	18
General retailer/itinerant	1.25 [0.94-1.25]	2	10.01 [10.01-10.01]	1	1.25 [0.94-10.01]	3	-	0	0.94	1	0.94 [0.94-0.94]	1
Total	1.00 [0.94-1.88]	1,185	0.94 [0.94-1.88]	232	0.94 [0.94-1.88]	1,417	7.82 [2.50-8.76]	209	1.00 [0.94-7.51]	10	7.51 [1.88-8.76]	219
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya - Total	0.58 [0.46-1.15]	1,696	0.46 [0.00-0.58]	943	0.46 [0.46-0.81]	2,639	0.46 [0.00-0.92]	301	0.00 [0.00-0.00]	662	0.00 [0.00-0.00]	963
Public health facility	0.00 [0.00-0.00]	180	0.00 [0.00-0.00]	524	0.00 [0.00-0.00]	704	0.00 [0.00-0.00]	214	0.00 [0.00-0.00]	578	0.00 [0.00-0.00]	792
Private not-for-profit health facility	0.46 [0-1.15]	21	0.00 [0.00-0.69]	27	0.46 [0.00-0.69]	48	0.00 [0.00-0.69]	20	0.00 [0.00-1.15]	54	0.00 [0.00-0.92]	74
Private for-profit outlet												
Health facility/pharmacy	0.69 [0.46-1.15]	786	0.58 [0.46-1.15]	153	0.58 [0.46-1.15]	939	1.84 [0.58-6.91]	38	1.53 [0.35-3.45]	14	1.53 [0.46-3.45]	52
Drug store	0.61 [0.46-1.15]	668	0.46 [0.46-0.69]	172	0.54 [0.46-0.92]	840	0.92 [0.58-1.84]	29	0.69 [0.46-2.30]	13	0.81 [0.58-1.84]	42
General retailer/itinerant	0.46 [0.46-0.69]	41	0.46 [0.46-0.46]	67	0.46 [0.46-0.46]	108	-	0	0.46 [0.46-0.69]	3	0.46 [0.46-0.69]	3
Total	0.61 [0.46-1.15]	1,495	0.46 [0.46-0.81]	392	0.52 [0.46-0.92]	1,887	0.92 [0.58-2.30]	67	0.92 [0.46-3.45]	30	0.92 [0.46-2.30]	97
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar - Total	0.40 [0.21-0.68]	554	0.00 [0.00-0.43]	1,350	0.00 [0.00-0.51]	1,904	3.59 [0.00-9.36]	307	0.09 [0.00-0.17]	1,035	0.17 [0.00-0.34]	1,342
Public health facility	0.00 [0.00-0.00]	100	0.00 [0.00-0.00]	873	0.00 [0.00-0.00]	973	0.00 [0.00-0.00]	101	0.00 [0.00-0.00]	907	0.00 [0.00-0.00]	1,008
Private not-for-profit health facility	0.00 [0.00-0.00]	46	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	50	0.00 [0.00-0.00]	29	0.00 [0.00-0.00]	3	0.00 [0.00-0.00]	32
Private for-profit outlet												
Health facility/pharmacy	0.51 [0.34-0.85]	325	0.85 [0.43-1.71]	7	0.51 [0.34-0.85]	332	9.02 [7.90-11.79]	146	0.34 [0.34-0.34]	2	8.63 [5.98-11.28]	148
Drug store	0.43 [0.34-0.85]	72	0.60 [0.43-1.03]	444	0.60 [0.40-1.03]	516	9.36 [7.78-15.21]	14	0.51 [0.30-8.42]	34	7.78 [0.43-10.25]	48
General retailer/itinerant	1.03 [1.03-2.56]	2	0.60 [0.34-1.03]	4	0.60 [0.34-1.03]	6	0.51 [0.51-0.51]	1	0.51 [0.51-0.51]	6	0.51 [0.51-0.51]	7
Total	0.51 [0.34-0.85]	399	0.60 [0.43-1.03]	455	0.51 [0.34-1.03]	854	9.10 [7.69-14.36]	161	0.51 [0.34-0.68]	42	7.9 [0.51-10.25]	203
Community health worker	0.34 [0.10-0.68]	9	0.00 [0.00-0.17]	18	0.17 [0.00-0.34]	27	0.26 [0.17-0.34]	16	0.17 [0.17-0.34]	83	0.17 [0.17-0.34]	99
Niger - Total	0.99 [0.69-1.59]	422	0.69 [0-1.19]	124	0.99 [0.59-1.39]	546	1.59 [0.79-5.95]	320	0.00 [0.00-0.00]	170	0.00 [0.00-1.59]	490
Public health facility	0.69 [0.00-0.92]	120	0.00 [0.00-0.00]	73	0.00 [0.00-0.69]	193	0.00 [0.00-0.00]	95	0.00 [0.00-0.00]	153	0.00 [0.00-0.69]	248
Private not-for-profit health facility	-	0	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	5	0.00	1	-	0	0.00	1
Private for-profit outlet												
Health facility/pharmacy	1.39 [0.79-1.98]	157	0.69 [0.69-0.69]	5	1.39 [0.69-1.98]	162	9.04 [8.13-12.29]	170	1.19 [0.69-6.18]	3	9.04 [6.18-12.29]	173
Drug store	0.95 [0.79-1.59]	15	1.39 [1.19-1.39]	3	1.19 [0.95-1.59]	18	2.77 [1.39-10.05]	4	2.97 [2.97-2.97]	1	2.97 [2.97-2.97]	5
General retailer/itinerant	1.19 [0.99-1.59]	130	0.99 [0.79-1.49]	38	1.19 [0.79-1.49]	168	1.59 [1.19-1.98]	50	1.59 [1.19-2.38]	13	1.59 [1.19-2.38]	63
Total	1.19 [0.79-1.59]	302	1.19 [0.79-1.49]	46	1.19 [0.79-1.59]	348	1.98 [1.19-8.61]	224	1.59 [1.19-2.38]	17	1.98 [1.19-5.95]	241
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria - Total	1.42 [0.89-2.36]	1,252	1.48 [0.89-2.36]	468	1.48 [0.89-2.36]	1,720	2.83 [0.94-5.02]	212	1.18 [0.00-3.84]	118	2.36 [0.71-4.72]	330
Public health facility	0.00 [0.00-0.00]	45	0.00 [0.00-0.00]	23	0.00 [0.00-0.00]	68	0.00 [0.00-0.00]	25	0.00 [0.00-0.00]	42	0.00 [0.00-0.00]	67
Private not-for-profit health facility	2.36 [0.71-2.95]	7	1.48	1	1.48 [0.71-2.95]	8	0.71 [0.71-0.71]	3	4.72 [4.72-4.72]	2	0.71 [0.71-4.72]	5
Private for-profit outlet												
Health facility/pharmacy	0.89 [0.89-2.76]	138	2.36 [1.18-3.54]	8	1.18 [0.89-2.95]	146	4.72 [2.07-5.43]	30	3.54 [0.59-7.09]	7	3.54 [2.07-5.43]	37
Drug store	1.48 [0.89-2.36]	1,017	1.48 [0.89-2.36]	431	1.48 [0.89-2.36]	1,448	2.95 [1.42-5.02]	149	2.36 [1.18-5.90]	66	2.95 [1.42-5.02]	215
General retailer/itinerant	1.77 [1.48-2.36]	39	1.89 [1.77-5.20]	4	1.77 [1.48-2.36]	43	0.35 [0.35-0.79]	5	-	0	0.35 [0.35-0.79]	5
Total	1.48 [0.89-2.36]	1,194	1.48 [0.89-2.36]	443	1.48 [0.89-2.36]	1,637	2.95 [1.48-5.02]	184	2.76 [1.18-5.90]	73	2.95 [1.42-5.31]	257
Community health worker	0.00 [0.00-0.00]	6	7.09	1	0.00 [0.00-7.09]	7	-	0	3.54	1	3.54	1
Tanzania mainland - Total	1.25 [0.62-1.87]	1,431	0.75 [0.62-1.25]	262	0.94 [0.62-1.25]	1,693	2.5 [1.25-8.75]	230	0.00 [0.00-0.62]	92	0.31 [0.00-0.83]	322
Public health facility	0.31 [0.00-0.62]	16	0.00 [0.00-0.62]	60	0.00 [0.00-0.62]	76	0.62 [0.31-0.62]	6	0.00 [0.00-0.62]	69	0.00 [0.00-0.62]	75
Private not-for-profit health facility	1.25 [0.94-1.87]	4	0.00 [0.00-0.94]	4	0.00 [0.00-0.94]	8	1.25 [1.25-9.37]	2	0.00 [0.00-0.00]	3	0.00 [0.00-0.00]	5
Private for-profit outlet												
Health facility/pharmacy	1.25 [0.62-1.75]	1,015	0.75 [0.62-1.25]	40	1.25 [0.62-1.56]	1,055	7.50 [3.75-10.00]	190	0.31 [0.00-0.31]	8	0.62 [0.31-7.81]	198
Drug store	1.25 [0.83-1.87]	390	0.94 [0.62-1.25]	158	0.94 [0.62-1.25]	548	2.50 [1.25-8.75]	32	0.75 [0.62-1.00]	7	1.25 [0.75-3.75]	39
General retailer/itinerant	0.62 [0.62-0.62]	6	-	0	0.62 [0.62-0.62]	6	-	0	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	5
Total	1.25 [0.62-1.87]	1,411	0.94 [0.62-1.25]	198	0.94 [0.62-1.25]	1,609	3.75 [1.25-9.37]	222	0.31 [0.00-0.75]	20	1.00 [0.31-3.75]	242
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table: 2.3.6: *Cont.*

	WITH LOGO						WITHOUT LOGO					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products
Uganda - Total	1.96 [1.17-3.13]	1,986	1.56 [0.00-2.35]	2,350	1.56 [0.47-2.35]	4,336	1.56 [0.00-3.13]	490	0.00 [0.00-1.17]	594	0.00 [0.00-1.56]	1,084
Public health facility	0.00 [0.00-0.00]	212	0.00 [0.00-0.00]	1,265	0.00 [0.00-0.00]	1,477	0.00 [0.00-0.00]	138	0.00 [0.00-0.00]	349	0.00 [0.00-0.00]	487
Private not-for-profit health facility	2.93 [1.17-4.69]	5	0.98 [0.00-1.56]	13	0.98 [0.00-1.56]	18	0.00 [0.00-0.00]	18	0.00 [0.00-0.78]	49	0.00 [0.00-0.78]	67
Private for-profit outlet												
Health facility/pharmacy	1.96 [1.56-3.91]	1,361	1.96 [1.56-3.13]	553	1.96 [1.56-3.13]	1,914	2.82 [1.56-4.69]	282	2.35 [1.37-3.13]	82	2.35 [1.56-3.91]	364
Drug store	1.96 [1.17-2.74]	406	1.88 [1.17-2.35]	501	1.88 [1.17-2.35]	907	1.96 [1.96-3.13]	49	1.88 [1.17-2.74]	43	1.96 [1.17-2.74]	92
General retailer/itinerant	1.96 [1.96-1.96]	1	1.17 [0.94-2.35]	10	1.17 [0.94-2.35]	11	28.17	1	0.00	1	0.00 [0.00-0.00]	2
Total	1.96 [1.17-3.13]	1,768	1.96 [1.17-2.74]	1,064	1.96 [1.17-2.82]	2,832	2.74 [1.88-3.91]	332	1.96 [1.17-2.74]	126	1.96 [1.37-3.13]	458
Community health worker	1.96 [1.96-1.96]	1	0.00 [0.00-0.00]	8	0.00 [0.00-0.00]	9	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	70	0.00 [0.00-0.00]	72
Zanzibar - Total	0.58 [0.58-1.75]	499	0.00 [0.00-0.58]	326	0.58 [0.00-1.17]	825	0.41 [0.00-7.29]	24	0.00 [0.00-0.00]	9	0.00 [0.00-7.00]	33
Public health facility	0.00 [0.00-0.00]	124	0.00 [0.00-0.00]	225	0.00 [0.00-0.00]	349	0.00 [0.00-0.00]	11	0.00 [0.00-0.00]	7	0.00 [0.00-0.00]	18
Private not-for-profit health facility	0.58 [0.58-0.58]	1	0.35 [0.29-1.40]	3	0.47 [0.32-0.99]	4	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	1.17 [0.58-2.33]	200	0.93 [0.58-1.87]	49	1.17 [0.58-2.33]	249	7.00 [1.75-8.74]	12	9.33	1	7.00 [2.33-8.74]	13
Drug store	1.17 [0.58-2.33]	172	0.87 [0.58-1.87]	46	1.05 [0.58-2.33]	218	8.74	1	4.66	1	6.70 [4.66-8.74]	2
General retailer/itinerant	1.46 [0.58-2.33]	2	0.58 [0.58-0.58]	3	0.58 [0.58-0.58]	5	-	0	-	0	-	0
Total	1.17 [0.58-2.33]	374	0.87 [0.58-1.87]	98	1.17 [0.58-2.33]	472	7.00 [2.33-8.74]	13	7.00 [4.66-9.33]	2	7.00 [2.33-8.74]	15
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: An AETD is the number of milligrams (mg) of a given drug that is required to treat a 60 kg adult. AETDs were calculated for every audited antimalarial. na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

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Table 2.3.7: Cost to patients of quality-assured ACTs (pediatric formulations only), in 2010 US dollars, at baseline (2010) and endline (2011)

Indicator 2.1 Median cost to patients of one PEDIATRIC FORMULATION of quality-assured ACTs for a two-year old child (10kg), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE Urban Median Cost [IQR]	No. of products	Rural Median Cost [IQR]	No. of products	Total Median Cost [IQR]	No. of products	ENDLINE Urban Median Cost [IQR]	No. of products	Rural Median Cost [IQR]	No. of products	Total Median Cost [IQR]	No. of products	CHANGE IN MEDIAN Urban Change in median [p-value*]	Rural Change in median [p-value*]	Total Change in median [p-value*]
Ghana - Total	2.05 [0.68-2.40]	177	1.37 [0.68-2.40]	79	1.58 [0.68-2.40]	256	0.63 [0.63-0.94]	291	0.63 [0.50-0.75]	76	0.63 [0.63-0.94]	367	-1.43 [<0.0001]	-0.74 <0.0001]	-0.95 [<0.0001]
Public health facility	2.05 [1.03-2.40]	43	1.64 [1.03-2.40]	52	1.64 [1.03-2.40]	95	0.47 [0.24-0.63]	22	0.24 [0.24-0.47]	34	0.31 [0.24-0.63]	56	-1.59 [<0.0001]	-1.41 <0.0001]	-1.33 [<0.0001]
Private not-for-profit health facility	1.37 [1.20-2.40]	3	2.49 [1.71-2.74]	3	2.49 [1.71-2.74]	6	0.94 [0.24-0.94]	2	-	0	0.94 [0.24-0.94]	2	-0.43	-2.49	-1.55 [0.1079]
Private for-profit outlet															
Health facility/pharmacy	2.33 [2.05-2.88]	107	0.68 [0.00-2.40]	9	2.26 [2.05-2.47]	116	0.63 [0.63-0.94]	203	0.63 [0.00-0.63]	9	0.63 [0.63-0.94]	212	-1.70 [<0.0001]	-0.06 [0.116]	-1.63 [<0.0001]
Drug store	0.34 [0.34-0.68]	24	1.03 [0.68-2.05]	12	0.68 [0.68-2.05]	36	0.63 [0.63-0.94]	64	0.63 [0.63-0.94]	33	0.63 [0.63-0.94]	97	0.28 [0.0019]	-0.40 [0.0059]	-0.06 [0.1506]
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Total	2.05 [0.68-2.42]	131	1.03 [0.68-2.05]	21	1.37 [0.68-2.40]	152	0.63 [0.63-0.94]	267	0.63 [0.63-0.81]	42	0.63 [0.63-0.94]	309	-1.43 [0.0006]	-0.40 [0.01385]	-0.74 [<0.0001]
Community health worker	-	0	1.37 [1.03-1.37]	3	1.37 [1.03-1.37]	3	-	0	-	0	-	0			
Kenya - Total	0.00 [0.00-1.31]	152	0.00 [0.00-0.00]	269	0.00 [0.00-0.00]	421	0.46 [0.35-0.46]	325	0.00 [0.00-0.35]	192	0.35 [0.00-0.46]	517	0.46 [0.3201]	0.00 [0.0085]	0.35 [<0.0001]
Public health facility	0.00 [0.00-0.00]	93	0.00 [0.00-0.00]	239	0.00 [0.00-0.00]	332	0.00 [0.00-0.00]	42	0.00 [0.00-0.00]	143	0.00 [0.00-0.00]	185	0.00 [0.6591]	0.00 [0.418]	0.00 [0.3239]
Private not-for-profit health facility	0.00 [0.00-0.00]	17	0.00 [0.00-0.26]	12	0.00 [0.00-0.26]	29	0.00 [0.00-0.46]	7	0.00 [0.00-0.46]	8	0.00 [0.00-0.46]	15	0.00 [0.8735]	0.00 [0.8179]	0.00 [0.8810]
Private for-profit outlet															
Health facility/pharmacy	1.58 [0.66-2.63]	31	0.00 [0.00-0.00]	7	0.66 [0.00-1.97]	38	0.46 [0.46-0.58]	154	0.46 [0.46-0.46]	20	0.46 [0.46-0.58]	174	-1.11 [0.0003]	0.46 [<0.0001]	-0.20 [0.4846]
Drug store	2.36 [0.66-3.94]	11	0.66 [0.53-0.79]	5	0.66 [0.53-0.92]	16	0.46 [0.35-0.46]	116	0.35 [0.29-0.46]	19	0.46 [0.35-0.46]	135	-1.90 [<0.0001]	-0.31 [0.0001]	-0.20 [<0.0001]
General retailer/itinerant	-	0	-	0	-	0	0.46 [0.35-0.52]	6	0.46 [0.17-0.46]	2	0.46 [0.35-0.46]	8	-1.11 [<0.0001]	-0.06 [0.4223]	-0.20 [0.0151]
Total	1.58 [0.66-2.63]	42	0.53 [0.00-0.66]	12	0.66 [0.53-1.71]	54	0.46 [0.35-0.52]	276	0.46 [0.32-0.46]	41	0.46 [0.35-0.46]	317			
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0			
Madagascar - Total	0.05 [0.00-0.19]	137	0.05 [0.00-0.05]	535	0.05 [0.00-0.05]	672	0.13 [0.00-0.21]	210	0.04 [0.00-0.04]	635	0.04 [0.00-0.09]	845	0.08 [0.165]	0.00 [0.009773]	0.00 [0.0480]
Public health facility	0.00 [0.00-0.00]	39	0.00 [0.00-0.00]	366	0.00 [0.00-0.00]	405	0.00 [0.00-0.00]	50	0.00 [0.00-0.00]	453	0.00 [0.00-0.00]	503	0.00 [0.1647]	0.00 [0.05802]	0.00 [0.1335]
Private not-for-profit health facility	0.00 [0.00-0.00]	2	-	0	0.00 [0.00-0.00]	2	-	20	0.00	1	0.00 [0.00-0.00]	21	0.00 [0.04697]	-	0.00 [0.0994]
Private for-profit outlet															
Health facility/pharmacy	0.05 [0.05-2.81]	73	0.05 [0.05-0.05]	3	0.05 [0.05-2.81]	76	0.19 [0.13-0.51]	109	0.09 [0.09-0.21]	3	0.17 [0.13-0.34]	112	0.15 [0.01482]	0.04 [0.0082]	0.12 [0.0040]
Drug store	0.05 [0.05-0.28]	18	0.05 [0.05-0.09]	122	0.05 [0.05-0.09]	140	0.21 [0.17-0.26]	16	0.21 [0.17-0.26]	113	0.21 [0.17-0.26]	129	0.17 [0.02586]	0.17 [<0.0001]	0.17 [<0.0001]
General retailer/itinerant	0.09 [0.05-0.09]	5	0.07 [0.05-0.14]	9	0.07 [0.05-0.14]	14	0.13 [0.13-0.13]	2	0.13 [0.09-0.13]	6	0.13 [0.13-0.13]	8	0.03 [0.04395]	0.06 [0.5196]	0.06 [0.5349]
Total	0.05 [0.05-2.81]	96	0.05 [0.05-0.14]	134	0.05 [0.05-0.14]	230	0.21 [0.13-0.51]	127	0.17 [0.13-0.21]	122	0.19 [0.13-0.26]	249	0.17 [0.001037]	0.12 [0.00024]	0.15 [0.0040]
Community health worker	-	0	0.05 [0.05-0.05]	35	0.05 [0.05-0.05]	35	0.04 [0.02-0.09]	13	0.04 [0.04-0.04]	59	0.04 [0.04-0.04]	72		0.00 [<0.0001]	0.00 [<0.0001]
Niger - Total	0.62 [0.31-1.03]	96	0.51 [0.00-0.62]	88	0.62 [0.00-0.82]	184	0.40 [0.40-0.59]	150	0.00 [0.00-0.30]	55	0.40 [0.00-0.59]	205	-0.22 [<0.0001]	-0.51 [0.0129]	-0.22 [0.0028]
Public health facility	0.00 [0.00-0.00]	29	0.00 [0.00-0.00]	69	0.00 [0.00-0.00]	98	0.00 [0.00-0.00]	67	0.00 [0.00-0.00]	46	0.00 [0.00-0.00]	113	0.00 [0.6041]	0.00 [0.9618]	0.00 [0.3239]
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	1	0.00	1	-	-	-
Private for-profit outlet															
Health facility/pharmacy	2.71 [2.67-5.60]	39	-	0	2.71 [2.67-5.60]	39	0.40 [0.40-3.17]	47	0.97 [0.40-1.55]	2	0.40 [0.40-3.17]	49	-2.32 [0.06393]	-	-2.32 [0.0591]
Drug store	1.03 [1.03-1.03]	5	0.62 [0.62-0.62]	1	0.62 [0.62-1.03]	6	0.35 [0.24-2.58]	4	-	0	0.35 [0.24-2.58]	4	-0.68 [0.1857]	-	-0.27 [0.2674]
General retailer/itinerant	0.62 [0.51-0.82]	23	0.62 [0.62-0.82]	18	0.62 [0.62-0.82]	41	0.50 [0.40-0.59]	32	0.59 [0.59-0.59]	6	0.50 [0.40-0.59]	38	-0.12 [0.0008]	-0.02 [0.1885]	-0.12 [0.0038]
Total	0.82 [0.51-1.03]	67	0.62 [0.62-0.82]	19	0.62 [0.62-0.93]	86	0.50 [0.40-0.59]	83	0.59 [0.59-0.59]	8	0.50 [0.40-0.59]	91	-0.33 [0.0001]	-0.02 [0.1729]	-0.12 [0.0008]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Nigeria - Total	1.12 [0.52-1.49]	531	0.74 [0.22-0.89]	95	0.89 [0.52-1.49]	626	0.71 [0.59-1.18]	371	0.71 [0.59-1.18]	165	0.71 [0.59-1.18]	536	-0.41 [0.196]	-0.04 [0.492]	-0.18 [0.269]
Public health facility	0.00 [0.00-0.00]	28	0.00 [0.00-0.82]	13	0.00 [0.00-0.82]	41	0.00 [0.00-0.00]	21	0.00 [0.00-0.00]	15	0.00 [0.00-0.00]	36	0.00 [0.076]	0.00 [0.122]	0.00 [0.109]
Private not-for-profit health facility	0.74 [0.37-0.74]	3	0.22 [0.22-0.22]	2	0.22 [0.22-0.22]	5	0.89 [0.18-2.36]	4	1.18	1	0.89 [0.18-1.18]	5	0.14 [0.438]	0.96	0.66 [0.272]
Private for-profit outlet															
Health facility/pharmacy	1.86 [0.74-2.08]	270	0.37 [0.37-0.37]	2	1.49 [0.37-2.08]	272	1.18 [0.59-1.48]	31	0.59 [0.59-1.77]	2	1.18 [0.59-1.48]	33	-0.68 [0.004]	0.22	-0.31 [0.302]
Drug store	1.12 [0.52-1.49]	212	0.74 [0.60-1.12]	76	1.04 [0.52-1.49]	288	0.71 [0.59-1.18]	305	0.89 [0.59-1.18]	143	0.89 [0.59-1.18]	448	-0.41 [0.176]	0.14 [0.816]	-0.16 [0.218]
General retailer/itinerant	1.12 [0.74-1.86]	13	1.12 [1.12-1.12]	1	1.12 [0.74-1.86]	14	0.89 [0.71-1.18]	7	1.30 [0.47-1.30]	2	0.89 [0.59-1.30]	9	-0.23 [0.765]	0.18	-0.23 [0.513]
Total	1.12 [0.52-1.49]	495	0.74 [0.60-1.12]	79	1.04 [0.52-1.49]	574	0.71 [0.59-1.18]	343	0.89 [0.59-1.18]	147	0.89 [0.59-1.18]	490	-0.41 [0.176]	0.14 [0.886]	-0.16 [0.209]
Community health worker	0.37 [0.22-0.37]	5	0.00	1	0.22 [0.22-0.37]	6	0.00 [0.00-0.00]	3	0.89 [0.89-0.89]	2	0.89 [0.89-0.89]	5	-0.37	0.89	0.66 [0.054]

Table 2.3.7: *Cont.*

Country/Type of outlet	Baseline Urban Median Cost [IQR]	Baseline Urban No. of products	Baseline Rural Median Cost [IQR]	Baseline Rural No. of products	Baseline Total Median Cost [IQR]	Baseline Total No. of products	Endline Urban Median Cost [IQR]	Endline Urban No. of products	Endline Rural Median Cost [IQR]	Endline Rural No. of products	Endline Total Median Cost [IQR]	Endline Total No. of products	Change Urban median [p-value*]	Change Rural median [p-value*]	Change Total median [p-value*]
Tanzania - mainland - Total	1.76 [0.21-2.46]	42	0.00 [0.00-0.00]	41	0.00 [0.00-0.28]	83	0.62 [0.31-0.62]	400	0.31 [0.00-0.37]	86	0.31 [0.00-0.62]	486	-1.14 [0.1563]	0.31 [0.0172]	0.31 [0.0006]
Public health facility	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	31	0.00 [0.00-0.00]	33	0.00 [0.00-0.31]	6	0.00 [0.00-0.00]	33	0.00 [0.00-0.00]	39	0.00 [0.1267]	0.00 [0.58]	0.00 [0.4624]
Private not-for-profit health facility	0.99 [0.21-1.76]	2	0.00 [0.00-0.35]	5	0.00 [0.00-0.35]	7	0.31 [0.31-0.31]	1	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	3	-0.67	0.00 [0.2072]	0.00 [0.3448]
Private for-profit outlet															
Health facility/pharmacy	2.11 [1.76-2.15]	36	-	0	2.11 [1.76-2.15]	36	0.62 [0.31-0.62]	285	0.00 [0.00-0.31]	13	0.50 [0.31-0.62]	298	-1.49 [<0.0001]	-	-1.61 [<0.0001]
Drug store	2.46 [2.46-2.46]	2	0.35 [0.35-0.35]	4	0.35 [0.35-2.46]	6	0.62 [0.62-0.62]	108	0.44 [0.31-0.62]	37	0.62 [0.31-0.62]	145	-1.84 [<0.0001]	0.09 [0.6698]	0.27 [0.5384]
General retailer/itinerant	-	0	0.28 [0.28-0.28]	1	0.28 [0.28-0.28]	1	0.00 [0.00-0.00]	0	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	1	-	-0.28	-0.28
Total	2.29 [1.76-2.46]	38	0.35 [0.28-0.35]	5	0.70 [0.35-2.15]	43	0.62 [0.44-0.62]	393	0.37 [0.31-0.62]	51	0.62 [0.31-0.62]	444	-1.66 [<0.0001]	0.02 [0.5129]	-0.08 [0.2298]
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Uganda - Total	0.00 [0.00-0.70]	69	0.00 [0.00-0.00]	586	0.00 [0.00-0.00]	655	0.59 [0.00-1.17]	309	0.00 [0.00-0.00]	560	0.00 [0.00-0.23]	869	0.59 [0.2882]	0.00 [0.2243]	0.00 [0.0605]
Public health facility	0.00 [0.00-0.00]	45	0.00 [0.00-0.00]	561	0.00 [0.00-0.00]	606	0.00 [0.00-0.00]	74	0.00 [0.00-0.00]	415	0.00 [0.00-0.00]	489	0.00 [0.432]	0.00 [0.1499]	0.00 [0.1489]
Private not-for-profit health facility	0.70 [0.00-0.70]	2	0.00 [0.00-0.23]	8	0.00 [0.00-0.23]	10	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	15	0.00 [0.00-0.00]	19	-0.70 [0.233]	0.00 [0.8925]	0.00 [0.4788]
Private for-profit outlet															
Health facility/pharmacy	2.32 [2.09-2.79]	22	0.00 [0.00-0.00]	3	2.32 [0.00-2.79]	25	0.98 [0.39-1.96]	199	0.78 [0.59-1.56]	59	0.98 [0.59-1.96]	258	-1.34 [0.1058]	0.78 [0.0039]	-1.34 [0.5949]
Drug store	-	0	0.46 [0.23-0.70]	6	0.46 [0.23-0.70]	6	0.59 [0.59-0.98]	31	0.78 [0.23-1.17]	23	0.78 [0.27-1.17]	54	-	0.32 [0.3563]	0.32 [0.1787]
General retailer/itinerant	-	0	-	0	0.00 [0.00-0.00]	0	-	0	-	0	-	0	-	-	-
Total	2.32 [2.09-2.79]	22	0.46 [0.09-0.70]	9	0.56 [0.09-0.93]	31	0.78 [0.39-1.56]	230	0.78 [0.27-1.17]	83	0.78 [0.39-1.17]	313	-1.54 [0.1184]	0.32 [0.0485]	0.22 [0.3213]
Community health worker	-	0	0.00 [0.00-0.00]	8	0.00 [0.00-0.00]	8	0.00	1	0.00 [0.00-0.00]	47	0.00 [0.00-0.00]	48	-	0.00 [0.7596]	0.00 [0.611]
Zanzibar - Total	0.00 [0.00-0.00]	43	0.00 [0.00-0.00]	75	0.00 [0.00-0.00]	118	0.38 [0.00-0.58]	132	0.00 [0.00-0.00]	85	0.23 [0.00-0.58]	217	0.38	0	0.23
Public health facility	0.00 [0.00-0.00]	42	0.00 [0.00-0.00]	75	0.00 [0.00-0.00]	117	0.00 [0.00-0.00]	41	0.00 [0.00-0.00]	64	0.00 [0.00-0.00]	105	0.00	0	0
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Private for-profit outlet													-1.56 [0.05087]		-1.65 [0.0006]
Health facility/pharmacy	2.11	1	-	0	2.11	1	0.55 [0.35-0.58]	50	0.44 [0.29-0.58]	10	0.47 [0.29-0.58]	60	-	-	-
Drug store	-	0	-	0	-	0	0.52 [0.32-0.58]	40	0.58 [0.47-0.58]	11	0.58 [0.35-0.58]	51	-	-	-
General retailer/itinerant	-	0	-	0	-	0	0.58	1	-	0	0.58 [0.58-0.58]	1	-	-	-
Total	2.11	1	-	0	2.11	1	0.58 [0.35-0.58]	91	0.47 [0.29-0.58]	21	0.55 [0.32-0.58]	112	-1.53	-	-1.56
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0	-	-	-

Note: Pediatric formulations (PFs) are packages intended for children. In the calculation of median cost, we include only packages whose age (weight) range includes a 2 year old (10 kg) child.

*This is the p-value for the result of a Wilcoxon ranksum test of no difference in median between baseline and endline. Nigeria baseline data collection was conducted in 2009.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

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Table 2.3.8: **Cost to patients of quality-assured ACTs (pediatric formulations only) by presence of the AMFm logo, in 2010 US dollars, at endline, 2011**

Median cost to patients of one PEDIATRIC FORMULATION of quality-assured ACTs for a two-year old child (10kg), by presence of the AMFm logo, urban-rural location and type of outlet, according to country

Country/Type of outlet	WITH LOGO						WITHOUT LOGO					
	Urban		Rural		Total		Urban		Rural		Total	
	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products
Ghana - Total	0.63 [0.63-0.94]	269	0.63 [0.63-0.81]	69	0.63 [0.63-0.94]	338	0.94 [0.63-4.07]	22	0.38 [0.38-0.63]	6	0.94 [0.38-1.56]	28
Public health facility	0.47 [0.24-0.47]	19	0.24 [0.24-0.44]	29	0.31 [0.24-0.47]	48	0.94 [0.24-4.44]	3	0.47 [0.24-0.94]	4	0.63 [0.24-0.94]	7
Private not-for-profit health facility	0.94 [0.24-0.94]	2		0	0.94 [0.24-0.94]	2		0		0		0
Private for-profit outlet												
Health facility/pharmacy	0.63 [0.56-0.94]	186	0.63 [0.00-0.63]	8	0.63 [0.56-0.94]	194	1.25 [0.94-4.88]	17	0.63 [0.63-0.63]	1	1.25 [0.75-4.88]	18
Drug store	0.63 [0.63-0.94]	62	0.63 [0.63-0.94]	32	0.63 [0.63-0.94]	94	0.19 [0.19-0.94]	2	0.38 [0.38-0.38]	1	0.38 [0.19-0.94]	3
General retailer/itinerant	-	0	-	0	-	0		0		0		0
Total	0.63 [0.63-0.94]	248	0.63 [0.63-0.81]	40	0.63 [0.63-0.94]	288	0.94 [0.63-3.13]	19	0.38 [0.38-0.38]	2	0.94 [0.38-1.56]	21
Community health worker	-	0	-	0		0		0		0	0.00 [0.00-0.00]	0
Kenya - Total	0.46 [0.35-0.46]	293	0.23 [0.00-0.46]	114	0.35 [0.00-0.46]	407	0.46 [0.00-0.58]	32	0.00 [0.00-0.00]	78	0.00 [0.00-0.00]	110
Public health facility	0.00 [0.00-0.00]	23	0.00 [0.00-0.00]	74	0.00 [0.00-0.00]	97	0.00 [0.00-0.00]	19	0.00 [0.00-0.00]	69	0.00 [0.00-0.00]	88
Private not-for-profit health facility	0.46 [0.46-0.46]	3	0.00 [0.00-0.58]	3	0.00 [0.00-0.58]	6	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	9
Private for-profit outlet												
Health facility/pharmacy	0.46 [0.35-0.58]	149	0.46 [0.46-0.46]	19	0.46 [0.46-0.46]	168	1.73 [0.58-1.73]	5	0.35 [0.35-0.35]	1	0.58 [0.35-1.73]	6
Drug store	0.46 [0.35-0.46]	112	0.35 [0.29-0.46]	17	0.46 [0.35-0.46]	129	0.58 [0.46-0.58]	4	0.46 [0.46-0.58]	2	0.58 [0.46-0.58]	6
General retailer/itinerant	0.46 [0.35-0.52]	6	0.46 [0.46-0.46]	1	0.46 [0.46-0.52]	7	]	0	0.17 [0.17-0.17]	1	0.17 [0.17-0.17]	1
Total	0.46 [0.35-0.46]	267	0.46 [0.32-0.46]	37	0.46 [0.35-0.46]	304	0.58 [0.46-0.58]	9	0.46 [0.35-0.46]	4	0.46 [0.46-0.58]	13
Community health worker		0		0		0		0		0		0
Madagascar - Total	0.13 [0.00-0.21]	132	0.00 [0.00-0.13]	332	0.00 [0.00-0.17]	464	0.09 [0.00-3.43]	78	0.04 [0.00-0.04]	303	0.04 [0.00-0.04]	381
Public health facility	0.00 [0.00-0.00]	26	0.00 [0.00-0.00]	222	0.00 [0.00-0.00]	248	0.00 [0.00-0.00]	24	0.00 [0.00-0.00]	231	0.00 [0.00-0.00]	255
Private not-for-profit health facility	0.00 [0.00-0.00]	10	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	11	0.00 [0.00-0.00]	10	-	0	0.00 [0.00-0.00]	10
Private for-profit outlet												
Health facility/pharmacy	0.17 [0.13-0.21]	80	0.21 [0.21-0.21]	2	0.17 [0.13-0.21]	82	2.82 [0.90-4.57]	29	0.09 [0.09-0.09]	1	0.90 [0.09-4.14]	30
Drug store	0.21 [0.17-0.21]	14	0.21 [0.17-0.30]	97	0.21 [0.17-0.26]	111	3.80 [3.80-3.80]	2	0.09 [0.04-0.13]	16	0.09 [0.04-2.56]	18
General retailer/itinerant	0.64 [0.64-0.64]	1		0	0.64 [0.64-0.64]	1	0.13 [0.13-0.13]	1	0.13 [0.09-0.13]	6	0.13 [0.13-0.13]	7
Total	0.17 [0.13-0.21]	95	0.21 [0.21-0.26]	99	0.21 [0.17-0.26]	194	3.43 [0.90-4.46]	32	0.13 [0.09-0.13]	23	0.13 [0.09-0.90]	55
Community health worker	0.00 [0.00-0.00]	1	0.04 [0.00-0.04]	10	0.00 [0.00-0.04]	11	0.04 [0.04-0.09]	12	0.04 [0.04-0.04]	49	0.04 [0.04-0.04]	61
Niger - Total	0.40 [0.40-0.59]	90	0.00 [0.00-0.59]	28	0.40 [0.00-0.59]	118	0.45 [0.00-0.5]	60	0.00 [0.00-0.30]	27	0.00 [0.00-0.50]	87
Public health facility		37	0.00 [0.00-0.40]	23	0.00 [0.00-0.00]	60	0.00 [0.00-0.00]	30	0.00 [0.00-0.00]	23	0.00 [0.00-0.00]	53
Private not-for-profit health facility		0	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	1		0	-	0		0
Private for-profit outlet												
Health facility/pharmacy	0.40 [0.40-0.40]	29	0.40 [0.40-0.40]	1	0.40 [0.40-0.40]	30	5.40 [2.58-5.40]	18	1.55 [1.55-1.55]	1	5.40 [1.98-5.40]	19
Drug store	0.35 [0.24-2.58]	4		0	0.35 [0.24-2.58]	4		0		0		0
General retailer/itinerant	0.50 [0.40-0.59]	20	0.59 [0.59-0.59]	3	0.59 [0.40-0.59]	23	0.50 [0.40-0.50]	12	0.59 [0.30-1.19]	3	0.50 [0.40-0.59]	15
Total	0.50 [0.40-0.59]	53	0.59 [0.59-0.59]	4	0.59 [0.40-0.59]	57	0.50 [0.40-0.59]	30	1.19 [0.30-1.19]	4	0.50 [0.40-1.19]	34
Community health worker		0		0		0		0		0		0
Nigeria - Total	0.71 [0.59-0.89]	299	0.71 [0.59-1.18]	125	0.71 [0.59-1.18]	424	0.89 [0.59-1.48]	72	0.59 [0.00-1.06]	40	0.89 [0.35-1.18]	112
Public health facility	0.00 [0.00-0.00]	11	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	15	0.00 [0.00-0.00]	10	0.00 [0.00-0.00]	11	0.00 [0.00-0.00]	21
Private not-for-profit health facility	0.18 [0.18-0.89]	3	-	0	0.18 [0.18-0.89]	3	2.36	1	1.18	1	1.18 [1.18-2.36]	2
Private for-profit outlet												
Health facility/pharmacy	1.18 [0.59-1.48]	23	0.59	1	0.59 [0.59-1.48]	24	1.18 [0.59-1.18]	8	1.77	1	1.18 [0.59-1.77]	9
Drug store	0.71 [0.59-0.89]	253	0.89 [0.59-1.18]	117	0.71 [0.59-1.18]	370	0.89 [0.59-1.48]	52	0.89 [0.59-1.18]	26	0.89 [0.59-1.48]	78
General retailer/itinerant	0.89 [0.71-0.89]	6	1.30 [0.47-1.30]	2	0.89 [0.59-1.30]	8	1.48	1	-	0	1.48	1
Total	0.71 [0.59-1.18]	282	0.89 [0.59-1.18]	120	0.71 [0.59-1.18]	402	0.89 [0.59-1.48]	61	0.89 [0.59-1.18]	27	0.89 [0.59-1.48]	88
Community health worker	0.00 [0.00-0.00]	3	1.77	1	1.77 [0.00-1.77]	4	-	0	0.89	1	0.89	1
Tanzania - mainland - Total	0.62 [0.34-0.62]	371	0.31 [0.00-0.62]	64	0.62 [0.31-0.62]	435	0.62 [0.31-0.94]	29	0.00 [0.00-0.19]	22	0.00 [0.00-0.31]	51
Public health facility	0.00 [0.00-0.31]	4	0.00 [0.00-0.00]	17	0.00 [0.00-0.00]	21	0.31 [0.00-0.31]	2	0.00 [0.00-0.00]	16	0.00 [0.00-0.31]	18
Private not-for-profit health facility		0	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	1	0.31 [0.31-0.31]	1	0.00 [0.00-0.00]	1	0.00 [0.00-0.31]	2
Private for-profit outlet												
Health facility/pharmacy	0.62 [0.31-0.62]	264	0.31 [0.31-0.31]	12	0.62 [0.31-0.62]	276	5.00 [0.62-5.00]	21	0.00 [0.00-0.00]	1	0.00 [0.00-0.31]	22
Drug store	0.62 [0.62-0.62]	103	0.62 [0.31-0.62]	34	0.62 [0.31-0.62]	137	0.62 [0.62-0.94]	5	0.19 [0.19-0.31]	3	0.31 [0.19-0.62]	8
General retailer/itinerant		0		0		0		0	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	1
Total	0.62 [0.44-0.62]	367	0.62 [0.31-0.62]	46	0.62 [0.31-0.62]	413	0.94 [0.62-0.94]	26	0.19 [0.00-0.31]	5	0.19 [0.00-0.31]	31
Community health worker		0		0		0		0		0		0

Table 2.3.8: *Cont.*

Country/Type of outlet	WITH LOGO						WITHOUT LOGO					
	Urban		Rural		Total		Urban		Rural		Total	
	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products
Uganda - Total	0.78 [0.20-1.17]	266	0.00 [0.00-0.20]	425	0.00 [0.00-0.59]	691	0.00 [0.00-0.00]	43	0.00 [0.00-0.00]	135	0.00 [0.00-0.00]	178
Public health facility	0.00 [0.00-0.00]	51	0.00 [0.00-0.00]	343	0.00 [0.00-0.00]	394	0.00 [0.00-0.00]	23	0.00 [0.00-0.00]	72	0.00 [0.00-0.00]	95
Private not-for-profit health facility	0.39 [0.39-0.39]	1	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	3	0.00 [0.00-0.00]	3	0.00 [0.00-0.27]	13	0.00 [0.00-0.00]	16
Private for-profit outlet												
Health facility/pharmacy	0.98 [0.59-1.96]	186	1.17 [0.59-1.96]	54	1.17 [0.59-1.96]	240	0.00 [0.00-0.98]	13	0.59 [0.59-0.59]	5	0.59 [0.59-0.59]	18
Drug store	0.78 [0.59-0.78]	28	0.59 [0.23-1.17]	22	0.59 [0.27-1.17]	50	0.59 [0.59-3.13]	3	0.98 [0.98-0.98]	1	0.98 [0.59-0.98]	4
General retailer/itinerant	-	0	-	0	-	0	-	0	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	1
Total	0.78 [0.59-1.56]	214	0.78 [0.27-1.17]	76	0.78 [0.39-1.17]	290	0.59 [0.00-1.17]	16	0.59 [0.59-0.98]	7	0.59 [0.59-0.98]	23
Community health worker		0	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	1	0.00 [0.00-0.00]	43	0.00 [0.00-0.00]	44
Zanzibar – Total	0.41 [0.00-0.58]	125	0.00 [0.00-0.00]	81	0.29 [0.00-0.58]	206	0.00 [0.00-0.58]	7	0.00 [0.00-0.58]	4	0.00 [0.00-0.58]	11
Public health facility	0.00 [0.00-0.00]	36	0.00 [0.00-0.00]	61	0.00 [0.00-0.00]	97	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	3	0.00 [0.00-0.00]	8
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	0.50 [0.32-0.58]	48	0.44 [0.29-0.58]	10	0.47 [0.29-0.58]	58	1.17 [0.58-1.75]	2		0	1.17 [0.58-1.75]	2
Drug store	0.52 [0.32-0.58]	40	0.58 [0.47-0.58]	10	0.58 [0.35-0.58]	50	-	0	1.17 [1.17-1.17]	1	1.17 [1.17-1.17]	1
General retailer/itinerant	0.58 [0.58-0.58]	1	0.00 [0.00-0.00]	0	0.58 [0.58-0.58]	1	-	0	-	0	-	0
Total	0.52 [0.35-0.58]	89	0.47 [0.29-0.58]	20	0.47 [0.29-0.58]	109	1.17 [0.58-1.75]	2	1.17 [1.17-1.17]	1	1.17 [0.58-1.75]	3
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Pediatric formulations (PFs) are packages intended for children. In the calculation of median cost, we include only packages whose age (weight) range includes a 2 year old (10 kg) child.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.9 shows the median price in private for-profit outlets of the most popular antimalarial which is not a QAACT in terms of sales volumes, for tablets and all dosage forms separately. This variable is used in the calculation of Success Benchmark 2. The most popular antimalarial which is not a QAACT in both tablet and all dosage forms was SP in Ghana, Kenya, Nigeria, Tanzania mainland and Uganda; amodiaquine in Zanzibar; and chloroquine in Madagascar and Niger. Due to the predominance of tablets as a dosage form, the same or very similar prices for tablets and all dosage forms were observed in all countries other than Zanzibar, where the price of all dosage forms was much higher. For tablets, median prices varied from USD 0.31 in Ghana to USD 0.94 in Tanzania mainland. Prices were similar in urban and rural areas except in Kenya and Zanzibar (where they were higher in urban areas) and Niger (where the rural price was slightly higher).

Tables 2.3.10 and 2.3.11 show the ratio of the cost to patients of QAACTs with the AMFm logo to the cost to patients of the most popular antimalarial which is not a QAACT for tablets and all dosage forms for private for-profit outlets at endline. These provide the data for Success Benchmark 2. Interpretation is focused on Table 2.3.10, as the comparison with QAACTs is most appropriate for tablet forms. The ratio was lowest in Kenya and Tanzania mainland (1.0); 1.5 in Zanzibar, 1.6 in Madagascar and 2.5 in Niger; 3 or above in Ghana, Nigeria and Uganda. The low ratio in Tanzania mainland reflects the relatively high price of the most popular antimalarial which is not a QAACT, while in Kenya it reflects the relatively low price of QAACTs.

Tables 2.3.12 and 2.3.13 present the ratio of the cost to patients of QAACTs with the AMFm logo to the cost to patients of artemisinin monotherapies for tablets and for all oral dosage forms. Interpretation focuses on the former. These data are used to assess Success Benchmark 3. The number of observations for artemisinin monotherapy is too low to make valid comparisons, except in Ghana and Nigeria where QAACTs with the logo were clearly less costly than oral AMT for tablets and all dosage forms.

Table 2.3.9: Cost to patients in private for-profit outlets, of the most popular antimalarial which is not a QAACT in terms of private for-profit outlet sales volumes for TABLETS and ALL DOSAGE FORMS in 2010 US dollars at endline **2011**

Median cost to patients in private for-profit outlets, of one adult equivalent treatment dose (AETD) of the most popular antimalarial that is not a quality-assured ACT in terms of private for-profit sales volumes, for TABLETS and ALL DOSAGE FORMS, by location, according to country

	TABLETS						ALL DOSAGE FORMS					
	Urban		Rural		Total		Urban		Rural		Total	
Country	Median Cost [IQR]	No. of Products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products	Median Cost [IQR]	No. of products
Ghana	0.31 [0.31-0.63]	532	0.31 [0.31-0.38]	134	0.31 [0.31-0.50]	666	0.31 [0.31-0.63]	532	0.31 [0.31-0.38]	134	0.31 [0.31-0.50]	666
Kenya	0.69 [0.46-1.38]	609	0.46 [0.35-0.69]	364	0.52 [0.35-0.86]	973	0.69 [0.46-1.38]	612	0.46 [0.35-0.69]	369	0.52 [0.35-0.92]	981
Madagascar	0.32 [0.32-0.32]	829	0.32 [0.32-0.32]	718	0.32 [0.32-0.32]	1,547	0.32 [0.32-0.32]	864	0.32 [0.32-0.32]	740	0.32 [0.32-0.32]	1,604
Niger	0.41 [0.36-0.50]	631	0.50 [0.40-0.60]	420	0.48 [0.37-0.60]	1,051	0.48 [0.36-0.60]	731	0.60 [0.41-0.69]	519	0.50 [0.37-0.62]	1,250
Nigeria	0.47 [0.35-0.89]	2,296	0.47 [0.41-0.89]	1,004	0.47 [0.35-0.89]	3,300	0.47 [0.35-0.71]	2,098	0.47 [0.41-0.71]	947	0.47 [0.35-0.71]	3,045
Tanzania – mainland	0.94 [0.75-1.41]	1,735	0.94 [0.62-0.94]	284	0.94 [0.62-1.12]	2,019	0.94 [0.94-1.41]	2,230	0.94 [0.62-0.94]	322	0.94 [0.75-1.41]	2,552
Uganda	0.59 [0.59-0.78]	871	0.59 [0.59-0.78]	646	0.59 [0.59-0.78]	1,517	0.59 [0.59-0.78]	871	0.59 [0.59-0.78]	646	0.59 [0.59-0.78]	1,517
Zanzibar	0.83 [0.52-1.40]	36	0.52 [0.52-1.05]	9	0.79 [0.52-1.40]	45	2.10 [0.87-2.62]	96	2.36 [1.75-2.62]	32	2.10 [1.05-2.62]	128

Note: An AETD is the number of milligrams (mg) of a given drug that is required to treat a 60 kg adult. AETDs were calculated for every audited antimalarial. The most popular antimalarial which is not a QAACT in terms of private-for-profit outlet sales volumes for TABLETS is as follows: Ghana - SP, Kenya - SP, Madagascar - CQ, Niger - CQ, Nigeria - SP, Tanzania mainland - SP, Uganda - SP, Zanzibar - AQ. The most popular antimalarial which is not a QAACT in terms of private for-profit outlet sales volumes for ALL DOSAGE FORMS is as follows: Ghana - SP, Kenya - SP, Madagascar - CQ, Niger - CQ, Nigeria - SP, Tanzania mainland - SP, Uganda - SP, Zanzibar - AQ.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.10: Ratio of the cost to patients of quality-assured ACTs with the AMFm logo to the cost to patients of the most popular antimalarial which is not a QAACT for TABLETS in private for-profit outlets in 2010 US dollars, at endline, 2011

Ratio of the median cost to patients of one adult equivalent treatment dose (AETD) of quality-assured ACTs with the AMFm logo in private for-profit outlets to the median cost to patients of one AETD for TABLETS of the most popular antimalarial that is not a quality-assured ACT in private for-profit outlets, according to country

	Urban			Rural			Total		
	Ratio	No. of observations of copaid QAACTs	No. of observations of most popular non-QAACT antimalarial	Ratio	No. of observations of copaid QAACTs	No. of observations of most popular non-QAACT antimalarial	Ratio	No. of observations of copaid QAACTs	No. of observations of most popular non-QAACT antimalarial
Ghana	3.2	1,185	532	3	232	134	3	1,417	666
Kenya	0.9	1,495	609	1	392	364	1	1,887	973
Madagascar	1.6	399	829	1.9	455	718	1.6	854	1,547
Niger	2.9	302	631	2.4	46	420	2.5	348	1,051
Nigeria	3.1	1,194	2,098	3.1	443	947	3.1	1,637	3,045
Tanzania – mainland	1.3	1,411	1,735	1	198	284	1	1,609	2,019
Uganda	3.3	1,768	871	3.3	1,064	646	3.3	2,832	1,517
Zanzibar	1.4	374	36	1.7	98	9	1.5	472	45

Note: The most popular antimalarial which is not a QAACT in terms of private-for-profit outlet sales volumes for TABLETS is as follows: Ghana - SP, Kenya - SP, Madagascar - CQ, Niger - CQ, Nigeria - SP, Tanzania mainland - SP, Uganda - SP, Zanzibar - AQ.

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

Table 2.3.11: Ratio of the cost to patients of quality-assured ACTs with the AMFm logo to the cost to patients of the most popular antimalarial which is not a QAACT for ALL DOSAGE FORMS in private for-profit outlets in 2010 US dollars, at endline, 2011

Ratio of the median cost to patients of one adult equivalent treatment dose (AETD) of quality-assured ACTs with the AMFm logo in private for-profit outlets to the median cost to patients of one AETD for ALL DOSAGE FORMS of the most popular antimalarial that is not a quality-assured ACT in private for-profit outlets, according to country

	Urban			Rural			Total		
	Ratio	No. of observations of copaid QAACTs	No. of observations of most popular **non-QAACT** antimalarial	Ratio	No. of observations of copaid QAACTs	No. of observations of most popular **non-QAACT** antimalarial	Ratio	No. of observations of copaid QAACTs	No. of observations of most popular **non-QAACT** antimalarial
Ghana	3.2	1,185	532	3	232	134	3.0	1,417	666
Kenya	0.9	1,495	612	1.0	392	369	1.0	1,887	981
Madagascar	1.6	399	864	1.9	455	740	1.6	854	1,604
Niger	2.5	302	731	2.0	46	519	2.4	348	1,250
Nigeria	3.1	1,194	2,296	3.1	443	1,004	3.1	1,637	3,300
Tanzania – mainland	1.3	1,411	2,230	1.0	198	322	1.0	1,609	2,552
Uganda	3.3	1,768	871	3.3	1,064	646	3.3	2,832	1,517
Zanzibar	0.6	374	96	0.4	98	32	0.6	472	128

Note: The most popular antimalarial which is not a QAACT in terms of private for-profit outlet sales volumes for ALL DOSAGE FORMS is as follows: Ghana - SP, Kenya - SP, Madagascar - CQ, Niger - CQ, Nigeria - SP, Tanzania mainland - SP, Uganda - SP, Zanzibar - AQ.

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

Table 2.3.12: Ratio of the cost to patients of quality-assured ACTs with the AMFm logo to the cost to patients of artemisinin monotherapy TABLETS in private for-profit outlets in 2010 US dollars, at endline, 2011

Ratio of the median cost to patients of one ADULT equivalent treatment dose (AETD) of quality-assured ACTs with the AMFm logo in private for-profit outlets (n) to the median cost to patients of one AETD for TABLETS of artemisinin monotherapies in private-for-profit outlets, according to country

	Urban			Rural			Total		
	Ratio	No. of observations of copaid QAACTs	No. of observations of **artemisinin monotherapy tablets**	Ratio	No. of observations of copaid QAACTs	No. of observations of **artemisinin monotherapy tablets**	Ratio	No. of observations of copaid QAACTs	No. of observations of **artemisinin monotherapy tablets**
Ghana	0.5	1,185	223	0.5	232	39	0.5	1,417	262
Kenya	0.2	1,495	2	0.1	392	1	0.2	1,887	3
Madagascar	-	399	0	-	455	0	-	854	0
Niger	0.5	302	19	-	46	0	0.5	348	19
Nigeria	0.6	1,194	509	0.5	443	155	0.6	1,637	664
Tanzania – mainland	0.0	1,411	2	-	198	0	-	1,609	2
Uganda	0.1	1,768	1	-	1,064	0	0.1	2,832	1
Zanzibar	0.2	374	2	0.2	98	1	0.2	472	3

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

Table 2.3.13: Ratio of the cost to patients of quality-assured ACTs with the AMFm logo to the cost to patients of artemisinin monotherapy for ALL ORAL DOSAGE FORMS in private for-profit outlets in 2010 US dollars, at endline, 2011

Ratio of the median cost to patients of one ADULT equivalent treatment dose (AETD) of quality-assured ACTs with the AMFm logo in private for-profit outlets (n) to the median cost to patients of one AETD for ALL ORAL DOSAGE FORMS of artemisinin monotherapies in private-for-profit outlets, according to country

	Urban			Rural			Total		
	Ratio	No. of observations of copaid QAACTs	No. of artemisinin monotherapy observations (all oral dosage forms)	Ratio	No. of observations of copaid QAACTs	No. of artemisinin monotherapy observations (all oral dosage forms)	Ratio	No. of observations of copaid QAACTs	No. of artemisinin monotherapy observations (all oral dosage forms)
Ghana	0.2	1,185	581	0.2	232	96	0.2	1,417	677
Kenya	0.2	1,495	3	0.1	392	1	0.2	1,887	4
Madagascar	-	399	0	-	455	0	-	854	0
Niger	0.3	302	21	-	46	0	0.3	348	21
Nigeria	0.5	1,194	736	0.4	443	218	0.5	1,637	954
Tanzania – mainland	-	1,411	2	-	198	0	0.0	1,609	2
Uganda	0.1	1,768	1	-	1,064	0	0.1	2,832	1
Zanzibar	0.2	374	2	0.2	98	1	0.2	472	3

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

2.3.2 Gross markup between purchase price and retail selling price

Table 2.3.14 shows the percent markup between the outlet purchase price and the retail selling price for non-artemisinin therapies. Note that these are gross markups that do not take into account the cost of doing business. Some of the variation in percentage markups may reflect variations in the composition of nATs by dosage form, which has an important influence on their price. Interpretation focuses on the private for-profit sector because the key policy questions relate to transmission of the subsidy to customers in these outlets. At endline, the percent markup ranged from 41% in Nigeria to 85% in Niger. In most countries, private for-profit markups were similar between rural and urban areas, with the exception of Niger and Zanzibar where they were higher in rural areas than in urban areas (92% vs. 67% in Niger and 63% vs. 50% in Zanzibar) and Tanzania mainland where they were higher in urban areas (82% vs. 67%). There was no change between baseline and endline other than in Niger and Tanzania mainland, which saw modest increases.

Table 2.3.15 shows the percent markup between outlet purchase price and retail selling price for artemisinin monotherapies. At endline in the private for-profit sector, the markup ranged from 25% in Nigeria to 67% in Uganda. Although the percent markups for AMTs were generally lower than for nAT, this does not necessarily translate into a lower absolute markup because AMT prices tend to be higher. There were no observations of AMT in Madagascar. There were few or no observations in rural areas in Niger, Tanzania mainland and Zanzibar. Elsewhere, median prices were similar between urban and rural areas. Levels of markup were little changed between baseline and endline.

Table 2.3.16 shows the percent markup between outlet purchase price and retail selling price for non-quality-assured ACTs. At endline in private for-profit outlets, the markup ranged from 20% in Nigeria to 50% in Uganda. These levels are very similar to the markups on AMTs. No differences were observed between urban and rural areas. Between baseline and endline, markups increased slightly in Tanzania mainland (from 39% to 47%) and in Zanzibar (from 25% to 41%), and decreased in Uganda from 67% to 50%.

Table 2.3.17 shows the percent markup between outlet purchase price and retail selling price for QAACTs. At endline, percentage markups on QAACTs in private for-profit outlets varied from 35% in Niger to 127% in Uganda. They were very similar in all countries between urban and rural areas. Between baseline and endline, markups increased somewhat (except in Niger), bringing them up to a level similar to those of nATs. With the dramatic fall in the median QAACT price in most countries, this may not imply any increase in absolute markups.

Table 2.3.18 disaggregates markups between QAACTs with and without the logo at endline. In private for-profit outlets, QAACTs without the AMFm logo carried a lower percentage markup in all countries except Madagascar and Niger, where the markups are the same on both types of product. The lower percent markups on QAACTs without the logo are to be expected given their generally higher absolute price.

Table 2.3.14: Gross markup between purchase price and retail selling price of non-artemisinin therapy at baseline (2010) and endline (2011)

Median percentage markup between purchase price and retail selling price of non-artemisinin monotherapy or non-artemisinin combination therapy, by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Ghana - Total	50.0 [33.3-66.7]	783	42.9 [29.0-66.7]	828	46.7 [30.0-66.7]	1,611	47.1 [25.0-66.7]	467	50.0 [25.0-66.7]	256	47.1 [25.0-66.7]	723
Public health facility	0.0 [0.0-33.3]	26	4.7 [0.0-38.9]	92	0.0 [0.0-33.3]	118	0.0 [0.0-25.0]	46	0.0 [0.0-13.6]	71	0.0 [0.0-17.6]	117
Private not-for-profit health facility	-	0	33.3 [0.0-92.3]	17	33.3 [0.0-92.3]	17	25.0 [16.3-58.7]	9	0.0 [0.0-41.7]	8	25.0 [0.0-50.0]	17
Private for-profit outlet												
Health facility/pharmacy	41.2 [30.1-56.3]	378	50.0 [33.3-66.7]	114	42.9 [31.7-66.7]	492	38.9 [25.0-57.9]	211	25.0 [17.6-66.7]	23	38.9 [25.0-57.9]	234
Drug store	56.3 [33.3-71.4]	373	50.0 [33.3-66.7]	599	50.0 [33.3-66.7]	972	50.0 [31.6-66.7]	201	50.0 [33.3-66.7]	150	50.0 [31.6-66.7]	351
General retailer/itinerant	42.9 [33.3-42.9]	6	108.3 [25.0-284.6]	6	42.9 [25.0-284.6]	12	-	0	50.0 [25.0-50.0]	4	50.0 [25.0-50.0]	4
Total	50.0 [33.3-66.7]	757	50.0 [33.3-66.7]	719	50.0 [33.3-66.7]	1,476	49.3 [25.0-66.7]	412	50.0 [28.6-66.7]	177	50.0 [26.3-66.7]	589
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya - Total	38.5 [20.0-66.7]	1,405	38.9 [11.1-71.4]	1,432	38.9 [11.1-68.8]	2,837	50.0 [25.0-100.0]	1,272	33.3 [0.0-66.7]	1,377	33.3 [0.0-75.0]	2,649
Public health facility	0.0 [0.0-0.0]	271	0.0 [0.0-0.0]	590	0.0 [0.0-0.0]	861	0.0 [0.0-0.0]	234	0.0 [0.0-0.0]	735	0.0 [0.0-0.0]	969
Private not-for-profit health facility	42.9 [0.0-149.1]	32	0.0 [-100.0-0.0]	21	0.0 [-100.0-33.3]	53	40.0 [0.0-71.4]	28	0.0 [0.0-76.5]	56	0.0 [0.0-75.8]	84
Private for-profit outlet												
Health facility/pharmacy	42.9 [25.0-76.5]	456	63.6 [27.3-100.0]	177	50.0 [25.0-100.0]	633	56.3 [31.6-140.0]	501	66.7 [33.3-100.0]	175	60.0 [33.3-100.0]	676
Drug store	50.0 [33.3-66.7]	508	50.0 [25-85.2]	405	50.0 [27.3-76.5]	913	57.9 [31.6-100.0]	415	50.0 [30.0-75.0]	282	50.0 [31.6-76.5]	697
General retailer/itinerant	38.9 [25.0-87.5]	134	34.6 [20-81.8]	224	35.1 [20.0-83.8]	358	33.3 [20.0-78.6]	94	33.3 [20.0-66.7]	129	33.3 [20.0-66.7]	223
Total	44.0 [28.6-71.4]	1,098	50.0 [25-97.4]	806	48.1 [25.0-85.2]	1,904	53.8 [30.2-100.0]	1,010	50.0 [25.0-81.8]	586	50.0 [28.6-87.5]	1,596
Community health worker	66.7 [66.7-111.1]	4	50.0 [0.0-150.0]	15	50.0 [0.0-150.0]	19	-	0	-	0	-	0
Madagascar - Total	66.7 [37.9-100.0]	1,757	66.7 [35.1-81.8]	1,351	66.7 [35.6-100.0]	3,108	66.7 [35.0-66.7]	1,047	66.7 [25.0-100.0]	1,819	66.7 [25.6-100.0]	2,866
Public health facility	33.2 [0.0-35.0]	82	0.0 [0.0-35.3]	491	7.7 [0.0-35.1]	573	15.1 [0.0-30.9]	77	0.0 [0.0-15.2]	675	0.0 [0.0-15.2]	752
Private not-for-profit health facility	34.1 [20.0-35.0]	8	-	0	34.1 [20.0-35.0]	8	20.0 [9.1-60.0]	14	15.4 [14.3-448.6]	5	20.0 [9.1-448.6]	19
Private for-profit outlet												
Health facility/pharmacy	38.0 [16.7-66.7]	362	66.7 [50.0-100.0]	17	50.0 [25.0-81.8]	379	38.9 [34.9-55.6]	206	66.7 [38.9-100.0]	23	40.0 [35.0-71.4]	229
Drug store	81.8 [53.8-150.0]	110	50.0 [33.3-77.8]	595	66.7 [42.9-114.3]	705	42.9 [30.0-60.0]	105	50.0 [33.3-78.6]	733	50.0 [33.3-75.0]	838
General retailer/itinerant	66.7 [66.7-100.0]	1,194	66.7 [42.9-100.0]	247	66.7 [50.0-100.0]	1,441	66.7 [66.7-100.0]	645	66.7 [60.0-100.0]	376	66.7 [60.0-100.0]	1,021
Total	66.7 [51.5-100.0]	1,666	66.7 [42.9-100.0]	859	66.7 [42.9-100.0]	2,525	66.7 [38.8-66.7]	956	66.7 [42.9-100.0]	1,132	66.7 [42.9-100.0]	2,088
Community health worker	0.0 [0.0-0.0]	1	66.7 [66.7-66.7]	1	66.7 [66.7-66.7]	2	-	0	100.0 [25.0-100.0]	7	100.0 [25.0-100.0]	7
Niger – Total	50.0 [33.3-100.0]	1,789	66.7 [33.3-142.7]	1,576	66.7 [33.3-122.2]	3,365	51.5 [33.3-122.2]	1,585	66.7 [25.0-150.0]	941	66.7 [25.0-150.0]	2,526
Public health facility	0.0 [0.0-0.0]	179	0.0 [0.0-0.0]	633	0.0 [0.0-0.0]	812	0.0 [0.0-0.1]	220	0.0 [0.0-0.0]	411	0.0 [0.0-0.0]	631
Private not-for-profit health facility	35.1 [35.1-40.0]	3	-	0	35.1 [35.1-40.0]	3	-	0	-100.0 [-100.0- -100.0]	3	-100.0 [-100.0- -100.0]	3
Private for-profit outlet												
Health facility/pharmacy	35.1 [35.0-35.1]	687	50.0 [33.3-62.5]	28	35.1 [35.0-35.2]	715	35.0 [35.0-35.1]	528	66.7 [35.1-100.0]	3	35.0 [35.0-35.1]	531
Drug store	50.0 [33.3-66.7]	29	33.3 [18.4-66.7]	19	33.3 [20.0-66.7]	48	38.3 [33.3-50.0]	52	38.9 [38.3-38.9]	3	38.9 [35.1-41.2]	55
General retailer/itinerant	66.7 [33.3-100.0]	890	87.5 [50.0-150.0]	894	81.8 [50.0-150.0]	1,784	87.5 [42.9-150.0]	785	100.0 [50.0-166.7]	521	92.3 [42.9-150.0]	1,306
Total	50.0 [35-100.0]	1,606	87.5 [50.0-150.0]	941	66.7 [40.0-127.3]	2,547	66.7 [35.0-138.1]	1,365	92.3 [42.9-150.0]	527	85.2 [35.1-150.0]	1,892
Community health worker	100.0 [100.0-100.0]	1	25.0 [25.0-50.0]	2	50.0 [25.0-50.0]	3	-	0	-	0	-	0
Nigeria - Total	40.0 [25.0-60.0]	6,982	33.3 [25.0-60.0]	1,623	40.0 [25.0-60.0]	8,605	40.0 [25.0-66.7]	5,344	42.9 [25.0-66.7]	2,245	41.2 [25.0-66.7]	7,589
Public health facility	0.0 [0.0-20.0]	342	19.0 [0.0-50.0]	70	19.0 [0.0-42.9]	412	0.0 [0.0-31.6]	65	33.3 [0.0-100.0]	71	25.0 [0.0-80.0]	136
Private not-for-profit health facility	40.0 [15.4-66.7]	13	25.0 [8.7-50.0]	6	25.0 [8.7-50.0]	19	66.7 [33.3-100.0]	15	225.0 [150.0-300.0]	2	66.7 [33.3-100.0]	17
Private for-profit outlet												
Health facility/pharmacy	36.4 [25.0-57.9]	2,466	47.1 [38.9-66.7]	59	42.9 [27.3-60.0]	2,525	37.5 [25.0-53.8]	401	66.7 [42.9-114.3]	48	40.0 [27.7-62.5]	449
Drug store	40.0 [25.0-60.0]	3,847	40.0 [25.0-60.0]	1,423	40.0 [25.0-60.0]	5,270	41.2 [25.0-66.7]	4,673	42.9 [25.0-60.0]	2,062	41.2 [25.0-66.7]	6,735
General retailer/itinerant	33.3 [20.0-50.0]	306	27.3 [20.0-42.9]	51	27.3 [20.0-50.0]	357	50.0 [25.9-66.7]	190	42.9 [33.3-66.7]	56	45.5 [27.3-66.7]	246
Total	40.0 [25.0-60.0]	6,619	38.9 [25.0-60.0]	1,533	40.0 [25.0-60.0]	8,152	40.0 [25.0-66.7]	5,264	42.9 [25.0-62.8]	2,166	41.2 [25.0-66.7]	7,430
Community health worker	20.8 [10.7-50.0]	8	42.9 [0.0-50.0]	14	42.9 [0.0-50.0]	22	-	0	40.0 [25.0-40.0]	6	40.0 [25.0-40.0]	6
Tanzania - mainland - Total	66.7 [42.9-100.0]	1,534	50.0 [17.6-100]	717	53.8 [25.0-100.0]	2,251	81.8 [50.0-100.0]	2,131	66.7 [25.0-100.0]	382	70.5 [41.2-100.0]	2,513
Public health facility	0.0 [0.0-0.0]	4	0.0 [0.0-0.0]	92	0.0 [0.0-0.0]	96	19.0 [0.0-66.7]	5	0.0 [0.0-0.0]	26	0.0 [0.0-0.0]	31
Private not-for-profit health facility	122.2 [25.0-185.7]	26	33.3 [0.0-61.3]	43	42.9 [11.1-100.0]	69	-	0	16.7 [0.0-33.3]	2	16.7 [0.0-33.3]	2
Private for-profit outlet												
Health facility/pharmacy	53.8 [33.3-100.0]	1,155	66.7 [33.3-100.0]	58	53.8 [33.3-100.0]	1,213	77.8 [50.0-122.2]	1,353	108.3 [100.0-122.2]	78	87.5 [50.0-122.2]	1,431
Drug store	66.7 [50.0-100.0]	349	60.0 [42.9-100.0]	467	66.7 [42.9-100.0]	816	81.8 [50.0-100.0]	768	66.7 [33.3-100.0]	265	76.5 [42.9-100.0]	1,033
General retailer/itinerant	-	0	38.9 [11.1-100.0]	55	38.9 [11.1-100.0]	55	87.5 [66.7-150.0]	5	0.0 [-6.3-50.0]	11	0.0 [-6.3-50.0]	16
Total	66.7 [48.1-100.0]	1,504	60.0 [33.3-100.0]	580	66.7 [42.9-100.0]	2,084	81.8 [50.0-100.0]	2,126	66.7 [33.3-100.0]	354	76.5 [42.9-100.0]	2,480
Community health worker	-	0	366.7 [233.3-500.0]	2	366.7 [233.3-500.0]	2	-	0	-	0	-	0

Table 2.3.14: *Cont.*

Median percentage markup between purchase price and retail selling price of non-artemisinin monotherapy or non-artemisinin combination therapy, by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median markup [IQR]	No. of Products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Uganda - Total	66.7 [38.9-122.2]	1,436	50.0 [25.0-100.0]	4,221	51.5 [25.0-100.0]	5,657	66.7 [33.3-127.3]	3,351	50.0 [25.0-100.0]	3,588	52.2 [25.0-100.0]	6,939
Public health facility	0.0 [0.0-0.0]	167	0.0 [0.0-0.0]	1,399	0.0 [0.0-0.0]	1,566	0.0 [0.0-0.0]	259	0.0 [0.0-0.0]	1,104	0.0 [0.0-0.0]	1,363
Private not-for-profit health facility	-2.8 [-5.6-644.4]	4	42.9 [-13.1-57.7]	37	0.0 [-5.6-57.7]	41	40.0 [0.0-166.0]	19	36.4 [0.0-78.6]	56	36.4 [0.0-86.7]	75
Private for-profit outlet												
Health facility/pharmacy	87.5 [50.0-150.0]	1,117	66.7 [42.9-122.2]	966	75.0 [50.0-150.0]	2,083	81.8 [42.9-150.0]	2,227	76.5 [40.0-150.0]	931	78.6 [40.0-150.0]	3,158
Drug store	66.7 [42.9-108.3]	147	50.0 [33.3-100.0]	1,798	53.8 [33.3-100.0]	1,945	53.8 [33.3-100.0]	845	53.8 [33.3-100.0]	1,489	53.8 [33.3-100.0]	2,334
General retailer/itinerant	-	0	42.9 [25.0-100.0]	20	42.9 [25.0-100.0]	20	33.3 [33.3-33.3]	1	20.0 [7.1-100.0]	7	20.0 [7.1-100.0]	8
Total	76.5 [50.0-127.3]	1,264	57.9 [33.3-100.0]	2,784	66.7 [33.3-105.9]	4,048	66.7 [36.4-150.0]	3,073	60.0 [33.3-106.4]	2,427	66.7 [33.3-109.4]	5,500
Community health worker	185.7	1	-80.0	1	185.7 [-80.0-185.7]	2	-	0	47.1 [47.1-47.1]	1	47.1 [47.1-47.1]	1
Zanzibar - Total	50.0 [0.0-66.7]	182	0.0 [0.0-50.0]	130	33.3 [0.0-66.7]	312	50.0 [25.0-66.7]	113	42.9 [0.0-80.0]	57	50.0 [25.0-70.0]	170
Public health facility	0.0 [0.0-0.0]	53	0.0 [0.0-0.0]	86	0.0 [0.0-0.0]	139	0.0 [0.0-0.0]	20	0.0 [0.0-0.0]	19	0.0 [0.0-0.0]	39
Private not-for-profit health facility	0.0 [0.0-0.0]	1	25.0 [25.0-25.0]	1	12.5 [0.0-25.0]	2	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	66.7 [42.9-100.0]	67	100.0 [53.8-122.2]	21	66.7 [50.0-107.1]	88	50.0 [42.9-70.0]	41	66.7 [42.9-100.0]	21	53.8 [42.9-87.5]	62
Drug store	50.0 [33.3-66.7]	60	50.0 [42.9-66.7]	21	50.0 [42.9-66.7]	81	50.0 [42.9-87.5]	51	53.8 [40.0-114.3]	17	53.8 [42.9-93.8]	68
General retailer/itinerant	25.0 [25.0-25.0]	1	-3.8 [-3.8- -3.8]	1	10.6 [-3.8-25.0]	2	100.0 [100.0-100.0]	1	-	0	100.0 [100.0-100.0]	1
Total	54.7 [38.2-76.5]	128	53.8 [50.0-100.0]	43	53.8 [42.9-87.5]	171	50.0 [42.9-76.5]	93	63.3 [42.9-100.0]	38	50.0 [42.9-100.0]	131
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009.

IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	Median markup [IQR]	No. of Products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Ghana - Total	35.7 [25.0-50.0]	541	27.3 [20.0-40.0]	355	29.6 [20.0-40.0]	896	29.6 [20.0-40.0]	346	25.0 [16.7-33.3]	110	27.3 [18.7-39.5]	456
Public health facility	23.3 [19.0-25.0]	13	20.0 [0.0-36.4]	35	20.0 [3.7-36.4]	48	25.0 [20.0-33.3]	12	25.0 [16.3-34.8]	31	25.0 [18.8-34.8]	43
Private not-for-profit health facility	26.3 [12.5-40.0]	2	20.0 [-36.6-50.0]	7	20.0 [-36.6-50.0]	9	25.0 [25.0-26.3]	6	0.0 [-5.5-0.0]	2	25.0 [11.1-26.3]	8
Private for-profit outlet												
Health facility/pharmacy	41.6 [30.3-66.7]	357	33.3 [20.0-50.0]	79	38.9 [25.0-60.7]	436	36.4 [25.0-50.0]	231	25.0 [18.4-30.0]	21	35.1 [20.0-50.0]	252
Drug store	33.3 [20.0-40.0]	169	26.7 [20.0-38.9]	234	28.2 [20.0-39.1]	403	28 [20.0-36.4]	97	25.0 [16.7-33.3]	56	25.0 [16.7-36.4]	153
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	35.7 [25.0-50.0]	526	28.0 [20.0-40.0]	313	30.4 [20.0-40.0]	839	30.4 [20.0-42.9]	328	25.0 [16.7-33.3]	77	28.0 [20.0-40.0]	405
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya - Total	33.3 [20.0-45.5]	295	38.9 [25.0-50.0]	63	33.3 [23.1-50.0]	358	33.3 [25.0-50.0]	314	33.3 [12.0-50.0]	45	33.3 [18.8-50.0]	359
Public health facility	45.5 [0.0-71.4]	7	0.0 [0.0-78.6]	5	45.5 [0.0-71.4]	12	9.1 [0.0-28.6]	16	0.0 [0.0-0.0]	6	0.0 [0.0-0.0]	22
Private not-for-profit health facility	77.8 [50.0-100.0]	7	-	0	77.8 [50.0-100.0]	7	42.9 [31.9-50.9]	9	42.9 [33.3-207.7]	5	42.9 [31.9-207.7]	14
Private for-profit outlet												
Health facility/pharmacy	31.8 [20.0-41.2]	217	45.5 [28.4-50.0]	34	33.3 [22.7-50.0]	251	36.4 [25.0-57.1]	171	36.4 [25.0-50.0]	30	36.4 [25.0-50.0]	201
Drug store	33.3 [25.0-45.5]	64	38.9 [23.1-50.0]	24	36.8 [25.0-50.0]	88	33.3 [25.0-40.0]	118	10.0 [10.0-12.0]	4	26.4 [12.0-35.0]	122
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	33.1 [20.0-42.9]	281	38.9 [25.0-50.0]	58	33.3 [23.1-50.0]	339	33.3 [25.0-50.0]	289	30.8 [12.0-50.0]	34	33.3 [20.0-50.0]	323
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar - Total	38.9 [38.9-38.9]	6	31.4 [31.4-31.4]	1	38.9 [38.9-38.9]	7	-	0	0.0 [0.0-0.0]	2	0.0 [0.0-0.0]	2
Public health facility	-	0	-	0	-	0	-	0	0.0 [0.0-0.0]	2	0.0 [0.0-0.0]	2
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet	-											
Health facility/pharmacy	38.9 [38.9-38.9]	6	-	0	38.9 [38.9-38.9]	6	-	0	-	0	-	0
Drug store	-	0	31.4 [31.4-31.4]	1	31.4 [31.4-31.4]	1	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	38.9 [38.9-38.9]	6	31.4 [31.4-31.4]	1	38.9 [38.9-38.9]	7	-	0	-	0	-	0
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Niger – Total	35.0 [35.0-35.0]	143	0.0 [0.0-0.0]	9	35.0 [24.5-35.0]	152	35 [33.3-35.0]	153	0.0 [0.0-0.0]	7	35.0 [0.0-35.0]	160
Public health facility	-	0	0.0 [0.0-0.0]	9	0.0 [0.0-0.0]	9	0.0 [0.0-16.7]	5	0.0 [0.0-0.0]	7	0.0 [0.0-0.0]	12
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	35.0 [35.0-35.1]	136	-	0	35.0 [35.0-35.1]	136	35.0 [35.0-35.0]	139	-	0	35.0 [35.0-35.0]	139
Drug store	17.6 [17.6-17.6]	1	-	0	17.6 [17.6-17.6]	1	27.3 [20.0-36.4]	5	-	0	27.3 [20.0-36.4]	5
General retailer/itinerant	33.3 [0.0-33.3]	6	-	0	33.3 [0.0-33.3]	6	0.0 [0.0-33.3]	4	-	0	0.0 [0.0-33.3]	4
Total	35.0 [35.0-35.0]	143	-	0	35.0 [35.0-35.0]	143	35.0 [35.0-35.0]	148	-	0	35.0 [35.0-35.0]	148
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria - Total	21.6 [14.3-33.3]	1,632	29.6 [14.3-50.0]	198	22.4 [14.3-36.4]	1,830	25.0 [19.0-38.9]	840	25.0 [16.7-40.0]	247	25.0 [18.4-40.0]	1,087
Public health facility	11.1 [5.3-21.1]	74	0.0 [0.0-22.2]	10	4.2 [0.0-22.2]	84	15.4 [0.0-20.0]	18	20.0 [10.0-42.9]	20	20.0 [2.1-33.3]	38
Private not-for-profit health facility	28.0 [20.3-75.0]	10	-	0	28.0 [20.3-75]	10	71.4 [71.4-71.4]	4	50.0	1	50.0 [50.0-71.4]	5
Private for-profit outlet												
Health facility/pharmacy	28.6 [18.4-40.0]	915	29.9 [11.1-56.3]	24	29.9 [16.7-47.1]	939	28.2 [18.4-50.0]	126	42.9 [20.0-56.3]	10	28.2 [19.4-50.0]	136
Drug store	21.6 [14.3-33.3]	597	25.0 [14.3-50.0]	163	22.2 [14.3-36.4]	760	25.0 [20.0-38.9]	675	25.0 [16.7-36.4]	213	25.0 [18.6-38.9]	888
General retailer/itinerant	21.7 [13.6-25.0]	34	-	0	21.7 [13.6-25.0]	34	21.6 [20.0-44.4]	17	20.0 [20.0-36.4]	3	20.0 [20.0-40.0]	20
Total	21.6 [14.3-33.3]	1,546	29.9 [14.3-50.0]	187	22.4 [14.3-36.4]	1,733	25.6 [19.4-38.9]	818	25.0 [16.7-40.0]	226	25.0 [18.6-38.9]	1,044
Community health worker	10.0 [0.0-20.0]	2	30.0 [30.0-30.0]	1	30.0 [20.0-30.0]	3	-	0	-	0	-	0
Tanzania - mainland - Total	33.3 [10.0-50.0]	65	25.0 [25.0-25.0]	1	33.3 [10.0-50.0]	66	50.0 [25.0-61.3]	77	50.0 [0.0-63.6]	8	50.0 [20.0-61.3]	85
Public health facility	0.0 [0.0-0.0]	2	-	0	0.0 [0.0-0.0]	2	-	0	-	0	-	0
Private not-for-profit health facility	75.0 [36.4-75.0]	2	-	0	75.0 [36.4-75.0]	2	-	0	0.0 [0.0-0.0]	1	0.0 [0.0-0.0]	1
Private for-profit outlet												
Health facility/pharmacy	38.9 [25.0-50.0]	61	25.0 [25.0-25.0]	1	33.3 [25.0-50.0]	62	35.1 [20.0-58.3]	73	63.6 [63.6-63.6]	6	50.0 [20.0-63.6]	79
Drug store	-	0	-	0	-	0	57.9 [50.0-61.3]	4	50.0 [50.0-50.0]	1	50.0 [50.0-57.9]	5
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	38.9 [25-50]	61	25.0 [25.0-25.0]	1	33.3 [25.0-50.0]	62	50.0 [25.0-61.3]	77	50.0 [50.0-63.6]	7	50.0 [35.1-63.6]	84
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.15: Gross markup between purchase price and retail selling price of artemisinin monotherapy at baseline (2010) and endline (2011)

Median percentage markup between purchase price and retail selling price of artemisinin monotherapy, by urban-rural location and type of outlet, according to country

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Table: 2.3.15: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median markup [IQR]	No. of Products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Uganda - Total	78.6 [44.0-100.0]	256	60.0 [28.6-125.0]	122	75.0 [33.3-114.3]	378	60.0 [25.0-104.2]	444	0.0 [0.0-50.0]	204	16.7 [0.0-66.7]	648
Public health facility	0.0 [0.0-0.0]	9	0.0	1	0.0 [0.0-0.0]	10	0.0 [0.0-0.0]	19	0.0 [0.0-0.0]	14	0.0 [0.0-0.0]	33
Private not-for-profit health facility	-	0	14.3 [14.3-16.7]	4	14.3 [14.3-16.7]	4	14.3 [-100.0-14.3]	3	33.3 [16.7-200.0]	6	33.3 [16.7-200.0]	9
Private for-profit outlet												
Health facility/pharmacy	94.4 [50.0-164.7]	243	80.0 [33.3-150.0]	91	87.5 [40.0-150.0]	334	66.7 [27.3-108.3]	405	66.7 [38.5-133.3]	106	66.7 [33.3-113.3]	511
Drug store	70.8 [53.3-76.8]	4	60.0 [33.3-100.0]	25	66.7 [33.3-80.0]	29	40.0 [20.0-87.5]	16	66.7 [50.0-100.0]	22	66.7 [50.0-100.0]	38
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	78.6 [50.0-114.3]	247	75.0 [33.3-125.0]	116	76.5 [40.0-122.2]	363	60.0 [25-108.3]	421	66.7 [42.9-113.3]	128	66.7 [33.3-108.3]	549
Community health worker	-	0	0.0	1	0.0	1	0.0	1	0.0 [0.0-0.0]	56	0.0 [0.0-0.0]	57
Zanzibar - Total	43.4 [25.0-50.0]	48	22.5 [7.1-44.3]	8	41.4 [22.5-50.0]	56	50.0 [25.0-66.7]	21	22.5 [16.7-50.0]	10	50.0 [20.0-66.7]	31
Public health facility	0.0 [-100.0-11.1]	5	33.3 [0.0-66.7]	2	0.0 [-100.0-25.0]	7	0.0 [0.0-50.0]	3	0.0 [0.0-0.0]	2	0.0 [0.0-0.0]	5
Private not-for-profit health facility	-	0	-	0	-	0	-	0	41.7 [33.3-50.0]	2	41.7 [33.3-50.0]	2
Private for-profit outlet												
Health facility/pharmacy	45.8 [25.0-66.7]	39	20.0 [14.3-25.0]	5	43.4 [25.0-50.0]	44	50.0 [33.3-66.7]	17	50.0 [22.5-122.5]	4	50.0 [25.0-68.0]	21
Drug store	40.2 [22.4-50.0]	4	56.3 [56.3-56.3]	1	50.0 [30.4-50.0]	5	-	0	16.7 [16.7-16.7]	2	16.7 [16.7-16.7]	2
General retailer/itinerant	-	0	-	0	-	0	100.0	1	-	0	100.0	1
Total	45.8 [25.0-50.0]	43	22.5 [14.3-32.4]	6	44.0 [25.0-50.0]	49	50.0 [33.3-68.0]	18	22.5 [16.7-75.0]	6	50.0 [25.0-71.5]	24
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009.

IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

Table 2.3.16: Gross markup between purchase price and retail selling price of non-quality-assured ACTs at baseline (2010) and endline (2011)

Median percentage markup between purchase price and retail selling price of non-quality-assured ACTs, by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Ghana – Total	33.3 [20.0-42.9]	1,356	28.6 [17.6-42.9]	845	28.6 [18.4-42.9]	2,201	28.6 [17.6-42.9]	747	25.0 [16.7-42.9]	232	28.6 [17.6-42.9]	979
Public health facility	25.0 [12.5-42.9]	33	17.5 [12.5-36.4]	91	17.6 [12.5-37.0]	124	19.0 [1.4-33.3]	39	11.1 [0.0-27.4]	81	13.2 [0.0-29.0]	120
Private not-for-profit health facility	-	0	25.0 [19.4-43.7]	14	25.0 [19.4-43.7]	14	12.5 [12.5-50.0]	3	80.0 [25.0-80.0]	2	25.0 [12.5-50.0]	5
Private for-profit outlet												
Health facility/pharmacy	36.7 [26.1-42.9]	848	33.3 [22.9-42.9]	239	34.6 [25.0-42.9]	1,087	33.3 [22.7-42.9]	481	29.6 [7.1-52.0]	31	33.3 [20.0-42.9]	512
Drug store	28.6 [16.7-42.9]	475	27.3 [17.6-42.9]	501	27.3 [16.9-42.9]	976	25.0 [16.7-36.4]	224	28.2 [19.0-42.9]	118	25.0 [17.6-41.1]	342
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	33.3 [20.2-42.9]	1,323	28.6 [18.4-42.9]	740	28.6 [18.4-42.9]	2,063	28.6 [18.4-42.9]	705	28.2 [18.4-42.9]	149	28.6 [18.4-42.9]	854
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya – Total	31.6 [20.7-40.0]	1,497	26.8 [17.6-34.3]	230	28.8 [20.0-38.9]	1,727	30.6 [20.0-37.6]	1,514	32.1 [19.0-48.9]	188	31.0 [20.0-41.5]	1,702
Public health facility	80.0 [0.0-114.3]	13	0.0 [0.0-0.0]	12	0.0 [0.0-80.0]	25	9.1 [0.0-25.0]	14	0.0 [0.0-0.0]	8	0.0 [0.0-0.0]	22
Private not-for-profit health facility	33.8 [12.5-34.7]	18	89.7 [89.7-89.7]	1	33.8 [12.5-50.0]	19	12.5 [11.1-25.0]	12	0.0 [0.0-0.0]	2	11.1 [0.0-17.6]	14
Private for-profit outlet												
Health facility/pharmacy	28.0 [18.5-36.4]	955	33.1 [20.0-38.5]	147	28.6 [19.0-38.5]	1,102	31.0 [21.4-37.5]	894	36.2 [21.6-50.0]	114	33.3 [21.6-42.9]	1,008
Drug store	33.3 [25.0-42.9]	511	25.7 [17.6-31.6]	69	30.0 [22.8-39.7]	580	31.0 [20.0-38.9]	594	25.0 [19.0-48.9]	61	29.7 [20.0-48.9]	655
General retailer/itinerant	-	0	-	0	-	0	-	0	14.3 [14.3-42.9]	3	14.3 [14.3-42.9]	3
Total	30.9 [21.2-40.0]	1,466	27.3 [20.0-34.6]	216	29.2 [20.0-38.5]	1,682	31.0 [20.0-38.5]	1,488	33.3 [20.7-48.9]	178	32.0 [20.5-42.9]	1,666
Community health worker	-	0	0.0	1	0.0	1	-	0	-	0	-	0
Madagascar – Total	0.0 [0.0-38.8]	42	0.0 [0.0-0.0]	132	0.0 [0.0-0.0]	174	38.0 [37.3-38.1]	23	0.0 [0.0-0.0]	24	11.1 [0.0-38]	47
Public health facility	0.0 [0.0-0.0]	16	0.0 [0.0-0.0]	130	0.0 [0.0-0.0]	146	11.1 [11.1-11.1]	1	0.0 [0.0-0.0]	21	0.0 [0.0-0.0]	22
Private not-for-profit health facility	0.0 [0.0-0.0]	2	-	0	0.0 [0.0-0.0]	2	0.0 [0.0-0.0]	2	-	0	0.0 [0.0-0.0]	2
Private for-profit outlet												
Health facility/pharmacy	38.8 [38.1-38.8]	24	-	0	38.8 [38.1-38.8]	24	38.0 [38.0-38.0]	16	-	0	38.0 [38.0-38.0]	16
Drug store	-	0	60.0 [60.0-60.0]	1	60.0 [60.0-60.0]	1	66.7 [23.0-135.3]	4	100.0 [100.0-100.0]	1	66.7 [23.0-100.0]	5
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	38.8 [38.1-38.8]	24	60.0 [60.0-60.0]	1	38.8 [38.1-38.8]	25	38.0 [38.0-38.2]	20	100.0 [100.0-100.0]	1	38.0 [38.0-41]	21
Community health worker	-	0	0.0	1	0.0	1	-	0	0.0 [0.0-100.0]	2	0.0 [0.0-100.0]	2
Niger – Total	35.0 [35.0-35.0]	1,457	0.0 [0.0-4.8]	119	35.0 [31.9-35.0]	1,576	35.0 [35.0-35.0]	1,333	0.0 [0.0-14.3]	117	35.0 [0.0-35.0]	1,450
Public health facility	0.0 [0.0-0.0]	77	0.0 [0.0-0.0]	89	0.0 [0.0-0.0]	166	0.0 [0.0-0.0]	110	0.0 [0.0-0.0]	94	0.0 [0.0-0.0]	204
Private not-for-profit health facility	-76.9 [-76.9- -76.9]	1	-	0	-76.9 [-76.9- -76.9]	1	-100.0 [-100.0- -100.0]	1	-100.0 [-100.0- -100.0]	2	-100.0 [-100.0- -100.0]	3
Private for-profit outlet												
Health facility/pharmacy	35.0 [35.0-35.0]	1,333	35.0 [35.0-35.0]	27	35.0 [35.0-35.0]	1,360	35.0 [35.0-35.0]	1,156	-30.0 [-30.0-35.0]	4	35.0 [35.0-35.0]	1,160
Drug store	52.0 [35.0-52.1]	20	-	0	52.0 [35.0-52.1]	20	35.0 [25.0-35.0]	23	-	0	35.0 [25.0-35.0]	23
General retailer/itinerant	25.0 [20.0-33.3]	26	11.1 [4.8-16.7]	3	20.0 [11.1-33.3]	29	33.3 [20.0-50.0]	43	33.3 [0.0-71.4]	17	33.3 [16.7-59.1]	60
Total	35.0 [35.0-35.0]	1,379	16.7 [11.1-35.0]	30	35.0 [35.0-35.0]	1,409	35.0 [35.0-35.0]	1,222	33.3 [0.0-71.4]	21	35.0 [35.0-35.0]	1,243
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria – Total	19.0 [11.1-31]	2,542	22.2 [12.4-25.0]	98	19.0 [11.1-29.6]	2,640	22.9 [14.6-31.6]	1,043	20.0 [11.1-30.8]	235	22.2 [14.3-31.6]	1,278
Public health facility	0.0 [0.0-7.8]	139	0.0 [0.0-0.0]	6	0.0 [0.0-0.0]	145	14.3 [0.0-25.0]	24	0.0 [0.0-1.2]	30	0.0 [0.0-14.3]	54
Private not-for-profit health facility	12.9 [11.1-40]	3	7.7 [7.7-7.7]	1	7.7 [7.7-7.7]	4	63.3 [55.0-83.3]	4	-	0	63.3 [55.0-83.3]	4
Private for-profit outlet												
Health facility/pharmacy	25.0 [15.4-36.4]	1,983	25.0 [16.9-25.0]	30	25.0 [16.9-30.8]	2,013	25.0 [20.0-33.3]	237	20.0 [12.5-33.3]	15	25.0 [19.0-33.3]	252
Drug store	19.0 [11.1-28.9]	391	25.0 [15.4-30.0]	59	19.0 [11.1-29.0]	450	21.2 [13.3-31.6]	754	20.0 [14.0-32.4]	187	20.0 [13.6-31.6]	941
General retailer/itinerant	28.6 [18.2-40.0]	26	-	0	28.6 [18.2-40.0]	26	44.4 [16.7-45.5]	24	20.0 [20.0-127.3]	3	44.4 [16.7-45.5]	27
Total	19.0 [11.1-31.0]	2,400	25.0. [16.9-28.6]	89	20.0 [12.1-30.0]	2,489	23.1 [15.4-33.3]	1,015	20.0 [14.0-32.4]	205	22.2 [14.6-32.4]	1,220
Community health worker	-	0	0.0 [0.0-0.0]	2	0.0 [0.0-0.0]	2	-	0	-	0	-	0
Tanzania - mainland – Total	38.5 [25.0-53.8]	789	33.3 [0.0-60.0]	51	36.8 [22.2-53.8]	840	47.1 [29.0-66.7]	1,046	45.9 [28.2-66.7]	62	47.1 [28.6-66.7]	1,108
Public health facility	0.0	1	0.0 [0.0-0.0]	3	0.0 [0.0-0.0]	4	33.3 [33.3-33.3]	1	0.0 [0.0-0.0]	2	0.0 [0.0-0.0]	3
Private not-for-profit health facility	57.5 [6.7-66.7]	5	0.0	1	6.7 [0.0-60.0]	6	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	37.9 [25.0-53.8]	736	33.3 [23.1-71.4]	30	37.5 [25.0-53.8]	766	38.5 [23.1-56.5]	872	75.0 [33.3-111.1]	38	41.0 [25.0-66.7]	910
Drug store	41.3 [25.0-53.8]	47	33.3 [29.6-71.4]	17	40.6 [25.0-56.3]	64	50.0 [33.3-76.5]	173	47.1 [32.2-66.7]	22	49.3 [33.3-69.2]	195
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	38.5 [25.0-53.8]	783	33.3 [25.0-71.4]	47	38.5 [25.0-55.2]	830	47.1 [29.0-66.7]	1,045	47.1 [32.2-66.7]	60	47.1 [32.2-66.7]	1,105
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.16: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Uganda – Total	66.7 [42.9-100.0]	1,585	60.0 [33.3-100.0]	1,185	66.7 [33.3-100.0]	2,770	50.0 [27.3-87.5]	2,322	50.0 [29.9-87.5]	870	50.0 [28.2-87.5]	3,192
Public health facility	0.0 [0.0-0.0]	27	0.0 [0.0-0.0]	52	0.0 [0.0-0.0]	79	0.0 [0.0-0.0]	63	0.0 [0.0-0.0]	15	0.0 [0.0-0.0]	78
Private not-for-profit health facility	89.2	1	11.4 [0.0-100.0]	6	89.2 [0.0-89.2]	7	38.5 [-83.3-66.7]	12	33.3 [33.3-80.0]	14	33.3 [33.3-80.0]	26
Private for-profit outlet												
Health facility/pharmacy	66.7 [42.9-100.0]	1,490	71.4 [42.9-122.2]	648	66.7 [42.9-100.0]	2,138	50.0 [30.0-87.5]	1,987	53.8 [33.3-87.5]	555	50.0 [33.3-87.5]	2,542
Drug store	80.6 [42.9-117.4]	66	66.7 [37.1-100.0]	460	66.7 [39.1-100.0]	526	55.6 [30.4-100.0]	259	50.0 [25.0-100.0]	285	50.0 [27.3-100.0]	544
General retailer/itinerant	-	0	33.3 [20.0-60.0]	3	33.3 [20.0-60.0]	3	122.2 [122.2-122.2]	1	-	0	122.2 [122.2-122.2]	1
Total	69.2 [42.9-100.0]	1,556	66.7 [37.9-100.0]	1,111	66.7 [40.0-100.0]	2,667	50.0 [30.0-92.3]	2,247	50.0 [30.0-89.7]	840	50.0 [30.0-90.5]	3,087
Community health worker	42.9	1	0.0 [0.0-0.0]	16	0.0 [0.0-0.0]	17	-	0	51.5 [51.5-51.5]	1	51.5 [51.5-51.5]	1
Zanzibar – Total	18.3 [0.0-32.5]	84	0.0 [0.0-0.0]	29	10.0 [0.0-30.8]	113	41.2 [25.0-66.7]	73	29.2 [3.3-46.4]	8	41.2 [25.0-60.0]	81
Public health facility	0.0 [0.0-0.0]	30	0.0 [0.0-0.0]	21	0.0 [0.0-0.0]	51	25.0 [0.0-120.0]	3	0.0 [0.0-0.0]	2	0.0 [0.0-25.0]	5
Private not-for-profit health facility	20.8 [16.7-25.0]	2	42.9 [42.9-42.9]	1	25.0 [16.7-42.9]	3	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	26.8 [14.3-33.3]	46	27.5 [10.0-100.0]	6	26.8 [14.3-34.5]	52	42.9 [25.0-66.7]	59	38.1 [25.0-50.0]	6	42.9 [25.0-66.7]	65
Drug store	26.5 [20.7-30.8]	6	0.0	1	23.1 [9.1-30.8]	7	41.2 [25.0-60.0]	11	-	0	41.2 [25.0-60.0]	11
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	26.8 [17.1-33.3]	52	25.0 [0.0-100.0]	7	25.0 [14.3-33.3]	59	41.2 [25.0-66.7]	70	38.1 [25.0-50.0]	6	41.2 [25.0-63.3]	76
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009.

IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.17: Gross markup between purchase price and retail selling price of quality-assured ACTs, at baseline (2010) and endline (2011)

Indicator 2.5 Median percentage markup between purchase price and retail selling price of quality-assured ACTs, by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	Median markup [IQR]	No. of Products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Ghana – Total	37.5 [25.0-66.7]	224	33.3 [19.0-66.7]	161	33.3 [20.0-66.7]	385	50.0 [36.4-66.7]	627	50.0 [33.3-66.7]	257	50.0 [33.3-66.7]	884
Public health facility	7.1 [0.0-400.0]	34	38.9 [3.9-150.0]	83	31.6 [0.0-150.0]	117	25.0 [0.0-42.9]	50	11.1 [0.0-50.0]	90	22.2 [0.0-50.0]	140
Private not-for-profit health facility	-	0	61.8 [43.3-66.7]	3	61.8 [43.3-66.7]	3	25.0 [19.0-50.0]	12	0.0 [0.0-87.5]	6	25.0 [0.0-50.0]	18
Private for-profit outlet												
Health facility/pharmacy	36.5 [28.2-47.8]	150	25.0 [18.7-36.3]	34	32.4 [25.0-40.1]	184	50.0 [36.4-66.7]	337	33.3 [7.1-66.7]	36	50.0 [33.3-66.7]	373
Drug store	46.7 [28.6-66.7]	40	33.3 [20.0-66.7]	41	33.3 [20.0-66.7]	81	50.0 [36.4-66.7]	226	50.0 [40.0-66.7]	123	50.0 [36.4-66.7]	349
General retailer/itinerant	-	0	-	0	-	0	42.9 [36.4-42.9]	2	66.7 [50.0-66.7]	2	50.0 [42.9-66.7]	4
Total	37.5 [28.2-66.7]	190	33.3 [20.0-50.0]	75	33.3 [21.1-50.0]	265	50.0 [36.4-66.7]	565	50.0 [36.4-66.7]	161	50.0 [36.4-66.7]	726
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya – Total	24.4 [0.0-50.0]	819	0.0 [0.0-0.0]	925	0.0 [0.0-24.7]	1,744	42.9 [33.3-72.4]	1,746	0.0 [0.0-42.9]	1,482	25.0 [0.0-60.0]	3.228
Public health facility	0.0 [0.0-0.0]	320	0.0 [0.0-0.0]	792	0.0 [0.0-0.0]	1,112	0.0 [0.0-0.0]	375	0.0 [0.0-0.0]	1,066	0.0 [0.0-0.0]	1.441
Private not-for-profit health facility	0.0 [0.0-0.0]	33	0.0 [0.0-0.0]	23	0.0 [0.0-0.0]	56	0.0 [0.0-14.3]	30	0.0 [0.0-25.0]	68	0.0 [0.0-18.4]	98
Private for-profit outlet												
Health facility/pharmacy	36.8 [18.5-71.4]	277	32.3 [0.0-100.0]	62	35.4 [14.6-80.0]	339	53.8 [33.3-100.0]	701	42.9 [33.3-100]	129	50.0 [33.3-100.0]	830
Drug store	42.9 [25.8-66.7]	187	42.9 [20.0-100.0]	36	42.9 [25.0-78.6]	223	48.1 [33.3-77.8]	607	60.0 [33.3-73.9]	162	53.8 [33.3-73.9]	769
General retailer/itinerant	-	0	-	0	-	0	33.3 [14.3-53.8]	33	14.3 [14.3-33.3]	57	20.0 [14.3-33.3]	90
Total	40.5 [24.7-66.7]	464	40.0 [12.5-100.0]	98	40.0 [19.0-80.0]	562	50.0 [33.3-81.8]	1,341	42.9 [33.3-73.9]	348	48.1 [33.3-73.9]	1.689
Community health worker	60.6 [50.0-71.1]	2	0.0 [0.0-0.0]	12	0.0 [0.0-0.0]	14	-	0	-	0	-	0
Madagascar – Total	0.0 [0.0-15.7]	333	0.0 [0.0-25.0]	1,329	0.0 [0.0-25.0]	1,662	11.1 [0.0-42.9]	563	0.0 [0.0-42.1]	2,154	0.0 [0.0-42.9]	2.717
Public health facility	0.0 [0.0-0.0]	145	0.0 [0.0-0.0]	1,187	0.0 [0.0-0.0]	1,332	0.0 [0.0-0.0]	198	0.0 [0.0-0.0]	1,756	0.0 [0.0-0.0]	1.954
Private not-for-profit health facility	0.0 [0.0-0.0]	4	-	0	0.0 [0.0-0.0]	4	0.0 [0.0-0.0]	68	0.0 [0.0-0.0]	7	0.0 [0.0-0.0]	75
Private for-profit outlet												
Health facility/pharmacy	0.0 [0.0-38.1]	158	0.0 [0.0-66.7]	2	0.0 [0.0-38.6]	160	39.5 [28.9-61.3]	206	42.9 [42.9-100.0]	9	42.9 [35.1-66.7]	215
Drug store	38.9 [25-38.9]	20	38.9 [25.0-87.5]	103	38.9 [25.0-42.9]	123	50.0 [32.3-66.7]	72	50.0 [25-71.4]	324	50.0 [27.7-66.7]	396
General retailer/itinerant	100.0 [11.1-200.0]	6	50.0 [33.3-50.0]	8	50.0 [33.3-50.0]	14	50.0 [50.0-50.0]	2	50.0 [40.0-66.7]	6	50.0 [40.0-66.7]	8
Total	25.0 [0.0-38.9]	184	50.0 [25.0-66.7]	113	38.1 [12.9-50.0]	297	40.6 [29.9-66.7]	280	50.0 [33.3-66.7]	339	43.5 [33.3-66.7]	619
Community health worker	-	0	50.0 [0.0-100.0]	29	50.0 [0.0-100.0]	29	100.0 [0.0-100.0]	17	100.0 [0.0-100.0]	52	100.0 [0.0-100.0]	69
Niger – Total	35.0 [14.3-35.1]	362	20.0 [0.0-50.0]	180	25.0 [0.0-42.9]	542	35.0 [16.7-50.0]	661	0.0 [0.0-33.3]	264	20.0 [0.0-40.0]	925
Public health facility	0.0 [0.0-0.0]	82	0.0 [0.0-0.0]	132	0.0 [0.0-0.0]	214	0.0 [0.0-0.0]	183	0.0 [0.0-0.0]	205	0.0 [0.0-0.0]	388
Private not-for-profit health facility	-	0	-	0	-	0	-100.0 [-100.0- -100.0]	1	-100.0 [-100.0- -100.0]	5	-100.0 [-100.0- -100.0]	6
Private for-profit outlet												
Health facility/pharmacy	35.0 [35.0-35.0]	209	11.4 [11.4-11.4]	4	35.0 [35.0-35.0]	213	35.1 [35.0-35.1]	301	-30.0 [-30.0- -30.0]	7	35.1 [35-35.1]	308
Drug store	42.9 [35.0-51.5]	11	30.0 [20.0-40.0]	2	40.0 [27.3-42.9]	13	38.0 [25.0-40.0]	13	-	0	38.0 [25.0-40.0]	13
General retailer/itinerant	33.3 [25.0-50.0]	60	42.9 [25.0-50.0]	42	33.3 [25.0-50.0]	102	35.1 [20-66.7]	163	40.0 [25.0-66.7]	47	40.0 [23.1-66.7]	210
Total	35.0 [25.0-42.9]	280	42.9 [25.0-50.0]	48	35.0 [25.0-50.0]	328	35.1 [25.0-60.0]	477	40.0 [23.1-66.7]	54	35.1 [25.0-60.0]	531
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria – Total	33.3 [0.0-50.0]	673	25.0 [0.0-42.9]	103	30.8 [17.1-50.0]	776	50.0 [25.0-87.5]	1,284	42.9 [20.0-66.7]	554	50.0 [25.0-75.0]	1,838
Public health facility	0.0 [0.0-0.0]	51	0.0 [0.0-0.0]	19	0.0 [0.0-0.0]	70	0.0 [0.0-0.0]	70	0.0 [0.0-0.0]	63	0.0 [0.0-0.0]	133
Private not-for-profit health facility	900.0 [0.0-900.0]	2	500.0 [0.0-500.0]	3	500.0 [0.0-500.0]	5	500.0 [66.7-500.0]	9	100.0 [100.0-100.0]	2	500.0 [66.7-500.0]	11
Private for-profit outlet												
Health facility/pharmacy	25.0 [16.9-45.5]	341	66.7 [42.9-66.7]	4	37.5 [20.0-66.7]	345	50.0 [25.0-114.3]	125	66.7 [34.6-100.0]	11	50.0 [26.8-100.0]	136
Drug store	31.6 [20.0-50.0]	262	33.3 [25.0-50.0]	73	33.3 [20.0-50.0]	335	50.0 [25.0-76.5]	1,038	50.0 [25.0-75.0]	474	50.0 [25.0-75.0]	1,512
General retailer/itinerant	33.3 [13.6-50.0]	12	50.0 [50.0-50.0]	1	33.3 [13.6-50.0]	13	50.0 [38.9-66.7]	36	25.0 [10.0-50.0]	3	50.0 [36.4-66.7]	39
Total	30.8 [19.0-50.0]	615	33.3 [25.0-66.7]	78	33.3 [20.0-50.0]	693	50.0 [25.0-87.5]	1,199	50.0 [25.0-75.0]	488	50.0 [25.0-76.5]	1,687
Community health worker	500.0 [66.7-500.0]	5	0.0 [0.0-0.0]	3	66.7 [0.0-500.0]	8	0.0 [0.0-0.0]	6	15.4	1	15.4 [15.4-15.4]	7
Tanzania - mainland – Total	25.0 [0.0-41.2]	153	0.0 [0.0-0.0]	95	0.0 [0.0-0.0]	248	66.7 [42.9-100.0]	862	0.0 [0.0-53.8]	187	42.9 [0-77.8]	1049
Public health facility	0.0 [0.0-0.0]	7	0.0 [0.0-0.0]	77	0.0 [0.0-0.0]	84	0.0 [0.0-0.0]	11	0.0 [0.0-0.0]	67	0.0 [0.0-0.0]	78
Private not-for-profit health facility	-	0	0.0 [0.0-0.0]	8	0.0 [0.0-0.0]	8	-	0	0.0 [0.0-0.0]	4	0.0 [0.0-0.0]	4
Private for-profit outlet												
Health facility/pharmacy	33.3 [20.0-50.0]	140	0.0 [0.0-0.0]	2	32.7 [15.4-47.1]	142	66.7 [42.9-100.0]	639	25.0 [0.0-100.0]	28	66.7 [42.9-100.0]	667
Drug store	36.4 [33.3-66.7]	6	66.7 [50.0-133.3]	7	50.0 [36.4-100.0]	13	66.7 [42.9-100.0]	209	66.7 [40.0-87.5]	83	66.7 [42.9-100.0]	292
General retailer/itinerant	-	0	50.0 [50.0-50.0]	1	50.0 [50.0-50.0]	1	81.8 [81.8-87.5]	3	0.0 [0.0-0.0]	5	0.0 [0.0-25.0]	8
Total	34.6 [26.3-52.4]	146	50.0 [50.0-100.0]	10	50.0 [26.3-66.7]	156	66.7 [42.9-100.0]	851	53.8 [25.0-87.5]	116	66.7 [42.9-100.0]	967
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.17: *Cont.*

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Uganda – Total	0.0 [0.0-50.0]	423	0.0 [0.0-0.0]	2,271	0.0 [0.0-0.0]	2,694	100.0 [40.0-200.0]	1,944	33.3 [0.0-140.0]	2.589	56.3 [0.0-150.0]	4,533
Public health facility	0.0 [0.0-0.0]	167	0.0 [0.0-0.0]	2,062	0.0 [0.0-0.0]	2,229	0.0 [0.0-0.0]	338	0.0 [0.0-0.0]	1.603	0.0 [0.0-0.0]	1,941
Private not-for-profit health facility	0.0 [0.0-0.0]	4	0.0 [0.0-0.0]	19	0.0 [0.0-0.0]	23	0.0 [0.0-0.0]	19	0.0 [0.0-0.0]	43	0.0 [0.0-0.0]	62
Private for-profit outlet												
Health facility/pharmacy	50.0 [25.0-87.5]	245	66.7 [33.3-100.0]	99	57.9 [25.0-100.0]	344	140.0 [81.8-250.0]	1,213	140.0 [100.0-233.3]	417	140.0 [100.0-233.3]	1,630
Drug store	100.0 [50.0-118.2]	7	42.9 [25.0-71.4]	65	50.0 [33.3-81.8]	72	127.3 [66.7-200.0]	369	100.0 [50.0-200.0]	444	100.0 [60.0-200.0]	813
General retailer/itinerant	-	0	100.0 [100.0-100.0]	1	100.0	1	6.4 [6.4-100.0]	2	66.7 [50.0-66.7]	4	66.7 [50.0-66.7]	6
Total	60.0 [33.3-100.0]	252	50.0 [25.0-87.5]	165	50.0 [33.3-100.0]	417	133.3 [71.4-233.3]	1,584	114.3 [66.7-212.5]	865	127.3 [66.7-220.0]	2,449
Community health worker	-	0	0.0 [0.0-0.0]	25	0.0 [0.0-0.0]	25	0.0 [0.0-42.9]	3	0.0 [0.0-0.0]	78	0.0 [0.0-0.0]	81
Zanzibar – Total	0.0 [0.0-0.0]	126	0.0 [0.0-0.0]	213	0.0 [0.0-0.0]	339	73.2 [0.0-100.0]	362	0.0 [0.0-14.3]	282	0.0 [0.0-100.0]	644
Public health facility	0.0 [0.0-0.0]	120	0.0 [0.0-0.0]	212	0.0 [0.0-0.0]	332	0.0 [0.0-0.0]	118	0.0 [0.0-0.0]	210	0.0 [0.0-0.0]	328
Private not-for-profit health facility	-	0	-	0	-	0	-	0	100.0 [100.0-117.4]	3	100.0 [100.0-117.4]	3
Private for-profit outlet												
Health facility/pharmacy	33.3 [16.9-33.3]	5	0.0	1	25.1 [14.3-33.3]	6	100.0 [77.8-100.0]	141	100.0 [66.7-100.0]	30	100.0 [66.7-100.0]	171
Drug store	0.0	1	-	0	0.0	1	100.0 [66.7-100.0]	101	100.0 [60.0-100.0]	37	100.0 [66.7-100.0]	138
General retailer/itinerant	-	0	-	0	-	0	211.1 [122.2-300.0]	2	83.3 [66.7-100.0]	2	111.1 [83.3-211.1]	4
Total	25.1 [14.3-33.3]	6	0.	1	16.9 [0.0-33.3]	7	100.0 [66.7-100.0]	244	100.0 [60.0-100.0]	69	100.0 [66.7-100.0]	313
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009. IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

Table 2.3.18: Gross markup between purchase price and retail selling price of quality-assured ACTs, by presence of the AMFm logo, at endline, 2011

Median percentage markup between purchase price and retail selling price of quality-assured ACTs, by presence of the AMFm logo, urban-rural location and type of outlet, according to country

| | WITH LOGO | | | | | | WITHOUT LOGO | | | | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | |
Country/Type of outlet	Median markup [IQR]	No. of Products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Ghana - Total	50.0 [36.4-66.7]	555	50.0 [33.3-66.7]	242	50.0 [36.4-66.7]	797	33.3 [20.8-50.0]	72	33.3 [9.1-50.0]	13	33.3 [20.0-50.0]	85
Public health facility	25.0 [0.0-50.0]	41	15.4 [0.0-50.0]	79	25.0 [0.0-50.0]	120	20.3 [0.0-22.2]	9	11.1 [0.0-33.3]	10	15.4 [0.0-33.3]	19
Private not-for-profit health facility	25.0 [19.0-50.0]	12	0.0 [0.0-87.5]	6	25.0 [0.0-50.0]	18	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	50.0 [44.4-76.5]	278	33.3 [7.1-66.7]	36	50.0 [36.4-66.7]	314	33.3 [25.0-50.0]	59	-	0	33.3 [25.0-50.0]	59
Drug store	50.0 [36.4-66.7]	222	50.0 [40.0-66.7]	120	50.0 [36.4-66.7]	342	50.0 [33.3-66.7]	4	50.0 [9.1-50.0]	2	50.0 [20.0-50.0]	6
General retailer/itinerant	42.9 [36.4-42.9]	2	66.7 [66.7-66.7]	1	42.9 [36.4-66.7]	3	-	0	50.0 [50-50.0]	1	50.0 [50.0-50.0]	1
Total	50.0 [37.6-66.7]	502	50.0 [36.4-66.7]	157	50.0 [36.4-66.7]	659	33.3 [25.0-50.0]	63	50.0 [9.1-50.0]	3	36.4 [25.0-50.0]	66
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya - Total	42.9 [33.3-78.6]	1,473	33.3 [0.0-60.0]	852	33.3 [0.0-66.7]	2,325	0.0 [0.0-33.3]	272	0.0 [0.0-0.0]	630	0.0 [0.0-0.0]	902
Public health facility	0.0 [0.0-0.0]	164	0.0 [0.0-0.0]	501	0.0 [0.0-0.0]	665	0.0 [0.0-0.0]	210	0.0 [0.0-0.0]	565	0.0 [0.0-0.0]	775
Private not-for-profit health facility	13.6 [-100.0-33.3]	17	0.0 [0.0-57.9]	23	0.0 [0.0-50.0]	40	0.0 [0.0-0.0]	13	0.0 [0.0-0.0]	45	0.0 [0.0-0.0]	58
Private for-profit outlet												
Health facility/pharmacy	53.8 [33.3-100.0]	674	59.1 [33.3-100.0]	120	53.8 [33.3-100.0]	794	32.6 [11.1-100.0]	27	39.5 [0.0-39.5]	9	39.5 [0.0-39.5]	36
Drug store	48.1 [33.3-78.6]	585	60.0 [33.3-73.9]	153	53.8 [33.3-73.9]	738	42.9 [33.3-71.4]	22	33.3 [33.3-66.7]	9	40.0 [33.3-66.7]	31
General retailer/itinerant	33.3 [14.3-53.8]	33	14.3 [14.3-33.3]	55	14.3 [14.3-33.3]	88	-	0	41.7 [33.3-50.0]	2	41.7 [33.3-50.0]	2
Total	50.0 [33.3-81.8]	1,292	48.1 [33.3-73.9]	328	50.0 [33.3-75.0]	1,620	40.0 [14.3-71.4]	49	39.5 [33.3-50.0]	20	39.5 [15.4-66.7]	69
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar - Total	30.0 [0.0-57.9]	344	0.0 [0.0-0.0]	1,190	0.0 [0.0-32.4]	1,534	0.0 [0.0-30.1]	219	0.0 [0.0-100.0]	964	0.0 [0.0-100.0]	1,183
Public health facility	0.0 [0.0-0.0]	97	0.0 [0.0-0.0]	861	0.0 [0.0-0.0]	958	0.0 [0.0-0.0]	101	0.0 [0.0-0.0]	895	0.0 [0.0-0.0]	996
Private not-for-profit health facility	0.0 [0.0-0.0]	42	0.0 [0.0-0.0]	4	0.0 [0.0-0.0]	46	0.0 [0.0-0.0]	26	0.0 [0.0-0.0]	3	0.0 [0.0-0.0]	29
Private for-profit outlet												
Health facility/pharmacy	42.9 [35.1-66.7]	140	42.9 [42.9-42.9]	7	42.9 [38.1-66.7]	147	37.0 [11.1-38.6]	66	100.0 [100.0-100.0]	2	38.2 [24.2-66.7]	68
Drug store	60.0 [40.0-100.0]	59	50.0 [25.0-66.7]	307	50.0 [32.4-71.4]	366	28.2 [27.1-32.3]	13	66.7 [25.0-100.0]	17	32.3 [27.1-57.9]	30
General retailer/itinerant	66.7 [66.7-66.7]	1	36.7 [33.3-40]	2	40.0 [33.3-40]	3	50.0 [50.0-50.0]	1	50.0 [50-66.7]	4	50.0 [50.0-66.7]	5
Total	50.0 [36.4-73.9]	200	42.9 [33.3-66.7]	316	42.9 [33.3-66.7]	516	33.3 [24.2-38.6]	80	66.7 [50.0-100.0]	23	44.2 [28.2-66.7]	103
Community health worker	0.0 [0.0-100.0]	5	0.0 [0.0-0.0]	9	0.0 [0.0-0.0]	14	100.0 [25.0-100.0]	12	100.0 [100.0-100.0]	43	100.0 [100.0-100.0]	55
Niger – Total	35.1 [22.2-60.0]	362	9.1 [0.0-50.0]	107	33.3 [0.0-50.0]	469	25.0 [0.0-35.0]	298	0.0 [0.0-0.0]	157	0.0 [0.0-33.3]	455
Public health facility	0.0 [0.0-35.1]	96	0.0 [0.0-0.0]	64	0.0 [0.0-0.0]	160	0.0 [0.0-0.0]	86	0.0 [0.0-0.0]	141	0.0 [0.0-0.0]	227
Private not-for-profit health facility	-	0	-100.0 [-100.0- -100.0]	5	-100.0 [-100.0- -100.0]	5	-100.0 [-100.0- -100.0]	1	-	0	-100.0	1
Private for-profit outlet												
Health facility/pharmacy	35.1 [35.1-35.1]	138	-30.0 [-30.0- -30.0]	4	35.1 [35.1-35.1]	142	35.0 [35.0-35.0]	163	35.1 [35.1-56.0]	3	35.0 [35.0-35.0]	166
Drug store	35.1 [25.0-40.0]	11	-	0	35.1 [25.0-40.0]	11	40.0 [38.0-40.0]	2	-	0	40.0 [38.0-40.0]	2
General retailer/itinerant	42.9 [25.0-75.0]	117	40.0 [23.1-66.7]	34	40.0 [25.0-66.7]	151	25.0 [17.6-60]	46	33.3 [25.0-50.0]	13	33.3 [20.0-50.0]	59
Total	35.1 [27.3-66.7]	266	40.0 [20.0-66.7]	38	36.4 [25-66.7]	304	35.0 [20.0-35.1]	211	33.3 [25.0-50.0]	16	35.0 [25.0-50.0]	227
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria - Total	50.0 [25.0-87.5]	1,100	50.0 [25.0-75.0]	442	50.0 [25.0-87.5]	1,542	25.0 [12.5-50.0]	184	15.4 [0.0-50.0]	112	25.0 [5.9-50.0]	296
Public health facility	0.0 [0.0-50.0]	45	0.0 [0.0-0.0]	21	0.0 [0.0-0.0]	66	0.0 [0.0-0.0]	25	0.0 [0.0-0.0]	42	0.0 [0.0-0.0]	67
Private not-for-profit health facility	500.0 [66.7-500.0]	6	-	0	500.0 [66.7-500.0]	6	500.0 [500.0-500.0]	3	100.0 [100.0-100.0]	2	500.0 [100.0-500.0]	5
Private for-profit outlet												
Health facility/pharmacy	66.7 [33.3-114.3]	106	66.7 [62.2-100.0]	6	66.7 [33.3-114.3]	112	12.5 [9.5-25.0]	19	34.6 [26.8-80.0]	5	12.5 [9.5-33.3]	24
Drug store	50.0 [25.0-87.5]	906	50.0 [25.0-76.5]	412	50.0 [25.0-84.6]	1,318	25.0 [15.4-50.0]	132	42.9 [20.0-60.0]	62	26.3 [16.7-53.8]	194
General retailer/itinerant	50.0 [38.9-81.8]	31	25.0 [10.0-50.0]	3	50.0 [33.3-66.7]	34	50.0 [38.9-50.0]	5	-	0	50.0 [38.9-50.0]	5
Total	50.0 [26.3-87.5]	1,043	50.0 [25.0-76.5]	421	50.0 [25.0-87.5]	1,464	25.0 [14.3-50.0]	156	42.9 [20.0-60.0]	67	26.3 [15.4-50.0]	223
Community health worker	0.0 [0.0-0.0]	6	-	0	0.0 [0.0-0.0]	6	-	0	15.4	1	15.4	1
Tanzania - mainland - Total	66.7 [42.9-100.0]	772	30.0 [0.0-66.7]	139	51.5 [0.0-87.5]	911	53.1 [40-75]	90	0.0 [0.0-0.0]	48	0.0 [0.0-0.0]	138
Public health facility	0.0 [0.0-0.0]	10	0.0 [0.0-0.0]	32	0.0 [0.0-0.0]	42	0.0	1	0.0 [0.0-0.0]	35	0.0 [0.0-0.0]	36
Private not-for-profit health facility	-	0	0.0 [0.0-0.0]	4	0.0 [0.0-0.0]	4	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	81.8 [42.9-100.0]	562	100.0 [66.7-100.0]	25	81.8 [49.3-100.0]	587	57.9 [36.4-66.7]	77	0.0 [0.0-0.0]	3	0.0 [0.0-50.0]	80
Drug store	66.7 [42.9-100.0]	197	53.8 [33.3-78.6]	78	66.7 [42.9-100.0]	275	53.1 [50.0-75.0]	12	100.0 [66.7-102.5]	5	66.7 [53.1-102.5]	17
General retailer/itinerant	81.8 [81.8-87.5]	3	-	0	81.8 [81.8-87.5]	3	-	0	0.0 [0.0-0.0]	5	0.0 [0.0-0.0]	5
Total	66.7 [42.9-100.0]	762	56.3 [33.3-87.5]	103	66.7 [42.9-100.0]	865	53.1 [50.0-75.0]	89	25.0 [0.0-100.0]	13	50.0 [0.0-75.0]	102
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.18: *Cont.*

Country/Type of outlet	WITH LOGO						WITHOUT LOGO					
	Urban		Rural		Total		Urban		Rural		Total	
	Median markup [IQR]	No. of Products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Uganda - Total	113.3 [60.0-233.3]	1,560	66.7 [0.0-150.0]	2,067	100.0 [0.0-180.0]	3,627	15.0 [0.0-100.0]	384	0.0 [0.0-0.0]	522	0.0 [0.0-14.3]	906
Public health facility	0.0 [0.0-0.0]	208	0.0 [0.0-0.0]	1,261	0.0 [0.0-0.0]	1469	0.0 [0.0-0.0]	130	0.0 [0.0-0.0]	342	0.0 [0.0-0.0]	472
Private not-for-profit health facility	100.0 [-100.0-150.0]	3	0.0 [0.0-108.3]	10	0.0 [0.0-108.3]	13	0.0 [0.0-0.0]	16	0.0 [0.0-0.0]	33	0.0 [0.0-0.0]	49
Private for-profit outlet												
Health facility/pharmacy	150.0 [100.0-284.6]	1,019	150.0 [100.0-233.3]	371	150.0 [100.0-233.3]	1,390	100.0 [15.4-150.0]	194	133.3 [37.1-200]	46	128.6 [37.1-185.7]	240
Drug store	133.3 [66.7-200.0]	328	100.0 [56.3-200.0]	414	100.0 [60.0-200.0]	742	80.0 [50.0-166.7]	41	66.7 [40-105.7]	30	71.4 [42.9-120.6]	71
General retailer/itinerant	6.4 [6.4-6.4]	1	66.7 [66.7-66.7]	3	66.7 [50-66.7]	4	100.0 [100.0-100.0]	1	0.0	1	0.0 [0.0-0.0]	2
Total	150.0 [81.8-233.3]	1,348	127.3 [66.7-220.0]	788	133.3 [66.7-233.3]	2,136	100.0 [40.0-150.0]	236	71.4 [37.1-150.0]	77	100.0 [40.0-150.0]	313
Community health worker	42.9 [42.9-42.9]	1	0.0 [0.0-0.0]	8	0.0 [0.0-0.0]	9	0.0 [0.0-0.0]	2	0.0 [0.0-0.0]	70	0.0 [0.0-0.0]	72
Zanzibar - Total	80.9 [0.0-100.0]	346	0.0 [0.0-14.3]	274	0.0 [0.0-100.0]	620	0.0 [0.0-30.4]	16	0.0 [0.0-22.7]	8	0.0 [0.0-30.4]	24
Public health facility	-	108	0.0 [0.0-0.0]	204	0.0 [0.0-0.0]	312	0.0 [0.0-0.0]	10	0.0 [0.0-0.0]	6	0.0 [0.0-0.0]	16
Private not-for-profit health facility	-	0	100.0 [100.0-117.4]	3	100.0 [100.0-117.4]	3	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	100.0 [80.0-100.0]	135	100.0 [66.7-100.0]	29	100.0 [73.2-100.0]	164	56.7 [25.0-100.0]	6	45.5 [45.5-45.5]	1	45.5 [25.0-100.0]	7
Drug store	100.0 [66.7-100.0]	101	100.0 [60.0-100.0]	36	100.0 [66.7-100.0]	137	-	0	220.0 [220.0-220.0]	1	220.0 [220.0-220.0]	1
General retailer/itinerant	211.1 [122.2-300.0]	2	83.3 [66.7-100.0]	2	111.1 [83.3-211.1]	4	-	0	-	0	-	0
Total	100.0 [66.7-100.0]	238	100.0 [60.0-100.0]	67	100.0 [66.7-100.0]	305	56.7 [25.0-100.0]	6	132.7 [45.5-220.0]	2	61.6 [30.4-100.0]	8
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.3.3 Total gross markup from first line buyer purchase price to retail selling price

Table 2.3.19 presents the median total gross markup on QAACTs. For this indicator, the markup is calculated by comparing the retail price per AETD for each QAACT bearing the AMFm logo with the average first line buyer purchase price for that product in that country (see Section 1.6.2.4). It captures both the additional costs and profit margins that are added by first line buyers, any intermediate wholesalers and retailers. Interpretation focuses on the private for-profit sector because the key policy questions relate to transmission of the subsidy to customers in these outlets. The total gross markup was low in Kenya and Madagascar (USD 0.40 and USD 0.45), followed by Tanzania mainland (USD 0.84) and Ghana (USD 0.87); and was over USD 1.00 in the remaining countries, with the highest value in Uganda (USD 1.83). It was similar in rural and urban areas in Ghana, Niger, Nigeria and Uganda. It was higher in urban areas in Kenya, Tanzania mainland and Zanzibar; and higher in rural areas in Madagascar.

Table 2.3.19: Median total gross markup from first line buyer price to retail selling price for quality-assured ACTs bearing the AMFm logo, in 2010 US dollars, at endline, 2011

Indicator 2.6: Median total absolute markup from first line buyer purchase price per adult equivalent treatment dose (AETD) to retail selling price per adult equivalent treatment dose for quality-assured ACTs with the AMFm logo by urban-rural location and type of outlet, according to country

Country/Type of outlet	Urban		Rural		Total	
	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Ghana – Total	0.87 [0.77-1.77]	1,298	0.84 [0.77-1.18]	501	0.86 [0.77-1.70]	1,799
Public health facility	0.85 [0.77-1.07]	107	0.85 [0.77-0.87]	259	0.85 [0.77-0.87]	366
Private not-for-profit health facility	0.87 [0.86-1.43]	12	-0.09 [-0.17-0.77]	11	0.86 [-0.09-0.90]	23
Private for-profit outlet						
Health facility/pharmacy	1.10 [0.77-1.81]	806	0.77 [0.76-1.08]	61	1.08 [0.77-1.80]	867
Drug store	0.86 [0.77-1.76]	371	0.83 [0.77-1.71]	169	0.86 [0.77-1.71]	540
General retailer/itinerant	1.08 [0.77-1.08]	2	9.85 [9.85-9.85]	1	1.08 [0.77-9.85]	3
Total	0.89 [0.77-1.77]	1,179	0.83 [0.77-1.71]	231	0.87 [0.77-1.77]	1,410
Community health worker	-	0	-	0	-	0
Kenya – Total	0.50 [0.35-1.08]	1,684	0.30 [-0.03-0.46]	864	0.35 [0.30-0.73]	2,548
Public health facility	-0.05 [-0.11- -0.04]	173	-0.05 [-0.11- -0.04]	448	-0.05 [-0.11- -0.04]	621
Private not-for-profit health facility	0.39 [-0.11-0.99]	21	0.35 [-0.05-0.53]	25	0.35 [-0.05-0.62]	46
Private for-profit outlet						
Health facility/pharmacy	0.55 [0.39-1.12]	782	0.41 [0.35-0.99]	152	0.46 [0.35-1.04]	934
Drug store	0.52 [0.35-1.09]	667	0.35 [0.30-0.53]	172	0.41 [0.35-0.89]	839
General retailer/itinerant	0.35 [0.30-0.63]	41	0.30 [0.30-0.35]	67	0.30 [0.30-0.35]	108
Total	0.52 [0.35-1.09]	1,490	0.35 [0.30-0.66]	391	0.40 [0.30-0.89]	1,881
Community health worker	-	0	-	0	-	0
Madagascar – Total	0.28 [0.14-0.65]	554	-0.04 [-0.07-0.28]	1,350	-0.04 [-0.07-0.36]	1,904
Public health facility	-0.06 [-0.07- -0.04]	100	-0.07 [-0.07- -0.06]	873	-0.06 [-0.07- -0.04]	973
Private not-for-profit health facility	-0.06 [-0.07- -0.04]	46	-0.06 [-0.07- -0.05]	4	-0.06 [-0.07- -0.04]	50
Private for-profit outlet						
Health facility/pharmacy	0.36 [0.25-0.78]	325	0.82 [0.36-1.64]	7	0.38 [0.28-0.82]	332
Drug store	0.36 [0.28-0.82]	72	0.53 [0.29-0.99]	444	0.48 [0.28-0.99]	516
General retailer/itinerant	0.95 [0.95-2.53]	2	0.53 [0.28-0.84]	4	0.53 [0.28-0.84]	6
Total	0.36 [0.28-0.82]	399	0.53 [0.28-0.95]	455	0.45 [0.28-0.84]	854
Community health worker	0.27 [0.03-0.61]	9	-0.04 [-0.04-0.13]	18	0.11 [-0.04-0.27]	27
Niger – Total	0.92 [0.61-1.55]	282	-0.06 [-0.08- -0.02]	77	0.61 [-0.06-1.32]	359
Public health facility	0.61 [-0.04-0.73]	102	-0.06 [-0.08- -0.02]	65	-0.06 [-0.07-0.61]	167
Private not-for-profit health facility	-	0	-0.07 [-0.08- -0.05]	4	-0.07 [-0.08- -0.05]	4
Private for-profit outlet						
Health facility/pharmacy	1.11 [0.63-1.92]	151	0.54 [0.54-1.53]	4	1.11 [0.63-1.90]	155
Drug store	0.89 [0.72-2.70]	12	1.13 [1.13-1.24]	2	1.13 [0.89-1.24]	14
General retailer/itinerant	1.53 [1.03-2.32]	17	1.37 [1.37-1.4]	2	1.37 [1.17-1.92]	19
Total	1.31 [0.73-2.32]	180	1.24 [1.13-1.37]	8	1.31 [0.84-1.84]	188
Community health worker	-	0	-	0	-	0
Nigeria - Total	1.32 [0.73-2.26]	1,251	1.35 [0.75-2.23]	468	1.33 [0.74-2.25]	1,719
Public health facility	-0.06 [-0.10- -0.06]	45	-0.10 [-0.15- -0.06]	23	-0.06 [-0.15- -0.06]	68
Private not-for-profit health facility	2.26 [0.58-2.81]	7	1.33	1	1.33 [0.58-2.81]	8
Private for-profit outlet						
Health facility/pharmacy	0.74 [0.71-2.61]	138	2.19 [1.02-3.41]	8	1.02 [0.73-2.83]	146
Drug store	1.32 [0.74-2.26]	1,016	1.35 [0.84-2.26]	431	1.33 [0.74-2.26]	1,447
General retailer/itinerant	1.64 [1.30-2.25]	39	1.79 [1.64-5.03]	4	1.64 [1.33-2.25]	43
Total	1.32 [0.74-2.26]	1,193	1.37 [0.87-2.26]	443	1.33 [0.74-2.26]	1,636
Community health worker	-0.08 [-0.10- -0.06]	6	6.92	1	-0.06 [-0.10-6.92]	7
Tanzania - mainland - Total	0.98 [0.56-1.53]	1390	0.62 [0.47-1.10]	245	0.78 [0.47-1.21]	1,635
Public health facility	0.24 [-0.04-0.60]	16	-0.04 [-0.05-0.55]	55	-0.04 [-0.05-0.55]	71
Private not-for-profit health facility	1.12 [0.78-1.84]	4	-0.05 [-0.06--0.03]	4	-0.02 [-0.05-0.78]	8
Private for-profit outlet						
Health facility/pharmacy	1.15 [0.56-1.65]	986	0.73 [0.49-1.21]	38	1.12 [0.56-1.46]	1,024
Drug store	1.10 [0.68-1.83]	378	0.78 [0.49-1.20]	148	0.80 [0.55-1.21]	526
General retailer/itinerant	0.58 [0.49-0.59]	6	-	0	0.58 [0.49-0.59]	6
Total	1.10 [0.58-1.71]	1,370	0.78 [0.49-1.20]	186	0.84 [0.55-1.21]	1556
Community health worker	-	0	-	0	-	0

Table 2.3.19: *Cont*						
	Urban		Rural		Total	
Country/Type of outlet	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products	Median markup [IQR]	No. of products
Uganda - Total	1.83 [1.05-3.00]	1,983	1.44 [-0.03-2.22]	2,348	1.44 [0.34-2.29]	4,331
Public health facility	-0.11 [-0.12- -0.03]	211	-0.11 [-0.12- -0.03]	1,265	-0.11 [-0.12- -0.03]	1,476
Private not-for-profit health facility	2.81 [1.05-4.57]	5	0.85 [-0.03-1.44]	13	0.85 [-0.03-1.44]	18
Private for-profit outlet						
Health facility/pharmacy	1.90 [1.44-3.79]	1,359	1.9 [1.44-3.06]	552	1.90 [1.44-3.10]	1,911
Drug store	1.83 [1.11-2.61]	406	1.75 [1.05-2.29]	500	1.75 [1.05-2.29]	906
General retailer/itinerant	1.83 [1.83-1.83]	1	1.05 [0.81-2.22]	10	1.05 [0.81-2.22]	11
Total	1.89 [1.12-3.06]	1,766	1.83 [1.11-2.67]	1,062	1.83 [1.11-2.69]	2,828
Community health worker	1.83 [1.83-1.83]	1	-0.02 [-0.02- -0.02]	8	-0.02 [-0.02- -0.02]	9
Zanzibar - Total	0.53 [0.41-1.80]	478	-0.06 [-0.06-0.53]	318	0.53 [-0.06-1.11]	796
Public health facility	-0.06 [-0.06- -0.03]	123	-0.06 [-0.06- -0.03]	225	-0.06 [-0.06- -0.03]	348
Private not-for-profit health facility	-	0	0.29 [0.23-1.33]	3	0.29 [0.23-1.33]	3
Private for-profit outlet						
Health facility/pharmacy	1.11 [0.53-2.30]	188	1.11 [0.53-1.83]	43	1.11 [0.53-2.27]	231
Drug store	1.11 [0.53-2.27]	165	0.88 [0.53-2.05]	44	1.11 [0.53-2.27]	209
General retailer/itinerant	1.41 [0.53-2.30]	2	0.53 [0.53-0.53]	3	0.53 [0.53-0.53]	5
Total	1.11 [0.53-2.27]	355	0.88 [0.53-1.83]	90	1.11 [0.53-2.27]	445
Community health worker	-	0	-	0	-	0

*Median total gross markup is the median of the difference between the retail selling price and the mean first line buyer price for each QAACT.

**First Line Buyer (FLB) price data were provided by The Global Fund.

*** An AETD is the number of milligrams (mg) of a given drug that is required to treat a 60 kg adult. AETDs were calculated for every audited antimalarial.

IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

2.3.4 Availability and cost to patients of diagnostic tests (RDT/microscopy)

Table 2.3.20 shows the availability of any diagnostic test for malaria in outlets stocking antimalarials at baseline and endline, indicating the percentage of outlets having either malaria microscopy or malaria RDTs. At endline, availability of any diagnostic test was highly variable across countries, varying from 3% of outlets in Nigeria to 56% in Zanzibar. Availability of diagnostics was significantly higher in the public sector than in private for-profit outlets in all countries. Kenya, Uganda and Zanzibar stand out as the only countries with substantial availability in the private for-profit sector, with 14%, 21% and 32% availability, respectively. There were significant differences between availability in all outlets in urban and rural areas in Kenya, Nigeria and Zanzibar, with higher availability in rural areas in Niger and Zanzibar, and higher availability in urban areas in Kenya. There was no change in availability of any diagnostic between baseline and endline, except in Madagascar where it increased from 9 to 19%, and Uganda where it increased from 18% to 32%.

Table 2.3.21 shows the availability of malaria microscopy in outlets stocking antimalarials. At endline, availability of microscopy varied from 1% in Niger to 34% in Zanzibar. Microscopy was significantly more likely to be available in the public sector than in private for-profit outlets in all countries. Public sector availability varied from 5% in Madagascar to 42% in Kenya. There was no change in availability of microscopy between baseline and endline in any country.

Table 2.3.21 shows the availability of RDTs in outlets stocking antimalarials. At endline, RDT availability varied from 2% in Nigeria to 35% in Zanzibar. As with microscopy, RDTs were significantly more likely to be available in the public sector than in private for-profit outlets in all countries. Public sector availability was high in some countries, at 94% in Madagascar, 64% in Niger and 85% in Zanzibar, but only 9% in Nigeria. Following the patterns seen for "any diagnostic" (Table 2.3.20), there was no increase in availability of RDTs between baseline and endline except in Madagascar and Uganda, indicating that the gains in availability seen in these two countries are due to increasing availability of RDTs rather than microscopy.

Table 2.3.20: Availability of any diagnostic test for malaria at baseline (2010) and endline (2011)

Percentage of outlets where any test for malaria (RDTs or microscopy) was available (n) as a percentage of outlets with any antimalarials in stock at the time of the survey visit (N), by location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana - Total	10.7 (7.2-15.5)	600	10.8 (8.8-13.2)	543	10.8 (9.0-12.9)	1,143	6.6 (4.8-9.1)	564	12.1 (8.4-17.0)	379	8.7 (6.8-11.1)	943
Public health facility	48.1 (33-63.7)	68	75.6 (65.1-83.7)	135	71.8 (62.6-79.4)	203	42.5 (32.4-53.1)	93	40.3 (28.4-53.4)	203	40.9 (31.9-50.6)	296
Private not-for-profit health facility	49.2 (17-82)	5	61.2 (35.5-81.9)	9	59.1 (37.0-78.0)	14	20.0 (3.7-62)	4	12.7 (2.0-50.3)	8	15.7 (4.7-41.5)	12
Private for-profit outlet												
Health facility/pharmacy	14.4 (8.4-23.4)	314	37.6 (24.9-52.4)	62	23.3 (17.2-30.8)	376	13.6 (8.7-20.6)	265	35.2 (18.1-57.3)	26	16.5 (11.4-23.3)	291
Drug store	1.7 (0.6-5)	211	0.0	331	0.2 (0.1-0.7)	542	0.6 (0.1-2.6)	199	1.3 (0.4-4.3)	139	0.9 (0.3-2.2)	338
General retailer/itinerant	0.0	2	0.0	3	0.0	5	0.0	3	0.0	3	0.0	6
Total	7.6 (4.4-12.9)	527	2.7 (1.7-4.2)	396	3.7 (2.6-5.2)	923	4.1 (2.2-7.2)	467	3.9 (2.1-7.1)	168	4.0 (2.6-6.2)	635
Community health worker	-	0	100.0	3	100.0	3	-	0	-	0	-	0
Kenya - Total	23.8 (20.3-27.8)	1,026	15.6 (12.8-18.9)	869	17.6 (15.2-20.2)	1,895	27.5 (23.2-32.2)	1,042	18.8 (15.5-22.6)	799	21.2 (18.5-24.3)	1,841
Public health facility	38.2 (29.1-48.3)	135	47.0 (38.7-55.4)	258	45.0 (38.2-52.0)	393	69.9 (58.9-79)	137	54.8 (45.8-63.5)	294	56.0 (47.6-64.0)	431
Private not-for-profit health facility	83.3 (61.7-93.9)	23	92.8 (72.6-98.4)	15	90.1 (76.3-96.2)	38	91.5 (64.3-98.5)	19	79.3 (61.4-90.2)	27	81.7 (66.5-91.0)	46
Private for-profit outlet												
Health facility/pharmacy	49.4 (37.1-61.8)	358	42.5 (26.8-60.0)	103	45.6 (34.9-56.8)	461	58.3 (50.4-65.7)	406	32.9 (22.9-44.7)	112	42.6 (35.1-50.4)	518
Drug store	10.3 (6.1-16.8)	267	11.3 (8.2-15.4)	156	11.1 (8.4-14.6)	423	13.8 (10.1-18.5)	326	5.8 (2.6-12.2)	145	9.0 (6.0-13.3)	471
General retailer/itinerant	0.0	239	0.0	316	0.0	555	0.0	154	0.0	221	0.0	375
Total	20.2 (16-25.1)	864	10.2 (7.9-13.1)	575	12.7 (10.6-15.1)	1,439	24.3 (20.2-28.9)	886	9.2 (5.7-14.3)	478	13.9 (10.9-17.4)	1,364
Community health worker	0.0	4	0.0	21	0.0	25	-	0	-	0	-	0
Madagascar - Total	10.3 (6.4-16.2)	1,437	9.1 (6.1-13.4)	962	9.4 (6.7-12.9)	2,399	15.0 (12.6-17.8)	979	19.3 (14.5-25.1)	1,387	18.7 (14.6-23.6)	2,366
Public health facility	75.1 (65.4-82.9)	67	94.1 (88.6-97)	444	88.8 (82.8-92.8)	511	98.5 (93.8-99.6)	65	93.9 (91.4-95.8)	553	94.4 (92.1-96.1)	618
Private not-for-profit health facility	31.9 (10.9-64.3)	6	-	0	31.9 (10.9-64.3)	6	91.6 (67.4-98.3)	25	60.8 (18.9-91.2)	5	72.7 (41.7-90.9)	30
Private for-profit outlet												
Health facility/pharmacy	16.3 (7.9-30.8)	122	0.0	9	9.2 (4.9-16.6)	131	16.6 (12.2-22.1)	105	0.0	12	9.1 (4.9-16.1)	117
Drug store	0.8 (0.1-5.0)	28	0.0	227	0.3 (0.1-1.5)	255	0.0	28	1.7 (0.7-3.9)	347	1.5 (0.6-3.5)	375
General retailer/itinerant	0.0	1,212	0.0	244	0.0	1,456	0.0	741	0.0	404	0.0	1,145
Total	2.0 (1.3-2.9)	1,362	0.0	480	0.4 (0.3-0.7)	1,842	2.5 (1.5-4.1)	874	0.1 (0.1-0.3)	763	0.5 (0.3-0.9)	1,637
Community health worker	0.0	2	16.0 (3.2-52.3)	38	15.9 (3.2-52.2)	40	88.5 (72.9-95.6)	15	64.6 (45-80.3)	66	65.2 (45.8-80.6)	81
Niger - Total	4.5 (2.9-6.9)	833	5.4 (4.0-7.1)	1,198	5.2 (4.1-6.6)	2,031	5.6 (4.7-6.6)	923	7.3 (5.8-9.1)	737	6.8 (5.7-8.2)	1,660
Public health facility	70.5 (57.4-80.9)	91	59.1 (52.2-65.5)	385	60.2 (53.9-66.1)	476	67.0 (62.5-71.2)	102	65.2 (57.1-72.5)	220	65.5 (58.5-71.8)	322
Private not-for-profit health facility	68.0 (15.2-96.2)	4	-	0	68.0 (15.2-96.2)	4	49.2 (11.3-88.1)	2	100.0	1	83.3 (41.4-97.2)	3
Private for-profit outlet												
Health facility/pharmacy	31.1 (14.4-54.7)	106	0.0	12	26.5 (11.9-49.1)	118	43.2 (34.1-52.7)	95	0.0	4	40.7 (31.7-50.4)	99
Drug store	0.0	14	0.0	7	0.0	21	4.4 (1.1-15.8)	15	0.0	3	1.9 (0.4-8.0)	18
General retailer/itinerant	0.0	617	0.0	792	0.0	1,409	0.0	709	0.0	509	0.0	1,218
Total	1.5 (0.6-3.7)	737	0.0	811	0.3 (0.1-0.7)	1,548	2.4 (1.8-3.1)	819	0.0	516	0.7 (0.5-1.0)	1,335
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0
Nigeria - Total	1.5 (0.8-3.0)	1,693	8.9 (4.3-17.3)	354	3.1 (1.7-5.7)	2,047	6.2 (3.3-11.1)	1,010	5.9 (3.4-10.1)	467	6.1 (4.0-9.2)	1,477
Public health facility	33.2 (21.6-47.3)	181	28.3 (9.1-60.9)	45	28.6 (10-59.1)	226	58.5 (35.8-78.1)	42	15.4 (7.8-28.1)	51	29.2 (17.9-43.7)	93
Private not-for-profit health facility	92.7 (61.1-99.0)	6	85.5 (29-98.8)	2	86.1 (33.9-98.7)	8	79.7 (39.3-96.0)	6	100.0	3	87.3 (51.3-97.8)	9
Private for-profit outlet												
Health facility/pharmacy	27.8 (22.6-33.8)	713	28.5 (21.4-36.8)	24	28.3 (22.8-34.6)	737	32.8 (22.5-45.0)	94	31.5 (11.9-61.0)	31	32.3 (21.4-45.5)	125
Drug store	1.3 (0.5-3.0)	704	0.0	261	1.1 (0.4-2.6)	965	0.7 (0.2-2.1)	794	1.1 (0.2-6.5)	359	0.8 (0.3-2.4)	1,153
General retailer/itinerant	0.0	83	0.0	16	0.0	99	0.0	71	0.0	19	0.0	90
Total	1.4 (0.7-2.9)	1,500	4.6 (1.7-11.7)	301	2.0 (1.0-3.9)	1,801	3.7 (1.9-7.0)	959	3.9 (1.5-9.9)	409	3.7 (2.1-6.5)	1,368
Community health worker	0.0	6	0.0	6	0.0	12	0.0	3	0.0	4	0.0	7
Tanzania - mainland - Total	9.6 (6.7-13.7)	315	12.7 (8.9-17.8)	302	12.0 (8.9-16)	617	11.9 (8.8-15.9)	583	16.0 (10-24.6)	191	14.5 (10.4-19.9)	774
Public health facility	42.2 (6.8-87.9)	5	36.5 (22.7-52.9)	55	36.9 (23.5-52.7)	60	91.9 (55.4-99)	6	45.9 (27.6-65.4)	48	47.7 (29.7-66.3)	54
Private not-for-profit health facility	55.6 (27.3-80.7)	6	80.7 (51.1-94.4)	16	76.0 (53.1-89.9)	22	100.0	4	47.8 (4.9-94.2)	2	75.6 (25.6-96.5)	6
Private for-profit outlet												
Health facility/pharmacy	24.9 (10.4-48.6)	219	37.2 (5.6-85.6)	12	27.2 (12.5-49.4)	231	49.3 (35.9-62.9)	313	19.6 (2.2-72.3)	16	41.5 (26.1-58.7)	329
Drug store	0.8 (0.1-4.5)	84	0.0	148	0.3 (0-1.7)	232	2.0 (1.2-3.3)	256	2.4 (0.7-7.8)	113	2.2 (1-4.7)	369
General retailer/itinerant	0.0	1	0.0	70	0.0	71	0.0	4	6.8 (0.5-49.5)	12	6.3 (0.5-45.5)	16
Total	5.2 (2.1-12.1)	304	0.5 (0.1-3.8)	230	1.7 (0.7-4.0)	534	8.7 (6.5-11.6)	573	3.5 (1.5-8.2)	141	5.8 (3.9-8.6)	714
Community health worker	-	0	0.0	1	0.0	1	-	0	-	0	-	0

Table 2.3.20: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda - Total	31.4 (22.9-41.3)	540	15.0 (11.1-20.0)	1,873	18.4 (13.7-24.3)	2,413	38.0 (31.8-44.6)	1,400	30.2 (23-38.4)	1,715	31.8 (25.7-38.5)	3,115
Public health facility	50.7 (38.1-63.3)	76	33.1 (26.8-40.1)	693	34.9 (28.9-41.3)	769	76.2 (64.9-84.7)	144	74.7 (68.1-80.3)	532	74.9 (69.1-79.9)	676
Private not-for-profit health facility	100.0	4	47.0 (16.4-80.0)	26	55.0 (21.5-84.5)	30	92.2 (59.8-99)	12	96.0 (75.3-99.5)	26	95.6 (79.4-99.2)	38
Private for-profit outlet												
Health facility/pharmacy	44.2 (40.7-47.7)	385	47.8 (39.9-55.8)	355	46.0 (41.6-50.5)	740	54.2 (49.3-59)	805	54,0 (46,0-61.8)	386	54.1 (49.1-58.9)	1,191
Drug store	9.3 (3.3-23.8)	72	3.6 (2.2-5.8)	751	4.3 (2.6-7.2)	823	10.1 (7.8-12.9)	433	6.6 (4.3-10,0)	675	7.1 (5.0-10.0)	1,108
General retailer/itinerant	0.0	2	0.0	19	0.0	21	0.0	4	0.0	14	0.0	18
Total	29.1 (19.5-41)	459	11.4 (7.2-17.5)	1,125	15.5 (10.2-22.8)	1,584	34.9 (27.4-43.3)	1,242	16.8 (11.8-23.3)	1,075	21.1 (15.9-27.3)	2,317
Community health worker	0.0	1	14.3 (0.8-77.5)	29	14.0 (0.8-76.4)	30	0.0	2	71.1 (39.7-90.2)	82	70.8 (39.5-90.0)	84
Zanzibar - Total	56.1	189	71.8	124	62.3	313	46.8	222	72.5	120	55.8	342
Public health facility	94.6	56	92.8	83	93.5	139	97.9	48	97.4	76	97.6	124
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3	100.0	1	100.0	1	100.0	2
Private for-profit outlet												
Health facility/pharmacy	69.9	73	90.9	11	72.6	84	63.4	82	75.0	16	65.3	98
Drug store	0.0	57	4.0	25	1.2	82	3.4	88	0.0	24	2.7	112
General retailer/itinerant	0.0	1	0.0	4	0.0	5	33.3	3	0.0	3	16.7	6
Total	38.9	131	27.5	40	36.3	171	32.4	173	27.9	43	31.5	216
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Malaria testing is considered to be available if the respondent reported that the service was available in the outlet on the day of the survey visit. Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.21: Availability of malaria microscopy at baseline (2010) and endline (2011)

Percentage of outlets where malaria microscopic tests were available (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N
Ghana - Total	6.7 (3.5-12.3)	600	4.7 (3.4-6.3)	542	5.1 (3.8-6.7)	1,142	4.7 (3.1-7.1)	564	6.7 (3.6-11.9)	378	5.5 (3.8-7.8)	942
Public health facility	18.1 (12.0-26.2)	68	22.5 (15.5-31.6)	134	21.9 (15.7-29.6)	202	25.9 (15.2-40.5)	93	24.1 (13.4-39.5)	203	24.6 (16-35.9)	296
Private not-for-profit health facility	34.4 (8.7-74.3)	5	61.2 (35.5-81.9)	9	56.5 (34.9-75.9)	14	0.0	4	12.7 (2.0-50.3)	8	7.4 (1.2-33.8)	12
Private for-profit outlet												
Health facility/pharmacy	11.7 (5.8-22.1)	314	23.8 (13.3-39)	62	16.3 (10.6-24.3)	376	11.3 (6.9-18)	265	9.3 (1.6-39.1)	25	11.1 (6.9-17.4)	290
Drug store	0.0	211	0.0	331	0.0	542	0.6 (0.1-2.6)	199	0.7 (0.1-3.8)	139	0.6 (0.2-1.9)	338
General retailer/itinerant	0.0	2	0.0	3	0.0	5	0.0	3	0.0	3	0.0	6
Total	5.4 (2.4-11.6)	527	1.7 (0.9-3.2)	396	2.4 (1.5-4.1)	923	3.4 (1.9-6.2)	467	1.3 (0.4-4.2)	167	2.7 (1.6-4.7)	634
Community health worker	-	0	0.0	3	0.0	3	-	0	-	0	-	0
Kenya - Total	21.2 (17.5-25.3)	1,026	13.7 (11.4-16.4)	871	15.5 (13.5-17.6)	1,897	24.7 (20.7-29.3)	1,042	15.1 (12.4-18.3)	799	17.8 (15.4-20.6)	1,841
Public health facility	31.5 (23.5-40.7)	135	42.3 (33.6-51.4)	258	39.8 (32.6-47.5)	393	58.4 (46.3-69.5)	137	40.7 (32.3-49.7)	294	42.0 (34.1-50.4)	431
Private not-for-profit health facility	83.3 (61.7-93.9)	23	92.8 (72.6-98.4)	15	90.1 (76.3-96.2)	38	80.0 (53-93.4)	19	79.3 (61.4-90.2)	27	79.4 (64.6-89.1)	46
Private for-profit outlet												
Health facility/pharmacy	45.3 (32.5-58.8)	358	34.7 (21.8-50.3)	103	39.5 (29.9-49.9)	461	55.3 (48.2-62.1)	406	25.4 (17-36.2)	112	36.8 (29.2-45.2)	518
Drug store	7.5 (4.1-13.4)	267	9.9 (6.4-15.1)	156	9.4 (6.3-13.8)	423	11.0 (8.6-14.0)	326	4.7 (2.0-10.6)	145	7.2 (4.8-10.8)	471
General retailer/itinerant	0.0	239	0.0	318	0.0	557	0.0	154	0.0	221	0.0	375
Total	17.9 (13.6-23.1)	864	8.5 (6.5-11.1)	577	10.8 (9.0-13.0)	1,441	22.1 (18.3-26.4)	886	7.2 (4.6-11)	478	11.8 (9.4-14.7)	1,364
Community health worker	0.0	4	0.0	21	0.0	25	-	0	-	0	-	0
Madagascar - Total	1.5 (0.9-2.4)	1,437	0.1 (0.1-0.3)	962	0.4 (0.3-0.7)	2,399	3.5 (2.7-4.5)	979	1.1 (0.3-3.9)	1,387	1.4 (0.6-3.3)	2,366
Public health facility	8.4 (3.2-20.1)	67	1.9 (0.8-4.1)	444	3.7 (2.1-6.4)	511	22.1 (15.3-30.8)	65	3.1 (1.9-4.8)	553	5.2 (3.9-6.8)	618
Private not-for-profit health facility	4.7 (0.9-21.5)	6	-	0	4.7 (0.9-21.5)	6	36.2 (23.3-51.5)	25	0.0	5	14.0 (6.5-27.5)	30
Private for-profit outlet												
Health facility/pharmacy	5.1 (2.3-11.2)	122	0.0	9	2.9 (1.4-6.0)	131	4.3 (2.3-8)	105	0.0	12	2.4 (1.2-4.8)	117
Drug store	0.0	28	0.0	227	0.0	255	0.0	28	0.0	347	0.0	375
General retailer/itinerant	0.0	1,212	0.0	244	0.0	1,456	0.0	741	0.0	404	0.0	1,145
Total	0.6 (0.4-0.9)	1,362	0.0	480	0.1 (0.1-0.3)	1,842	0.6 (0.3-1.2)	874	0.0	763	0.1 (0-0.2)	1,637
Community health worker	0.0	2	0.0	38	0.0	40	0.0	15	5.7 (1.2-22.5)	66	5.6 (1.2-22.2)	81
Niger - Total	3.2 (1.8-5.4)	833	0.2 (0.1-0.5)	1,198	0.8 (0.5-1.3)	2,031	3.2 (2.6-3.9)	923	0.4 (0.1-1)	737	1.1 (0.8-1.5)	1,660
Public health facility	40.5 (33-48.5)	91	2.7 (1.5-5.1)	385	6.5 (4.6-9)	476	33.6 (26.9-41.1)	102	1.4 (0.4-5)	220	6 (4.1-8.7)	322
Private not-for-profit health facility	68.0 (15.2-96.2)	4	-	0	68.0 (15.2-96.2)	4	0.0	2	100.0	1	67.1 (23.4-93.1)	3
Private for-profit outlet												
Health facility/pharmacy	27.8 (11.6-53.0)	106	0.0	12	23.8 (9.7-47.5)	118	31.1 (21.7-42.2)	95	0.0	4	29.3 (20.2-40.4)	99
Drug store	0.0	14	0.0	7	0.0	21	0.0	15	0.0	3	0.0	18
General retailer/itinerant	0.0	617	0.0	792	0.0	1,409	0.0	709	0.0	509	0.0	1,218
Total	1.3 (0.5-3.6)	737	0.0	811	0.3 (0.1-0.7)	1,548	1.7 (1.1-2.5)	819	0.0	516	0.5 (0.3-0.8)	1,335
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0
Nigeria - Total	1.0 (0.5-2.0)	1,702	8.8 (4.3-17.2)	357	2.6 (1.3-5.2)	2,059	4.5 (2.1-9.3)	1,010	4.3 (2.3-8.1)	467	4.5 (2.7-7.4)	1,477
Public health facility	33.2 (21.6-47.3)	181	28.3 (9.1-60.9)	45	28.6 (10.0-59.1)	226	36.4 (17.6-60.5)	42	10.4 (4.7-21.7)	51	18.7 (10.9-30.2)	93
Private not-for-profit health facility	92.7 (61.1-99)	6	85.5 (29.0-98.8)	2	86.1 (33.9-98.7)	8	79.1 (39.5-95.6)	6	100.0	3	86.9 (51.7-97.6)	9
Private for-profit outlet												
Health facility/pharmacy	24.4 (20.0-29.4)	716	28.1 (21.2-36.1)	24	27.2 (22.2-32.9)	740	28.8 (18.7-41.7)	94	28.3 (9.6-59.5)	31	28.6 (17.9-42.4)	125
Drug store	0.7 (0.2-2.2)	710	0.0	264	0.6 (0.2-1.9)	974	0.0 (0.0-0.1)	794	0.0	359	0.0 (0.0-0.1)	1,153
General retailer/itinerant	0.0	83	0.0	16	0.0	99	0.0	71	0.0	19	0.0	90
Total	0.9 (0.4-1.9)	1,509	4.5 (1.6-11.6)	304	1.5 (0.7-3.3)	1,813	2.7 (1.2-5.9)	959	2.7 (0.9-8.0)	409	2.7 (1.4-5.1)	1,368
Community health worker	0.0	6	0.0	6	0.0	12	0.0	3	0.0	4	0.0	7
Tanzania - mainland - Total	8.0 (4.5-13.9)	315	6.9 (4.4-10.6)	302	7.1 (4.9-10.2)	617	11.2 (8-15.4)	583	6.8 (3.7-12.1)	191	8.4 (5.8-11.9)	774
Public health facility	42.2 (6.8-87.9)	5	13.5 (6.8-25.1)	55	15.5 (8.0-27.9)	60	91.9 (55.4-99)	6	17.6 (9-31.6)	48	20.5 (11.5-33.8)	54
Private not-for-profit health facility	55.6 (27.3-80.7)	6	62.5 (32.7-85.1)	16	61.2 (36.4-81.4)	22	100.0	4	47.8 (4.9-94.2)	2	75.6 (25.6-96.5)	6
Private for-profit outlet												
Health facility/pharmacy	18.5 (5.0-49.1)	219	37.2 (5.6-85.6)	12	21.9 (7.7-48.5)	231	48.1 (34.5-62.0)	313	19.6 (2.2-72.3)	16	40.6 (25.3-57.8)	329
Drug store	0.0	84	0.0	148	0.0	232	1.3 (0.6-2.6)	256	1.3 (0.3-5.5)	113	1.3 (0.5-3.1)	369
General retailer/itinerant	0.0	1	0.0	70	0.0	71	0.0	4	0.0	12	0.0	16
Total	3.4 (0.8-12.8)	304	0.5 (0.1-3.8)	230	1.3 (0.4-3.9)	534	8 (5.7-11)	573	1.9 (0.6-5.6)	141	4.6 (3-7)	714
Community health worker	-	0	0.0	1	0.0	1	-	0	-	0	-	0

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Table 2.3.21: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda - Total	25.6 (21.3-30.4)	540	12.4 (9.7-15.8)	1,873	15.2 (11.8-19.3)	2,413	27.8 (22.7-33.6)	1,400	14.0 (10.7-18.1)	1,715	16.8 (13.3-21.0)	3,115
Public health facility	50.7 (38.1-63.3)	76	29.6 (24.4-35.4)	693	31.7 (26.6-37.2)	769	52.3 (42.4-62.1)	144	38.3 (33.4-43.4)	531	40.3 (35.8-44.9)	675
Private not-for-profit health facility	100.0	4	45.2 (15.9-78.3)	26	53.5 (21.1-83.2)	30	92.2 (59.8-99)	12	75.3 (44.7-92)	26	77.1 (49.2-92.2)	38
Private for-profit outlet												
Health facility/pharmacy	35.3 (31.6-39.1)	385	43.1 (35-51.6)	355	39.3 (33.9-45)	740	42.5 (36.9-48.3)	805	41.7 (36.5-47.1)	386	42.0 (38.2-46)	1,191
Drug store	6.4 (2-18.8)	72	2.2 (1.2-4)	751	2.7 (1.5-5.1)	823	3.4 (1.7-6.7)	433	2.3 (1.2-4.7)	676	2.5 (1.4-4.4)	1,109
General retailer/itinerant	0.0	2	0.0	19	0.0	21	0.0	4	0.0	14	0.0	18
Total	22.8 (17.5-29.2)	459	9.5 (6.3-13.9)	1,125	12.5 (8.7-17.7)	1,584	25.4 (19.6-32.3)	1,242	10.9 (7.5-15.6)	1,076	14.3 (10.6-19.1)	2,318
Community health worker	0.0	1	2.0 (0.1-22.8)	29	2.0 (0.1-21.9)	30	0.0	2	2.0 (0.4-8.6)	82	2.0 (0.4-8.6)	84
Zanzibar - Total	40.7	189	24.2	124	34.2	313	34.2	222	32.5	120	33.6	342
Public health facility	44.6	56	21.7	83	30.9	139	50	48	34.2	76	40.3	124
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3	100.0	1	100.0	1	100.0	2
Private for-profit outlet												
Health facility/pharmacy	68.5	73	90.9	11	71.4	84	59.8	82	75	16	62.2	98
Drug store	0.0	57	4.0	25	1.2	82	1.1	88	0	24	0.9	112
General retailer/itinerant	0.0	1	0.0	4	0.0	5	33.3	3	0	3	16.7	6
Total	38.2	131	27.5	40	35.7	171	29.5	173	27.9	43	29.2	216
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Malaria microscopic testing is considered to be available if the respondent reported that the service was available in the outlet on the day of the survey visit. Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.22: Availability of RDTs at baseline (2010) and endline (2011)

Percentage of outlets where rapid diagnostic tests for malaria were available (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana - Total	5.0 (3.4-7.3)	601	7.5 (5.7-9.8)	543	7.0 (5.5-8.9)	1,144	3.0 (2.0-4.5)	575	8.8 (5.9-13.0)	382	5.3 (3.9-7.1)	957
Public health facility	36.1 (21.9-53.4)	68	62.4 (53.2-70.8)	135	58.7 (50.5-66.6)	203	32.3 (20.5-46.9)	94	32.2 (21.2-45.7)	204	32.3 (23.5-42.5)	298
Private not-for-profit health facility	14.8 (3.1-48.4)	5	13.8 (2.5-50.3)	9	13.9 (3.4-43.1)	14	20.0 (3.7-62.0)	4	0.0	9	7.9 (1.6-31.0)	13
Private for-profit outlet												
Health facility/pharmacy	4.2 (2.4-7.3)	315	17.9 (8.7-33.5)	62	9.5 (5.5-15.8)	377	3.1 (2.0-4.8)	272	26.7 (11.7-50)	26	6.2 (3.6-10.4)	298
Drug store	1.7 (0.6-5.0)	211	0.0	331	0.2 (0.1-0.7)	542	0.0	202	0.6 (0.1-3.5)	140	0.2 (0.0-1.4)	342
General retailer/itinerant	0.0	2	0.0	3	0.0	5	0.0	3	0.0	3	0.0	6
Total	2.9 (1.8-4.7)	528	1.3 (0.7-2.5)	396	1.6 (1.0-2.6)	924	0.8 (0.5-1.5)	477	2.6 (1.2-5.7)	169	1.4 (0.9-2.4)	646
Community health worker	-	0	100.0	3	100.0	3	-	0	-	0	-	0
Kenya - Total	4.9 (3.1-7.8)	1,027	2.4 (1.2-4.8)	870	3.0 (1.9-4.8)	1,897	6.1 (4.4-8.4)	1,047	4.7 (2.7-8.1)	801	5.1 (3.4-7.4)	1,848
Public health facility	9.0 (3.6-20.4)	135	5.6 (2.1-13.8)	258	6.3 (3.1-12.6)	393	17.6 (8.8-32.1)	137	19.8 (9.3-37.3)	294	19.6 (9.7-35.7)	431
Private not-for-profit health facility	17.8 (6.2-41.3)	23	18.1 (4.8-48.9)	15	18.0 (6.8-39.9)	38	32.1 (15.6-54.8)	19	3.9 (0.6-20.4)	27	9.4 (4.3-19.6)	46
Private for-profit outlet												
Health facility/pharmacy	7.6 (4.5-12.7)	358	8.6 (2.0-30.3)	103	8.1 (3.4-18.1)	461	7.7 (3.6-15.8)	407	7.4 (3.4-15.4)	112	7.5 (4.3-12.8)	519
Drug store	4.4 (2.0-9.5)	268	1.4 (0.2-10.5)	156	2.1 (0.6-6.9)	424	5.7 (2.6-12.2)	329	1.1 (0.1-7.8)	145	2.9 (1.3-6.7)	474
General retailer/itinerant	0.0	239	0.0	317	0.0	556	0.0	155	0.0	223	0.0	378
Total	4.0 (2.3-6.8)	865	1.7 (0.5-5.3)	576	2.3 (1.1-4.6)	1,441	5.0 (3.0-8.2)	891	2 (0.8-4.7)	480	2.9 (1.8-4.8)	1,371
Community health worker	0.0	4	0.0	21	0.0	25	-	0	-	0	--	
Madagascar - Total	10.0 (6.1-16.0)	1,437	9.1 (6.1-13.4)	962	9.3.0 (6.6-12.8)	2,399	14.5 (12.2-17.3)	979	19.2 (14.5-25.1)	1387	18.6 (14.5-23.5)	2,366
Public health facility	74.2 (64.7-81.9)	67	93.3 (87.4-96.6)	444	88.0 (82.0-92.2)	511	96.1 (90.1-98.5)	65	93.7 (91.2-95.5)	553	94.0 (91.7-95.7)	618
Private not-for-profit health facility	31.9 (10.9-64.3)	6	-	0	31.9 (10.9-64.3)	6	85.4 (67.6-94.3)	25	60.8 (18.9-91.2)	5	70.3 (40.1-89.4)	30
Private for-profit outlet												
Health facility/pharmacy	14.0 (6.5-27.6)	122	0.0	9	7.9 (4.1-14.9)	131	15.7 (11.5-21.1)	105	0.0	12	8.6 (4.7-15.3)	117
Drug store	0.8 (0.1-5.0)	28	0.0	227	0.3 (0.1-1.5)	255	0.0	28	1.7 (0.7-3.9)	347	1.5 (0.6-3.5)	375
General retailer/itinerant	0.0	1,212	0.0	244	0.0	1,456	0.0	741	0.0	404	0.0	1145
Total	1.7 (1.0-2.8)	1,362	0.0	480	0.4 (0.0.2-0.7)	1,842	2.3 (1.4-3.9)	874	0.1 (0.1-0.3)	763	0.5 (0.3-0.9)	1637
Community health worker	0.0	2	16.0 (3.2-52.3)	38	15.9 (3.2-52.2)	40	88.5 (72.9-95.6)	15	64.6 (45.0-80.3)	66	65.2 (45.8-80.6)	81
Niger - Total	2.7 (1.6-4.4)	833	5.3 (4-7.1)	1,198	4.8 (3.7-6.2)	2,031	4.3 (3.3-5.5)	923	7 (5.5-8.9)	737	6.3 (5.2-7.6)	1,660
Public health facility	53.7 (36.3-70.2)	91	58.8 (51.9-65.4)	385	58.3 (51.8-64.5)	476	58.9 (51.7-65.8)	102	64.8 (56.7-72.2)	220	64.0 (57.0-70.5)	322
Private not-for-profit health facility	0.0	4	-	0	0.0	4	49.2 (11.3-88.1)	2	0.0	1	16.2 (2.7-57.6)	3
Private for-profit outlet												
Health facility/pharmacy	12.4 (4.6-29.5)	106	0.0	12	10.6 (3.8-26.3)	118	25.7 (17.2-36.6)	95	0.0	4	24.3 (16.2-34.8)	99
Drug store	0.0	14	0.0	7	0.0	21	4.4 (1.1-15.8)	15	0.0	3	1.9 (0.4-8)	18
General retailer/itinerant	0.0	617	0.0	792	0.0	1,409	0.0	709	0.0	509	0.0	1218
Total	0.6 (0.2-1.9)	737	0.0	811	0.1 (0.0-0.4)	1,548	1.4 (1.0-2.1)	819	0.0	516	0.4 (0.3-0.6)	1335
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0
Nigeria - Total	0.6 (0.2-2)	1,692	2.6 (0.8-8.2)	355	1.1 (0.5-2.5)	2,047	2.7 (1.7-4.4)	1,011	2.2 (0.7-6.8)	467	2.5 (1.5-4.2)	1,478
Public health facility	10.2 (4.0-23.6)	179	9.1 (1.7-37.1)	45	9.1 (1.9-34.6)	224	34.7 (12.7-66.1)	42	7.6 (3.0-18.0)	51	16.3 (7.1-33.0)	93
Private not-for-profit health facility	15.3 (2.2-59.5)	6	0.0	2	1.3 (0.1-12.9)	8	27.1 (3.5-79.4)	6	0.0	3	16.9 (2.4-62.3)	9
Private for-profit outlet												
Health facility/pharmacy	10.2 (6.9-14.9)	712	8.3 (1.3-38.4)	24	8.8 (2.2-28.9)	736	8.9 (3.4-21.2)	94	7.2 (1.3-31.0)	31	8.3 (3.6-17.9)	125
Drug store	0.6 (0.1-2.4)	706	0.0	262	0.5 (0.1-2.0)	968	0.7 (0.2-2.1)	795	1.1 (0.2-6.5)	359	0.8 (0.3-2.4)	1,154
General retailer/itinerant	0.0	83	0.0	16	0.0	99	0.0	71	0.0	19	0.0	90
Total	0.6 (0.2-2.1)	1,501	1.3 (0.4-4.4)	302	0.7 (0.3-1.8)	1,803	1.4 (0.7-3.0)	960	1.6 (0.3-8.9)	409	1.5 (0.6-3.5)	1,369
Community health worker	0.0	6	0.0	6	0.0	12	-	3	0.0	4	0.0	7
Tanzania - mainland - Total	1.6 (0.5-5.0)	315	6.8 (3.6-12.4)	302	5.6 (3.1-10.2)	617	1.7 (0.8-3.4)	583	13.0 (7.5-21.7)	191	8.9 (5.4-14.4)	774
Public health facility	0.0	5	25.0 (12.6-43.6)	55	23.3 (11.7-41.0)	60	20.2 (2.7-70.1)	6	40.3 (23.2-60.1)	48	39.6 (23.1-58.8)	54
Private not-for-profit health facility	0.0	6	27.2 (9.6-56.8)	16	22.1 (7.5-49.7)	22	0.0	4	47.8 (4.9-94.2)	2	22.4 (3.1-72.3)	6
Private for-profit outlet												
Health facility/pharmacy	6.4 (1.7-21.9)	219	0.0	12	5.2 (1.4-18.2)	231	5.4 (2.1-12.8)	313	0.0	16	4.0 (1.4-10.4)	329
Drug store	0.8 (0.1-4.5)	84	0.0	148	0.3 (0.0-1.7)	232	0.7 (0.2-2.0)	256	1.0 (0.1-7.7)	113	0.9 (0.2-3.6)	369
General retailer/itinerant	0.0	1	0.0	70	0.0	71	0.0	4	6.8 (0.5-49.5)	12	6.3 (0.5-45.5)	16
Total	1.8 (0.6-5.4)	304	0.0	230	0.5 (0.1-1.5)	534	1.3 (0.6-2.9)	573	1.6 (0.4-6.7)	141	1.5 (0.6-3.8)	714
Community health worker	-	0	0.0	1	0.0	1	-	0	-	0	-	0

Table 2.3.22: *Cont*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda - Total	9.5 (4.7-17.9)	540	3.5 (1.6-7.3)	1,873	4.7 (2.6-8.4)	2,413	16.9 (14.5-19.6)	1,402	20.5 (13-30.8)	1,717	19.7 (13.6-27.8)	3,119
Public health facility	0.6 (0.1-3.9)	76	4.1 (1.3-11.7)	693	3.7 (1.2-10.6)	769	35.6 (24.6-48.5)	144	55.7 (46.6-64.5)	533	52.9 (44.6-60.9)	677
Private not-for-profit health facility	20.8 (3.9-63)	4	6.7 (1.5-25.7)	26	8.8 (2.7-25.4)	30	28.6 (20.1-39.0)	12	54.0 (31.1-75.4)	26	51.3 (30.7-71.5)	38
Private for-profit outlet												
Health facility/pharmacy	14.9 (11.1-19.9)	385	7.7 (4.0-14.4)	355	11.2 (7.5-16.4)	740	22.3 (20.0-24.7)	807	20.7 (13.4-30.5)	387	21.4 (17.0-26.6)	1,194
Drug store	2.9 (1.3-6.5)	72	1.7 (0.7-3.8)	751	1.9 (0.9-3.6)	823	6.9 (5.3-8.9)	433	4.4 (2.7-6.9)	675	4.8 (3.3-6.9)	1,108
General retailer/itinerant	0.0	2	0.0	19	0.0	21	0.0	4	0.0	14	0.0	18
Total	9.7 (5.2-17.6)	459	2.7 (1.2-5.9)	1,125	4.3 (2.3-8)	1,584	15.5 (12.3-19.5)	1,244	7.9 (5.2-11.7)	1,076	9.6 (7.1-12.9)	2,320
Community health worker	0.0	1	14.3 (0.8-77.5)	29	14.0 (0.8-76.4)	30	0.0	2	71.1 (39.7-90.2)	82	70.8 (39.5-90.0)	84
Zanzibar - Total	22.8	189	57.3	124	36.4	313	22.1	222	60	120	35.4	342
Public health facility	66.1	56	85.5	83	77.7	139	72.9	48	92.1	76	84.7	124
Private not-for-profit health facility	0.0	2	0.0	1	0.0	3	0.0	1	0.0	1	0.0	2
Private for-profit outlet												
Health facility/pharmacy	8.2	73	0.0	11	7.1	84	14.6	82	12.5	16	14.3	98
Drug store	0.0	57	0.0	25	0.0	82	2.3	88	0.0	24	1.8	112
General retailer/itinerant	0.0	1	0.0	4	0.0	5	0.0	3	0.0	3	0.0	6
Total	4.6	131	0.0	40	3.5	171	8.1	173	4.7	43	7.4	216
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence Interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.23: Cost to adult patients of malaria microscopy, in 2010 US dollars, at baseline (2010) and endline (2011)

Median cost to ADULT patients for one malaria diagnostic test with microscopy by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products
Ghana - Total	2.05 [2.05-2.74]	19	1.37 [0.80-1.37]	37	1.37 [0.82-2.05]	56	3.13 [0.00-3.75]	37	0.00 [0.00-0.00]	43	0.00 [0.00-3.13]	80
Public health facility	1.37 [1.03-2.05]	10	1.03 [0.68-1.37]	26	1.03 [0.68-1.37]	36	0.00 [0.00-0.31]	24	0.00 [0.00-0.00]	42	0.00 [0.00-0.00]	66
Private not-for-profit health facility	2.74 [2.74-2.74]	1	1.37 [1.03-1.48]	5	1.37 [1.03-1.71]	6	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	2.05 [2.05-2.74]	8	1.37 [1.37-2.05]	6	2.05 [1.37-2.05]	14	3.13 [3.13-3.75]	13	0.00	1	3.13 [1.88-3.75]	14
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	2.05 [2.05-2.74]	8	1.37 [1.37-2.05]	6	2.05 [1.37-2.05]	14	3.13 [3.13-3.75]	13	0.00	1	3.13 [1.88-3.75]	14
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya - Total	0.66 [0.66-1.31]	237	0.66 [0.39-0.66]	188	0.66 [0.53-0.66]	425	0.92 [0.58-1.15]	267	0.58 [0.46-0.58]	193	0.58 [0.46-1.04]	460
Public health facility	0.53 [0.39-0.66]	56	0.53 [0.26-0.66]	127	0.53 [0.26-0.66]	183	0.58 [0.35-0.58]	83	0.46 [0.35-0.58]	137	0.46 [0.35-0.58]	220
Private not-for-profit health facility	0.66 [0.66-1.31]	19	0.39 [0.00-0.66]	14	0.66 [0.00-0.66]	33	0.58 [0.58-0.92]	14	0.58 [0.46-0.58]	22	0.58 [0.46-0.58]	36
Private for-profit outlet												
Health facility/pharmacy	0.66 [0.66-1.31]	144	0.66 [0.53-0.79]	31	0.66 [0.66-1.31]	175	1.15 [0.58-1.15]	147	0.58 [0.58-1.15]	28	0.69 [0.58-1.15]	175
Drug store	1.31 [1.31-1.31]	18	0.66 [0.66-0.66]	16	0.66 [0.66-1.31]	34	1.15 [0.58-1.15]	23	0.58 [0.58-0.58]	6	0.58 [0.58-1.15]	29
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.92 [0.66-1.31]	162	0.66 [0.53-0.79]	47	0.66 [0.66-1.31]	209	1.15 [0.58-1.15]	170	0.58 [0.58-0.92]	34	0.69 [0.58-1.15]	204
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar - Total	0.28 [0.00-0.94]	23	0.00 [0.00-0.00]	4	0.00 [0.00-0.84]	27	0.43 [0.00-1.07]	24	0.00 [0.00-0.00]	14	0.00 [0.00-0.21]	38
Public health facility	0.00 [0.00-0.47]	12	0.00 [0.00-0.00]	4	0.00 [0.00-0.47]	16	0.43 [0.00-1.07]	14	0.00 [0.00-0.13]	13	0.13 [0.00-0.43]	27
Private not-for-profit health facility	4.68 [4.68-4.68]	1	-	0	4.68 [4.68-4.68]	1	0.00 [0.00-0.94]	5	-	0	0.00 [0.00-0.94]	5
Private for-profit outlet												
Health facility/pharmacy	0.94 [0.84-2.81]	10	-	0	0.94 [0.84-2.81]	10	1.50 [0.85-1.50]	5	-	0	1.50 [0.85-1.50]	5
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.94 [0.84-2.81]	10	-	0	0.94 [0.84-2.81]	10	1.50 [0.85-1.50]	5	-	0	1.50 [0.85-1.50]	5
Community health worker	-	0	-	0	-	0	-	0	0.00	1	0.00 [0.00-0.00]	1
Niger - Total	3.08 [1.03-4.11]	47	1.03 [0.82-1.44]	8	2.06 [1.03-4.11]	55	2.97 [1.39-3.96]	40	0.00 [0.00-0.79]	4	1.39 [0.79-2.97]	44
Public health facility	1.23 [1.03-2.06]	34	1.03 [0.82-1.44]	8	1.03 [1.03-1.64]	42	1.39 [0.99-1.39]	29	0.79 [0.00-0.99]	3	0.99 [0.79-1.39]	32
Private not-for-profit health facility	2.06 [2.06-3.08]	3	-	0	2.06 [2.06-3.08]	3	-	0	0.00	1	0.0	1
Private for-profit outlet												
Health facility/pharmacy	4.11 [3.08-5.14]	10	-	0	4.11 [3.08-5.14]	10	3.96 [2.97-4.95]	11	-	0	3.96 [2.97-4.95]	11
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	4.11 [3.08-5.14]	10	-	0	4.11 [3.08-5.14]	10	3.96 [2.97-4.95]	11	-	0	3.96 [2.97-4.95]	11
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria - Total	0.74 [0.74-1.86]	195	1.86 [0.74-2.23]	14	1.86 [0.74-2.23]	209	1.77 [1.18-4.13]	55	1.18 [0.89-2.95]	17	1.77 [1.18-2.95]	72
Public health facility	0.97 [0.74-1.49]	34	1.86 [0.37-2.23]	7	1.86 [0.37-2.23]	41	1.18 [1.18-7.09]	21	0.59 [0.30-1.48]	8	1.18 [0.59-1.77]	29
Private not-for-profit health facility	2.23 [2.23-2.23]	3	0.74 [0.74-0.74]	1	0.74 [0.74-0.74]	4	1.77 [1.18-1.77]	4	1.18 [1.18-1.18]	2	1.18 [1.18-1.77]	6
Private for-profit outlet												
Health facility/pharmacy	2.23 [1.49-3.72]	157	2.23 [1.49-2.23]	6	2.23 [1.49-2.23]	163	1.77 [1.18-4.13]	29	1.77 [0.89-3.54]	7	1.77 [1.18-3.54]	36
Drug store	0.74 [0.74-0.74]	1	-	0	0.74 [0.74-0.74]	1	2.36	1	-	0	2.36	1
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.74 [0.74-2.23]	158	2.23 [1.49-2.23]	6	2.23 [0.74-2.23]	164	1.77 [1.18-4.13]	30	1.77 [0.89-3.54]	7	1.77 [1.18-3.54]	37
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Tanzania - mainland - Total	0.35 [0.35-0.70]	9	0.35 [0.21-0.35]	21	0.35 [0.21-0.35]	30	0.31 [0.31-0.62]	32	0.19 [0.00-0.31]	12	0.31 [0.12-0.31]	44
Public health facility	0.35 [0.35-0.35]	1	0.21 [0.00-0.21]	8	0.21 [0.14-0.35]	9	0.31 [0.31-0.31]	5	0.00 [0.00-0.31]	8	0.12 [0.00-0.31]	13
Private not-for-profit health facility	0.35 [0.35-0.70]	3	0.35 [0.28-0.35]	11	0.35 [0.35-0.35]	14	0.31 [0.31-0.31]	4	0.31 [0.31-0.31]	1	0.31 [0.31-0.31]	5
Private for-profit outlet												
Health facility/pharmacy	0.35 [0.35-0.70]	5	0.35 [0.35-0.35]	2	0.35 [0.35-0.7]	7	0.62 [0.31-0.62]	21	0.31 [0.31-0.31]	1	0.62 [0.31-0.62]	22
Drug store	-	0	-	0	-	0	0.31 [0.31-0.62]	2	0.31 [0.31-0.31]	2	0.31 [0.31-0.31]	4
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.35 [0.35-0.70]	5	0.35 [0.35-0.35]	2	0.35 [0.35-0.70]	7	0.62 [0.31-0.62]	23	0.31 [0.31-0.31]	3	0.31 [0.31-0.62]	26
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.23: *Cont.*												
	BASELINE						**ENDLINE**					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products
Uganda - Total	0.93 [0.70-1.16]	96	0.46 [0.00-0.93]	354	0.70 [0.46-0.93]	450	0.78 [0.78-1.17]	340	0.59 [0.00-0.78]	357	0.78 [0.39-0.98]	697
Public health facility	0.00 [0.00-0.00]	41	0.00 [0.00-0.00]	206	0.00 [0.00-0.00]	247	0.00 [0.00-0.00]	75	0.00 [0.00-0.00]	193	0.00 [0.00-0.00]	268
Private not-for-profit health facility	0.46 [0.23-0.93]	4	0.46 [0.46-0.70]	14	0.46 [0.23-0.70]	18	0.78 [0.2-1.17]	11	0.39 [0.2-0.78]	20	0.39 [0.2-0.78]	31
Private for-profit outlet												
Health facility/pharmacy	0.93 [0.93-1.39]	47	0.93 [0.46-0.93]	122	0.93 [0.70-0.93]	169	0.78 [0.78-1.17]	241	0.78 [0.59-1.17]	133	0.78 [0.78-1.17]	374
Drug store	0.70 [0.46-0.93]	4	0.70 [0.46-0.93]	12	0.70 [0.46-0.93]	16	0.78 [0.39-1.17]	13	0.59 [0.39-0.98]	11	0.59 [0.39-0.98]	24
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.93 [0.93-1.39]	51	0.93 [0.46-0.93]	134	0.93 [0.70-0.93]	185	0.78 [0.78-1.17]	254	0.78 [0.59-0.98]	144	0.78 [0.78-1.17]	398
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Zanzibar - Total	0.35 [0.35-0.49]	77	0.00 [0.00-0.35]	30	0.35 [0.00-0.35]	107	0.29 [0.29-0.58]	76	0.00 [0.00-0.29]	39	0.29 [0.00-0.58]	115
Public health facility	0.00 [0.00-0.35]	25	0.00 [0.00-0.00]	18	0.00 [0.00-0.14]	43	0.00 [0.00-0.29]	24	0.00 [0.00-0.00]	26	0.00 [0.00-0.00]	50
Private not-for-profit health facility	0.18 [0.00-0.35]	2	0.35 [0.35-0.35]	1	0.35 [0.00-0.35]	3	1.17 [1.17-1.17]	1	0.29 [0.29-0.29]	1	0.73 [0.29-1.17]	2
Private for-profit outlet												
Health facility/pharmacy	0.35 [0.35-0.70]	50	0.35 [0.21-0.35]	10	0.35 [0.35-0.53]	60	0.58 [0.29-0.58]	49	0.29 [0.29-0.58]	12	0.58 [0.29-0.58]	61
Drug store	-	0	0.21 [0.21-0.21]	1	0.21 [0.21-0.21]	1	0.29 [0.29-0.29]	1	-	0	0.29 [0.29-0.29]	1
General retailer/itinerant	-	0	-	0	-	0	0.87 [0.87-0.87]	1	-	0	0.87 [0.87-0.87]	1
Total	0.35 [0.35-0.7]	50	0.35 [0.21-0.35]	11	0.35 [0.35-0.49]	61	0.58 [0.29-0.58]	51	0.29 [0.29-0.58]	12	0.58 [0.29-0.58]	63
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Malaria microscopic testing is considered to be available if the respondent reported that the service was available in the outlet on the day of the survey visit. Nigeria baseline data collection was conducted in 2009.

* For the Madagascar and Nigeria ACTwatch surveys, the questionnaire did not distinguish between the price of diagnosis for adults and children. Therefore, this table presents the general figures reported for these countries.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surve

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Table 2.3.24: Cost to child patients of malaria microscopy, in 2010 US dollars, at baseline (2010) and endline (2011)

Median cost for CHILD patients for one malaria diagnostic test with microscopy by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products
Ghana – Total	2.05 [2.05-2.74]	19	1.37 [0.68-1.37]	36	1.37 [0.68-2.05]	55	3.13 [0.00-3.75]	37	0.00 [0.00-0.00]	43	0.00 [0.00-3.13]	80
Public health facility	1.37 [0.68-2.05]	10	1.03 [0.68-1.37]	25	1.03 [0.68-1.37]	35	0.00 [0.00-0.31]	24	0.00 [0.00-0.00]	42	0.00 [0.00-0.00]	66
Private not-for-profit health facility	2.74 [2.74-2.74]	1	1.37 [1.03-1.48]	5	1.37 [1.03-1.71]	6	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	2.05 [2.05-2.74]	8	1.37 [0-1.37]	6	1.37 [0.00-2.05]	14	3.13 [3.13-3.75]	13	0.00	1	3.13 [1.88-3.75]	14
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	2.05 [2.05-2.74]	8	1.37 [0-1.37]	6	1.37 [0.00-2.05]	14	3.13 [3.13-3.75]	13	0.00	1	3.13 [1.88-3.75]	14
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya – Total	0.66 [0.66-1.31]	237	0.66 [0.26-0.66]	188	0.66 [0.39-0.66]	425	0.58 [0.58-1.15]	266	0.58 [0.23-0.58]	192	0.58 [0.35-0.58]	458
Public health facility	0.00 [0.00-0.39]	56	0.26 [0.00-0.66]	127	0.26 [0.00-0.66]	183	0.23 [0.00-0.58]	83	0.12 [0.00-0.58]	137	0.12 [0.00-0.58]	220
Private not-for-profit health facility	0.66 [0.66-0.66]	19	0.00 [0.00-0.66]	14	0.66 [0.00-0.66]	33	0.58 [0.58-0.92]	14	0.58 [0.35-0.58]	22	0.58 [0.35-0.58]	36
Private for-profit outlet												
Health facility/pharmacy	0.66 [0.66-1.31]	144	0.66 [0.39-0.66]	31	0.66 [0.66-1.31]	175	0.81 [0.58-1.15]	146	0.58 [0.46-0.58]	27	0.58 [0.58-1.15]	173
Drug store	1.31 [0.66-1.31]	18	0.66 [0.66-0.66]	16	0.66 [0.66-1.31]	34	0.92 [0.58-1.15]	23	0.58 [0.58-0.58]	6	0.58 [0.58-1.15]	29
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.79 [0.66-1.31]	162	0.66 [0.53-0.66]	47	0.66 [0.66-1.31]	209	0.92 [0.58-1.15]	169	0.58 [0.58-0.58]	33	0.58 [0.58-1.15]	202
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar – Total							0.43 [0.00-1.07]	24	0.00 [0.00-0.00]	14	0.00 [0.00-0.21]	38
Public health facility	-	-	-	-	-	-	0.43 [0.00-1.07]	14	0.00 [0.00-0.13]	13	0.13 [0.00-0.43]	27
Private not-for-profit health facility	-	-	-	-	-	-	0.00 [0.00-0.94]	5	-	0	0.00 [0.00-0.94]	5
Private for-profit outlet	-	-	-	-	-	-						
Health facility/pharmacy	-	-	-	-	-	-	1.50 [0.85-1.50]	5	-	0	1.50 [0.85-1.50]	5
Drug store	-	-	-	-	-	-	-	0	-	0	-	0
General retailer/itinerant	-	-	-	-	-	-	-	0	-	0	-	0
Total	-	-	-	-	-	-	1.50 [0.85-1.50]	5	-	0	1.50 [0.85-1.50]	5
Community health worker	-	-	-	-	-	-	-	0	0.00	1	0.00 [0.00-0.00]	1
Niger – Total	2.06 [0.00-4.11]	47	0.00 [0.00-0.00]	9	0.00 [0.00-3.08]	56	0.99 [0.00-3.96]	41	0.00 [0.00-0.00]	4	0.00 [0.00-2.97]	45
Public health facility	0.00 [0.00-0.00]	34	0.00 [0.00-0.00]	9	0.00 [0.00-0.00]	43	0.00 [0.00-0.00]	30	0.00 [0.00-0.00]	3	0.00 [0.00-0.00]	33
Private not-for-profit health facility	2.06 [2.06-3.08]	3	-	0	2.06 [2.06-3.08]	3	-	0	0.00 [0.00-0.00]	1	0.00	1
Private for-profit outlet												
Health facility/pharmacy	4.11 [3.08-5.14]	10	-	0	4.11 [3.08-5.14]	10	3.96 [2.97-4.95]	11	-	0	3.96 [2.97-4.95]	11
Drug store	-	0	-	0	-	0	-	0	-	0	-	0
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	4.11 [3.08-5.14]	10	-	0	4.11 [3.08-5.14]	10	3.96 [2.97-4.95]	11	-	0	3.96 [2.97-4.95]	11
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria – Total							1.77 [1.18-4.13]	55	1.18 [0.89-1.48]	17	1.18 [1.18-2.95]	72
Public health facility	-	-	-	-	-	-	1.18 [1.18-7.09]	21	0.00 [0.00-0.30]	8	1.18 [0.00-1.77]	29
Private not-for-profit health facility	-	-	-	-	-	-	1.77 [1.18-1.77]	4	1.18 [1.18-1.18]	2	1.18 [1.18-1.77]	6
Private for-profit outlet	-	-	-	-	-	-						
Health facility/pharmacy	-	-	-	-	-	-	1.77 [1.18-4.13]	29	1.18 [0.89-3.54]	7	1.77 [1.18-3.54]	36
Drug store	-	-	-	-	-	-	2.36	1	-	0	2.36	1
General retailer/itinerant	-	-	-	-	-	-	-	0	-	0	-	0
Total	-	-	-	-	-	-	1.77 [1.18-4.13]	30	1.18 [0.89-3.54]	7	1.77 [1.18-3.54]	37
Community health worker	-	-	-	-	-	-	-	0	-	0	-	0
Tanzania - mainland – Total	0.35 [0.00-0.35]	9	0.35 [0.00-0.35]	21	0.35 [0.00-0.35]	30	0.31 [0.19-0.62]	31	0.00 [0.00-0.31]	12	0.19 [0.00-0.31]	43
Public health facility	0.00	1	0.00 [0.00-0.00]	8	0.00 [0.00-0.00]	9	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	8	0.00 [0.00-0.00]	13
Private not-for-profit health facility	0.35 [0.35-0.70]	3	0.35 [0.28-0.35]	11	0.35 [0.35-0.35]	14	0.31 [0.31-0.31]	4	0.31 [0.31-0.31]	1	0.31 [0.31-0.31]	5
Private for-profit outlet												
Health facility/pharmacy	0.35 [0.35-0.35]	5	0.35 [0.35-0.35]	2	0.35 [0.35-0.35]	7	0.62 [0.31-0.62]	20	0.31 [0.31-0.31]	1	0.31 [0.31-0.62]	21
Drug store	-	0	-	0	-	0	0.31 [0.31-0.62]	2	0.31 [0.31-0.31]	2	0.31 [0.31-0.31]	4
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.35 [0.35-0.35]	5	0.35 [0.35-0.35]	2	0.35 [0.35-0.35]	7	0.62 [0.31-0.62]	22	0.31 [0.31-0.31]	3	0.31 [0.31-0.62]	25
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.24: *Cont.*												
	BASELINE						**ENDLINE**					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products
Uganda – Total	0.93 [0.46-0.93]	96	0.46 [0.00-0.93]	354	0.70 [0.23-0.93]	450	0.78 [0.59-1.17]	340	0.39 [0.00-0.78]	357	0.78 [0.20-0.78]	697
Public health facility	0.00 [0.00-0.00]	41	0.00 [0.00-0.00]	206	0.00 [0.00-0.00]	247	0.00 [0.00-0.00]	75	0.00 [0.00-0.00]	193	0.00 [0.00-0.00]	268
Private not-for-profit health facility	0.46 [0.23-0.93]	4	0.46 [0.46-0.70]	14	0.46 [0.23-0.70]	18	0.78 [0.0-1.17]	11	0.39 [0.20-0.59]	20	0.39 [0.20-0.78]	31
Private for-profit outlet												
Health facility/pharmacy	0.93 [0.70-1.16]	47	0.93 [0.46-0.93]	122	0.93 [0.70-0.93]	169	0.78 [0.78-1.17]	241	0.78 [0.59-0.98]	133	0.78 [0.78-1.17]	374
Drug store	0.70 [0.46-0.93]	4	0.46 [0.46-0.93]	12	0.70 [0.46-0.93]	16	0.78 [0.39-1.17]	13	0.59 [0.39-0.78]	11	0.59 [0.39-0.78]	24
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.93 [0.70-1.16]	51	0.93 [0.46-0.93]	134	0.93 [0.46-0.93]	185	0.78 [0.78-1.17]	254	0.78 [0.39-0.98]	144	0.78 [0.59-1.17]	398
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Zanzibar – Total	0.35 [0.18-0.46]	76	0.00 [0.00-0.35]	30	0.35 [0.00-0.35]	106	0.29 [0.23-0.58]	76	0.00 [0.00-0.29]	39	0.29 [0.00-0.58]	115
Public health facility	0.00 [0.00-0.18]	24	0.00 [0.00-0.00]	18	0.00 [0.00-0.07]	42	0.00 [0.00-0.23]	24	0.00 [0.00-0.00]	26	0.00 [0.00-0.00]	50
Private not-for-profit health facility	0.18 [0.00-0.35]	2	0.35 [0.35-0.35]	1	0.35 [0.00-0.35]	3	1.17 [1.17-1.17]	1	0.29 [0.29-0.29]	1	0.73 [0.29-1.17]	2
Private for-profit outlet												
Health facility/pharmacy	0.35 [0.35-0.56]	50	0.35 [0.21-0.35]	10	0.35 [0.35-0.49]	60	0.58 [0.29-0.58]	49	0.29 [0.09-0.29]	12	0.41 [0.29-0.58]	61
Drug store	-	0	0.21 [0.21-0.21]	1	0.21 [0.21-0.21]	1	0.29 [0.29-0.29]	1	-	0	0.29 [0.29-0.29]	1
General retailer/itinerant	-	0	-	0	-	0	0.87 [0.87-0.87]	1	-	0	0.87 [0.87-0.87]	1
Total	0.35 [0.35-0.56]	50	0.35 [0.21-0.35]	11	0.35 [0.35-0.49]	61	0.58 [0.29-0.58]	51	0.29 [0.09-0.29]	12	0.41 [0.29-0.58]	63
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Malaria microscopic testing is considered to be available if the respondent reported that the service was available in the outlet on the day of the survey visit. Nigeria baseline data collection was conducted in 2009.

* For the Madagascar and Nigeria ACTwatch surveys, the questionnaire did not distinguish between the price of diagnosis for adults and children. Therefore, this table presents the general figures reported for these countries.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.3.25: Cost to adult patients of rapid diagnostic tests for malaria (RDTs), in 2010 US dollars, at baseline (2010) and endline (2011)

Median cost to ADULT patients for one rapid diagnostic test for malaria, by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products
Ghana - Total	0.68 [0.00-2.74]	42	0.00 [0.00-0.34]	89	0.00 [0.00-0.68]	131	0.00 [0.00-1.88]	43	0.00 [0.00-0.00]	67	0.00 [0.00-0.00]	110
Public health facility	0.00 [0.00-0.00]	29	0.00 [0.00-0.00]	80	0.00 [0.00-0.00]	109	0.00 [0.00-0.00]	30	0.00 [0.00-0.00]	62	0.00 [0.00-0.00]	92
Private not-for-profit health facility	-	0	0.00	1	0.00	1	1.88 [1.88-1.88]	1	-	0	1.88 [1.88-1.88]	1
Private for-profit outlet												
Health facility/pharmacy	2.74 [1.71-3.42]	10	0.68 [0-2.05]	5	1.71 [0.68-2.40]	15	1.88 [1.56-2.50]	12	0.00 [0.00-1.25]	4	1.25 [0.00-1.88]	16
Drug store	0.68 [0.68-1.37]	3	-	0	0.68 [0.68-1.37]	3	-	0	2.5 [2.5-2.5]	1	2.50 [2.50-2.50]	1
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	2.74 [1.37-2.74]	13	0.68 [0.00-2.05]	5	1.37 [0.68-2.05]	18	1.88 [1.56-2.50]	12	0.00 [0.00-1.25]	5	1.25 [0.00-2.50]	17
Community health worker	-	0	0.00 [0.00-0.68]	3	0.00 [0.00-0.68]	3	-	0	-	0	-	0
Kenya - Total	1.31 [0.00-1.31]	42	0.00 [0.00-0.66]	24	0.00 [0.00-1.31]	66	1.15 [0.58-1.38]	88	0.35 [0.00-0.58]	50	0.58 [0.00-1.15]	138
Public health facility	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	13	0.00 [0.00-0.00]	18	0.00 [0.00-0.00]	25	0.00 [0.00-0.35]	43	0.00 [0.00-0.35]	68
Private not-for-profit health facility	0.00 [0.00-0.66]	4	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	6	0.58 [0.58-1.15]	6	0.35 [0.35-0.35]	1	0.58 [0.35-0.58]	7
Private for-profit outlet												
Health facility/pharmacy	1.31 [0.92-1.31]	26	0.00 [0.00-0.00]	8	0.53 [0.00-1.31]	34	1.15 [1.15-1.73]	44	1.15 [0.35-1.15]	5	1.15 [0.58-1.15]	49
Drug store	1.31 [1.31-1.97]	7	1.31 [1.31-1.31]	1	1.31 [1.31-1.31]	8	1.15 [1.15-1.73]	13	0.58 [0.58-0.58]	1	1.15 [1.15-1.15]	14
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	1.31 [0.92-1.97]	33	0.00 [0.00-1.31]	9	1.31 [0.00-1.31]	42	1.15 [1.15-1.73]	57	0.58 [0.35-1.15]	6	1.15 [0.58-1.15]	63
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar - Total	0.00 [0.00-0.00]	81	0.00 [0.00-0.00]	430	0.00 [0.00-0.00]	511	0.00 [0.00-0.00]	111	0.00 [0.00-0.00]	584	0.00 [0.00-0.00]	695
Public health facility	0.00 [0.00-0.00]	51	0.00 [0.00-0.00]	424	0.00 [0.00-0.00]	475	0.00 [0.00-0.00]	61	0.00 [0.00-0.00]	530	0.00 [0.00-0.00]	591
Private not-for-profit health facility	0.00 [0.00-0.00]	3	-	0	0.00 [0.00-0.00]	3	0.00 [0.00-0.00]	22	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	24
Private for-profit outlet												
Health facility/pharmacy	0.00 [0.00-0.00]	27	-	0	0.00 [0.00-0.00]	27	0.00 [0.00-3.12]	17	-	0	0.00 [0.00-3.12]	17
Drug store	-	0	-	0	-	0	-	0	0.00 [0.00-0.17]	6	0.00 [0.00-0.17]	6
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	0.00 [0.00-0.00]	27	-	0	0.00 [0.00-0.00]	27	0.00 [0.00-3.12]	17	0.00 [0.00-0.17]	6	0.00 [0.00-0.85]	23
Community health worker	-	0	0.00 [0.00-0.00]	6	0.00 [0.00-0.00]	6	0.00 [0.00-0.00]	11	0.00 [0.00-0.00]	46	0.00 [0.00-0.00]	57
Niger - Total	0.00 [0.00-0.00]	40	0.00 [0.00-0.00]	238	0.00 [0.00-0.00]	278	0.00 [0.00-0.00]	79	0.00 [0.00-0.00]	160	0.00 [0.00-0.00]	239
Public health facility	0.00 [0.00-0.00]	37	0.00 [0.00-0.00]	238	0.00 [0.00-0.00]	275	0.00 [0.00-0.00]	65	0.00 [0.00-0.00]	160	0.00 [0.00-0.00]	225
Private not-for-profit health facility	-	0	-	0	-	0	0.00 [0.00-0.00]	2	-	0	0.00 [0.00-0.00]	2
Private for-profit outlet												
Health facility/pharmacy	3.08 [0.00-4.11]	3	-	0	3.08 [0.00-4.11]	3	1.98 [0.00-1.98]	11	-	0	1.98 [0.00-1.98]	11
Drug store	-	0	-	0	-	0	0.99 [0.99-0.99]	1	-	0	0.99 [0.99-0.99]	1
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	3.08 [0.00-4.11]	3	-	0	3.08 [0.00-4.11]	3	1.98 [0-1.98]	12	-	0	1.98 [0.00-1.98]	12
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria - Total	1.49 [1.12-3.72]	510	2.23 [2.23-2.23]	17	2.23 [1.86-2.23]	527	1.18 [1.18-1.77]	28	0.30 [0.30-1.77]	12	1.18 [0.41-1.77]	40
Public health facility	0.00 [0.00-0.00]	24	2.23 [2.23-2.23]	4	2.23 [2.23-2.23]	28	1.18 [1.18-1.77]	12	0.00 [0.00-1.77]	6	1.18 [0.59-1.77]	18
Private not-for-profit health facility	-	0	-	0	-	0	1.77 [1.77-1.77]	3	-	0	1.77 [1.77-1.77]	3
Private for-profit outlet												
Health facility/pharmacy	1.12 [0.74-1.86]	485	2.23 [1.49-2.23]	13	1.49 [1.12-2.23]	498	7.09 [7.09-28.34]	8	1.77 [1.77-2.36]	3	2.36 [1.77-7.09]	11
Drug store	3.72 [3.72-3.72]	1	-	0	3.72 [3.72-3.72]	1	0.59 [0.59-0.89]	5	0.30 [0.30-0.30]	3	0.30 [0.30-0.59]	8
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	1.49 [1.12-3.72]	486	2.23 [1.49-2.23]	13	2.23 [1.12-2.6]	499	1.77 [0.59-7.09]	13	0.30 [0.30-1.77]	6	0.89 [0.30-2.36]	19
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Tanzania - mainland - Total	5.85 [1.41-5.85]	8	0.00 [0.00-0.00]	17	0.00 [0.00-0.00]	25	0.62 [0.12-0.62]	11	0.00 [0.00-0.31]	23	0.00 [0.00-0.31]	34
Public health facility	-	0	0.00 [0.00-0.00]	14	0.00 [0.00-0.00]	14	0.12 [0.12-0.12]	1	0.00 [0.00-0.19]	20	0.00 [0.00-0.19]	21
Private not-for-profit health facility	-	0	0.00 [0.00-1.41]	3	0.00 [0.00-1.41]	3	-	0	0.00	1	0.00	1
Private for-profit outlet												
Health facility/pharmacy	5.85 [5.85-5.85]	7	-	0	5.85 [5.85-5.85]	7	0.62 [0.62-1.25]	8	-	0	0.62 [0.62-1.25]	8
Drug store	1.41 [1.41-1.41]	1	-	0	1.41 [1.41-1.41]	1	0.62 [0.62-0.62]	2	0.94 [0.94-0.94]	1	0.94 [0.62-0.94]	3
General retailer/itinerant	-	0	-	0	-	0	-	0	0.00	1	0.00	1
Total	5.85 [1.41-5.85]	8	-	0	5.85 [1.41-5.85]	8	0.62 [0.62-0.62]	10	0.94 [0.00-0.94]	2	0.62 [0.00-0.94]	12
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.25: *Cont.*

Median cost to ADULT patients for one rapid diagnostic test for malaria, by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products
Uganda - Total	1.39 [0.93-1.86]	76	0.93 [0.00-1.39]	101	0.93 [0.46-1.39]	177	1.17 [0.78-1.17]	276	0.00 [0.00-0.59]	539	0.00 [0.00-0.98]	815
Public health facility	0.00	1	0.00 [0.00-0.00]	26	0.00 [0.00-0.00]	27	0.00 [0.00-0.00]	46	0.00 [0.00-0.00]	357	0.00 [0.00-0.00]	403
Private not-for-profit health facility	-	0	0.46 [0.00-1.39]	3	0.46 [0.00-1.39]	3	1.17 [0.00-1.96]	3	0.00 [0.00-0.78]	14	0.00 [0.00-0.78]	17
Private for-profit outlet												
Health facility/pharmacy	1.39 [1.39-2.32]	73	1.39 [0.93-1.39]	49	1.39 [1.16-1.86]	122	1.17 [0.98-1.17]	198	1.17 [0.78-1.56]	90	1.17 [0.98-1.56]	288
Drug store	0.70 [0.70-0.93]	2	0.93 [0.46-1.07]	17	0.93 [0.70-0.93]	19	1.17 [0.78-1.17]	29	0.78 [0.39-0.98]	30	0.78 [0.39-1.17]	59
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	1.39 [1.02-1.86]	75	0.93 [0.93-1.39]	66	1.39 [0.93-1.39]	141	1.17 [0.98-1.17]	227	0.98 [0.78-1.17]	120	1.17 [0.78-1.17]	347
Community health worker	-	0	0.00 [0.00-0.00]	6	0.00 [0.00-0.00]	6	-	0	0.00 [0.00-0.00]	48	0.00 [0.00-0.00]	48
Zanzibar - Total	0.00 [0.00-0.00]	43	0.00 [0.00-0.00]	71	0.00 [0.00-0.00]	114	0.00 [0.00-0.00]	53	0.00 [0.00-0.00]	86	0.00 [0.00-0.00]	139
Public health facility	0.00 [0.00-0.00]	37	0.00 [0.00-0.00]	71	0.00 [0.00-0.00]	108	0.00 [0.00-0.00]	39	0.00 [0.00-0.00]	84	0.00 [0.00-0.00]	123
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	1.76 [0.70-2.11]	6	-	0	1.76 [0.70-2.11]	6	0.58 [0.44-1.46]	12	0.29 [0.00-0.58]	2	0.58 [0.29-1.17]	14
Drug store	-	0	-	0	-	0	0.15 [0.00-0.29]	2	-	0	0.15 [0.00-0.29]	2
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	1.76 [0.70-2.11]	6	-	0	1.76 [0.70-2.11]	6	0.58 [0.29-1.17]	14	0.29 [0.00-0.58]	2	0.58 [0.29-0.87]	16
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009.

* At baseline for the Madagascar and Nigeria ACTwatch surveys, the questionnaire did not distinguish between the price of diagnosis for adults and children. This table, therefore, presents the general figures reported for these countries.

na = Not applicable, IQR = Interquartile range

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

Table 2.3.26: Cost to child patients of rapid diagnostic tests for malaria (RDTs), in 2010 US dollars, at baseline (2010) and endline (2011)

Median cost to CHILD patients for one rapid diagnostic test for malaria, by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products
Ghana – Total	0.34 [0.00-2.74]	42	0.00 [0.00-0.00]	88	0.00 [0.00-0.34]	130	0.00 [0.00-0.00]	42	0.00 [0.00-0.00]	68	0.00 [0.00-0.00]	110
Public health facility	0.00 [0.00-0.00]	29	0.00 [0.00-0.00]	80	0.00 [0.00-0.00]	109	0.00 [0.00-0.00]	30	0.00 [0.00-0.00]	63	0.00 [0.00-0.00]	93
Private not-for-profit health facility	-	0	0.00	1	0.00	1	0.00	1	-	0	0.00	1
Private for-profit outlet												
Health facility/pharmacy	2.74 [1.71-3.42]	11	0.68 [0.00-0.68]	4	0.68 [0.00-2.74]	15	1.88 [1.56-2.5]	11	0.00 [0.00-1.25]	4	1.25 [0.00-1.56]	15
Drug store	0.34 [0.34-0.34]	2	-	0	0.34 [0.34-0.34]	2	-	0	-	1	0.00	1
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	2.74 [0.68-2.74]	13	0.68 [0.00-0.68]	4	0.68 [0.00-2.74]	17	1.88 [1.56-2.5]	11	0.00 [0.00-1.25]	5	1.25 [0.00-1.56]	16
Community health worker	-	0	0.00 [0.00-0.68]	3	0.00 [0.00-0.68]	3	-	0	-	0	-	0
Kenya – Total	1.31 [0.00-1.97]	41	0.00 [0.00-0.66]	24	0.00 [0.00-1.31]	65	1.15 [0.58-1.15]	88	0.00 [0.00-0.58]	49	0.58 [0.00-1.15]	137
Public health facility	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	13	0.00 [0.00-0.00]	18	0.00 [0.00-0.00]	25	0.00 [0.00-0.00]	42	0.00 [0.00-0.00]	67
Private not-for-profit health facility	0.00 [0.00-0.66]	4	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	6	0.58 [0.58-1.15]	6	0.35 [0.35-0.35]	1	0.58 [0.35-0.58]	7
Private for-profit outlet												
Health facility/pharmacy	1.31 [0.92-1.97]	25	0.00 [0.00-0.00]	8	0.00 [0.00-1.31]	33	1.15 [0.92-1.73]	44	1.15 [0.23-1.15]	5	1.15 [0.58-1.15]	49
Drug store	1.31 [1.31-1.97]	7	1.31 [1.31-1.31]	1	1.31 [1.31-1.31]	8	1.15 [1.15-1.15]	13	0.58 [0.58-0.58]	1	1.15 [0.58-1.15]	14
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	1.31 [1.31-1.97]	32	0.00 [0.00-1.31]	9	1.31 [0.00-1.31]	41	1.15 [1.15-1.38]	57	0.58 [0.23-1.15]	6	1.15 [0.58-1.15]	63
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Madagascar – Total	-	-	-	-	-	-	0.00 [0.00-0.00]	114	0.00 [0.00-0.00]	588	0.00 [0.00-0.00]	702
Public health facility	-	-	-	-	-	-	0.00 [0.00-0.00]	61	0.00 [0.00-0.00]	531	0.00 [0.00-0.00]	592
Private not-for-profit health facility	-	-	-	-	-	-	0.00 [0.00-0.00]	22	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	24
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	0.00 [0.00-3.12]	17	-	0	0.00 [0.00-3.12]	17
Drug store	-	-	-	-	-	-	-	0	0.00 [0.00-0.13]	6	0.00 [0.00-0.13]	6
General retailer/itinerant	-	-	-	-	-	-	-	0	-	0	-	0
Total	-	-	-	-	-	-	0.00 [0.00-3.12]	17	0.00 [0.00-0.13]	6	0.00 [0.00-0.85]	23
Community health worker	-	-	-	-	-	-	0.00 [0.00-0.00]	14	0.00 [0.00-0.00]	49	0.00 [0.00-0.00]	63
Niger – Total	0.00 [0.00-0.00]	40	0.00 [0.00-0.00]	244	0.00 [0.00-0.00]	284	0.00 [0.00-0.00]	79	0.00 [0.00-0.00]	159	0.00 [0.00-0.00]	238
Public health facility	0.00 [0.00-0.00]	37	0.00 [0.00-0.00]	244	0.00 [0.00-0.00]	281	0.00 [0.00-0.00]	65	0.00 [0.00-0.00]	159	0.00 [0.00-0.00]	224
Private not-for-profit health facility	-	0	-	0	-	0	0.00 [0.00-0.00]	2	-	0	0.00 [0.00-0.00]	2
Private for-profit outlet												
Health facility/pharmacy	3.08 [0.00-4.11]	3	-	0	3.08 [0.00-4.11]	3	1.98 [0.00-1.98]	11	-	0	1.98 [0.00-1.98]	11
Drug store	-	0	-	0	-	0	0.99 [0.99-0.99]	1	-	0	0.99 [0.99-0.99]	1
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	3.08 [0.00-4.11]	3	-	0	3.08 [0.00-4.11]	3	1.98 [0.00-1.98]	12	-	0	1.98 [0.00-1.98]	12
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria – Total	-	-	-	-	-	-	1.18 [1.18-1.77]	27	0.30 [0.00-1.77]	11	1.18 [0.30-1.77]	38
Public health facility	-	-	-	-	-	-	1.18 [1.18-1.77]	12	0.00 [0.00-0.00]	6	1.18 [0.00-1.18]	18
Private not-for-profit health facility	-	-	-	-	-	-	1.77 [1.77-1.77]	3	-	0	1.77 [1.77-1.77]	3
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	7.09 [7.09-22.44]	8	1.77 [1.77-2.36]	3	2.36 [1.77-7.09]	11
Drug store	-	-	-	-	-	-	0.89 [0.89-0.89]	4	0.30 [0.30-0.30]	2	0.30 [0.30-0.89]	6
General retailer/itinerant	-	-	-	-	-	-	-	0	-	0	-	0
Total	-	-	-	-	-	-	7.09 [0.89-22.44]	12	0.89 [0.30-1.77]	5	1.77 [0.41-7.09]	17
Community health worker	-	-	-	-	-	-	-	0	-	0	-	0
Tanzania - mainland – Total	5.85 [1.41-5.85]	8	0.00 [0.00-0.00]	17	0.00 [0.00-0.00]	25	0.31 [0.00-0.62]	11	0.00 [0.00-0.00]	23	0.00 [0.00-0.00]	34
Public health facility	-	0	0.00 [0.00-0.00]	14	0.00 [0.00-0.00]	14	0.00	1	0.00 [0.00-0.00]	20	0.00 [0.00-0.00]	21
Private not-for-profit health facility	-	0	0.00 [0.00-1.41]	3	0.00 [0.00-1.41]	3	-	0	0.00	1	-	1
Private for-profit outlet												
Health facility/pharmacy	5.85 [5.85-5.85]	7	-	0	5.85 [5.85-5.85]	7	0.62 [0.62-1.25]	8	-	0	0.62 [0.62-1.25]	8
Drug store	1.41 [1.41-1.41]	1	-	0	1.41 [1.41-1.41]	1	0.31 [0.31-0.62]	2	0.94 [0.94-0.94]	1	0.94 [0.62-0.94]	3
General retailer/itinerant	-	0	-	0	-	0	-	0	-	1	0.00	1
Total	5.85 [1.41-5.85]	8	-	0	5.85 [1.41-5.85]	8	0.62 [0.31-0.62]	10	0.94 [0.00-0.94]	2	0.62 [0.00-0.94]	12
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.3.26: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products	Median cost [IQR]	No. of products
Uganda – Total	1.39 [1.02-1.86]	76	0.93 [0.00-1.39]	102	0.93 [0.46-1.39]	178	1.17 [0.78-1.17]	271	0.00 [0.00-0.59]	541	0.00 [0.00-0.78]	812
Public health facility	0.00	1	0.00 [0.00-0.00]	26	0.00 [0.00-0.00]	27	0.00 [0.00-0.00]	46	0.00 [0.00-0.00]	357	0.00 [0.00-0.00]	403
Private not-for-profit health facility	-	0	0.46 [0.00-1.39]	3	0.46 [0.00-1.39]	3	0.00 [0.00-1.96]	3	0.00 [0.00-0.78]	15	0.00 [0.00-0.78]	18
Private for-profit outlet												
Health facility/pharmacy	1.39 [1.39-2.32]	73	1.39 [0.93-1.39]	49	1.39 [1.16-1.86]	122	1.17 [0.78-1.17]	194	1.17 [0.78-1.56]	91	1.17 [0.78-1.37]	285
Drug store	0.70 [0.70-0.93]	2	0.93 [0.46-1.07]	17	0.93 [0.70-0.93]	19	1.17 [0.78-1.17]	28	0.78 [0.39-0.98]	30	0.78 [0.39-1.17]	58
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	1.39 [1.16-1.86]	75	0.93 [0.93-1.39]	66	1.39 [0.93-1.39]	141	1.17 [0.78-1.17]	222	0.98 [0.78-1.17]	121	1.17 [0.78-1.17]	343
Community health worker	-	0	0.00 [0.00-0.00]	7	0.00 [0.00-0.00]	7	-	0	0.00 [0.00-0.00]	48	0.00 [0.00-0.00]	48
Zanzibar – Total	0.00 [0.00-0.00]	43	0.00 [0.00-0.00]	71	0.00 [0.00-0.00]	114	0.00 [0.00-0.00]	54	0.00 [0.00-0.00]	86	0.00 [0.00-0.00]	140
Public health facility	0.00 [0.00-0.00]	37	0.00 [0.00-0.00]	71	0.00 [0.00-0.00]	108	0.00 [0.00-0.00]	39	0.00 [0.00-0.00]	84	0.00 [0.00-0.00]	123
Private not-for-profit health facility	-	0	-	0	-	0	-	0	-	0	-	0
Private for-profit outlet												
Health facility/pharmacy	1.58 [0.70-2.11]	6	-	0	1.58 [0.7-2.11]	6	0.58 [0.58-1.75]	13	0.00 [0.00-0.00]	2	0.58 [0.29-1.75]	15
Drug store	-	0	-	0	-	0	0.15 [0.00-0.29]	2	-	0	0.15 [0.00-0.29]	2
General retailer/itinerant	-	0	-	0	-	0	-	0	-	0	-	0
Total	1.58 [0.70-2.11]	6	-	0	1.58 [0.7-2.11]	6	0.58 [0.29-1.75]	15	0.00 [0.00-0.00]	2	0.58 [0.29-1.75]	17
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009.

* At baseline for the Madagascar and Nigeria ACTwatch surveys, the questionnaire did not distinguish between the price of diagnosis for adults and children. This table, therefore, presents the general figures reported for these countries.

na = Not applicable, IQR = Interquartile range;

Source: AMFm Phase 1 Independent Evaluation Outlet Survey

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2.4 Market share of quality-assured ACTs

Question 4: *Has the AMFm mechanism helped increase the market share of quality-assured ACTs relative to all antimalarial treatments in the public, private for-profit and not-for-profit sectors in rural/urban areas?*

Tables 2.4.1-2.4.4 shows the percent distribution of antimalarial sales volumes by antimalarial category for public health facilities, private not-for-profit facilities, private for-profit outlets and all outlets (not shown for CHWs alone due to their low total sales volumes). For public health facilities (Table 2.4.1), the market share for QAACTs at endline was lowest in Madagascar (13%) and Niger (27%) and highest in Uganda (81%). Substantial and significant increases in QAACT market share between baseline and endline were seen in Nigeria (42 percentage points), Ghana (23 percentage points), Uganda (17 percentage points) and Zanzibar (15 percentage points). The increase was concentrated in rural areas in Uganda, and in urban areas in Ghana, Nigeria and Zanzibar. The increases in QAACT market share were mainly at the expense of non-QAACTs in Ghana and Zanzibar and at the expense of nATs in Uganda and Nigeria. It should be noted that there are legitimate uses of nATs, such as use of SP for intermittent preventive treatment for pregnant women and infants, and quinine for management of severe malaria. It is therefore not a policy objective to reduce availability or market share of these products to zero.

Table 2.4.2 shows the percent distribution of antimalarial sales volumes by antimalarial category for private not-for-profit facilities. The small number of AETDs recorded in this sector makes it inappropriate to comment on market share in Madagascar, Niger, Nigeria, Tanzania mainland and Zanzibar. QAACT market share in this sector was 74% at endline in Ghana, 82% in Kenya and 51% in Uganda. Large increases were seen in Ghana (61 percentage points) and Kenya (54 percentage points), but there was no change in Uganda. The increase in Ghana was mainly at the expense of non-quality-assured ACTs and the increase in Kenya was at the expense of nAT.

Table 2.4.3 shows the percent distribution of antimalarial sales volumes by antimalarial category for private for-profit facilities. QAACT market share at endline was highest in Ghana (52%), Kenya (61%) and Zanzibar (61%). It was lowest in Niger (8%). Large and significant increases were seen in Ghana, Kenya, Nigeria, Madagascar, Tanzania mainland, Uganda and Zanzibar, ranging from 15 percentage points in Madagascar to 59 percentage points in Zanzibar. In Niger, the market share increased by 4 percentage points, from 4% to 8%. In all countries except Niger, there was a large decrease in the market share of nAT. Zanzibar also saw a substantial decrease in the market share of oral AMT, from 20% to less than 1%, eliminating it from the market. In most countries the increase in QAACT market share was the same in rural and urban areas, apart from Niger where most of the increase occurred in rural areas.

Table 2.4.4 shows the percent distribution of antimalarial sales volumes by antimalarial category for all outlets combined. In most countries, the QAACT market share for all sectors combined was very similar to the QAACT market share for private for-profit outlets, reflecting the dominance of the private for-profit sector in antimalarial sales. The exceptions were Tanzania mainland and Uganda, where the QAACT market share overall was higher than in the private for-profit sector (42% vs. 32% in Tanzania mainland and 57% vs. 39% in Uganda). Large and significant changes were seen in Ghana, Kenya, Nigeria, Tanzania mainland, Uganda and Zanzibar, ranging from 16 percentage points in Tanzania mainland to 48 percentage points in Zanzibar. Madagascar saw a significant increase in QAACT share in urban areas of 23 percentage points. There was a large decrease in the market share of nAT in all countries except Madagascar, where the decrease was small, and Niger which saw an increase in the share of nAT and a corresponding fall in QAACT share. Ghana also saw a decrease in the share of non-quality-assured ACTs, and Zanzibar saw a substantial decrease in the market share of oral AMT, from 12% to less than 1%. In Ghana, Kenya and Uganda, increases in QAACT market share were similar in rural and urban areas, while all of the increase in QAACT market share in Tanzania mainland occurred in rural areas. In Zanzibar, urban areas saw the greater increase.

Table 2.4.5 shows the market share for QAACTs with and without the AMFm logo, by sector. The vast majority of QAACTs sold in the private for-profit sector bore the AMFm logo in all countries except Niger, where both product types had a very low market share (each less than 5%), and where QAACTs overall comprised less than 8% of the total sales volume in the private for-profit sector. In the public sector, the picture was more mixed. The majority of QAACTs carried the logo in Ghana, Kenya, Nigeria, Madagascar, Uganda and Zanzibar, but those without the logo predominated in Niger, and Tanzania mainland.

Table 2.4.6 shows the market share of each sector in total volumes of antimalarials. A key feature was the predominance of the private for-profit sector which had the largest share of the market in all countries at endline - Ghana (71%), Kenya (62%), Madagascar (70%), Niger (49%), Nigeria (92%), Tanzania mainland (59%), Uganda (53%) and Zanzibar (87%). No change in the private sector share was seen in Ghana, Kenya, Niger or Nigeria between baseline and endline. However, increases in the private sector share were seen in Uganda (from 40% to 53%), Tanzania mainland (from 45% to 59%) and in Zanzibar (from 62% to 87%). In Uganda, this shift mainly took place in rural areas, while it took place in both rural and urban areas in Zanzibar. Madagascar saw a fall in the private sector share, from 82% to 70%. Community health workers were responsible for a neglible share of antimalarial distribution in all countries, however these providers are harder to identify than other outlets and it is possible that they were not fully captured in the initial census of providers.

Table 2.4.7 shows the market share in total volumes of antimalarials for private for-profit outlets only. This provides an indication of which types of outlet within the private for-profit sector are the most important providers of antimalarials. At endline in Uganda and Zanzibar, the largest shares of antimalarials were sold in private for-profit health facilities/pharmacies (58% and 75% in Uganda and Zanzibar, respectively); in Kenya, Madagascar, Nigeria and

Tanzania mainland, the largest shares were sold in drug stores, ranging from 60% to 84%. In Ghana, private health facilities/pharmacies and drug stores sold roughly equal shares of antimalarials. General stores and itinerant vendors were responsible for the largest share of private for-profit sales volumes in Niger (65%) and this sector was also responsible for a large share in Madagascar (37%). Between baseline and endline, no substantial changes were seen in market share within the private for-profit sector in Kenya and Madagascar. Zanzibar showed an eight percentage point fall in the share of private health facilities/pharmacies and a corresponding increase in the share of drug stores between surveys. By contrast, in Ghana, Nigeria and Uganda, an increase in market share of between 10 and 20 percentage points was seen for private health facilities/pharmacies, with a fall in sales from drug stores. Niger also saw an increase in market share for private health facilities/pharmacies (28 percentage points), with a fall in the market share of general stores and itinerant vendors.

Table 2.4.8 shows the market share of each sector in volumes of QAACTs sold. Private for-profit outlets made up the majority of sales of QAACTs at endline in Ghana, Kenya, Madagascar, Nigeria and Zanzibar, ranging from 64% to 91%. However, in Niger, Tanzania mainland and Uganda at endline, the majority of QAACT sales came from public health facilities. Between baseline and endline surveys, the public sector market share of QAACTs fell by between 16 and 78 percentage points in Ghana, Kenya, Madagascar and Zanzibar, where this was accompanied by a commensurate increase in the private for-profit sector QAACT market share. Although sales of QAACTs from public health facilities made up the majority of the market share at endline in Niger, Tanzania mainland and Uganda, these countries also saw declines in the market share of QAACTs from public health facilities and increases of 27-40 percentage points in the market share of QAACTs from private for-profit outlets.It should be noted that without information about the total market size, one cannot infer from changes in market share whether there have been absolute increases or decreases in total sales volumes in each sector.

Table 2.4.9 shows the breakdown of private for-profit QAACT sales by outlet type, indicating the relative importance of different types of private for-profit outlets in QAACT supply. Market share was roughly equal at endline for private health facilities/pharmacies and drug stores in Ghana, Madagascar and Uganda, while drug stores were responsible for the majority of QAACT sales in Kenya, Nigeria and Tanzania. In Zanzibar, private for-profit QAACT sales were dominated by private health facilities/ pharmacies. In Niger, almost two-thirds (65%) of private for-profit QAACT sales at endline were from general retailers and itinerant vendors. In comparison with baseline, the drug store market share of QAACT sales fell in Madagascar, Nigeria, Tanzania mainland and Uganda, with an increase in the market share from private health facilities or pharmacies. By contrast, in Kenya and Zanzibar, there was a decline in the market share for private health facilities/pharmacies and an increase for drug stores. A 20 percentage point decline in the general store/itinerant vendors' market share of QAACT sales was seen in Niger, with corresponding 10 percentage point increases in both private health facilities/pharmacies and drug stores.

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Table 2.4.1: Percent distribution of antimalarial sales volumes for public health facilities, at baseline (2010) and endline (2011)

Total number of AETDs of each type of antimalarial sold or distributed in the week preceding the survey visit (n), as a percentage of all antimalarial AETDs sold or distributed in the week preceding the survey visit for public health facilities with any antimalarials in stock at the time of the survey visit (N), by urban-rural location, according to country

Country/Antimalarial	BASELINE						ENDLINE						PERCENTAGE POINT CHANGE		
	Urban		Rural		Total		Urban		Rural		Total		Urban	Rural	Total
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N*	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N*	% (95% CI)	% (95% CI)	% (95% CI)
Ghana - Total	100.0	5,552	100.0	11,544	100.0	17,096	100.0	1,935	100.0	3,425	100.0	5,360			
Quality-assured ACTs	27.5 (14.0-40.9)		47.9 (32.4-63.4)		45.6 (31.6-59.7)		71.9 (62.2-81.6)		67.5 (58-77.1)		69.0 (61.3-76.6)		44.5 (28.1-60.8)	19.6 (1.6-37.6)	23.3 (7.5-39.1)
Non-quality-assured ACTs	57.7 (34.9-80.4)		35.9 (23.4-48.4)		38.3 (26.7-49.8)		26.3 (17.1-35.5)		21.7 (14.1-29.3)		23.2 (17.3-29.1)		-31.4 (-55.6- -7.1)	-14.2 (-28.6-0.3)	-15.1 (-27.8- -2.3)
Oral artemisinin therapy	0.0		1.3 (-0.5-3.0)		1.1 (-0.5-2.7)		0.0		0.1 (-0.1-0.4)		0.1 (0.0-0.2)		0.0	-1.1 (-2.9-0.6)	-1.0 (-2.6-0.5)
Non-oral artemisinin monotherapy	1.0 (0.1-1.9)		2.4 (0.3-4.6)		2.3 (0.4-4.1)		0.1 (0.0-0.3)		2.5 (0.9-4.0)		1.7 (0.4-3.0)		-0.9 (-1.8-0.0)	0.0 (-2.6-2.6)	-0.6 (-2.8-1.6)
Non-artemisinin therapy	13.8 (-1.1-28.7)		12.5 (3.8-21.3)		12.7 (4.7-20.7)		1.6 (0.1-3.1)		8.2 (3.4-12.9)		6.1 (1.8-10.3)		-12.2 (-27-2.6)	-4.4 (-14.2-5.5)	-6.6 (-15.6-2.3)
Kenya - Total	100.0	3,327	100.0	3,078	100.0	6,405	100.0	2,368	100.0	5,358	100.0	7,726			
Quality-assured ACTs	58.3 (39.9-76.6)		60.3 (34.3-86.3)		60.0 (38.2-81.8)		37.7 (18.8-56.5)		48.3 (10.8-85.7)		47.6 (13.1-82)		-20.6 (-46.7-5.4)	-12.0 (-57.1-33)	-12.4 (-52.8-27.9)
Non-quality-assured ACTs	0.3 (-0.1-0.6)		0.4 (-0.2-1.1)		0.4 (-0.1-0.9)		0.6 (-0.2-1.5)		0.0 (0.0-0.1)		0.1 (0.0-0.1)		0.4 (-0.5-1.3)	-0.4 (-1.0-0.2)	-0.3 (-0.9-0.2)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	0.7 (-0.5-2.0)		0.0		0.1 (-0.1-0.4)		0.0 (0.0-0.1)		0.4 (-0.4-1.2)		0.4 (-0.4-1.1)		-0.7 (-1.9-0.5)	0.4 (-0.4-1.2)	0.2 (-0.6-1.0)
Non-artemisinin therapy	40.7 (21.9-59.5)		39.2 (13.1-65.3)		39.5 (17.5-61.4)		61.7 (42.3-81.1)		51.3 (13.6-89)		52.0 (17.3-86.8)		21.0 (-5.7-47.7)	12.1 (-33.3-57.5)	12.6 (-28.1-53.2)
Madagascar - Total	100.0	782	100.0	216	100.0	997	100.0	1,094	100.0	774	100.0	1,868			
Quality-assured ACTs	20.7 (6.2-35.2)		28.6 (4.2-53.0)		27.4 (6.9-47.9)		10.2 (4.3-16.1)		13.0 (2.2-23.8)		12.7 (3.2-22.1)		-10.5 (-25.9-4.9)	-15.6 (-42.0-10.7)	-14.7 (-37.0-7.5)
Non-quality-assured ACTs	2.0 (-1.0-4.9)		5.8 (-3.4-14.9)		5.2 (-2.7-13.1)		0.0		1.0 (-0.4-2.5)		0.9 (-0.4-2.2)		-2.0 (-4.9-0.9)	-4.7 (-13.9-4.4)	-4.3 (-12.1-3.6)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-artemisinin therapy	77.3 (62-92.7)		65.6 (41.2-90.1)		67.4 (46.9-88.0)		89.8 (83.9-95.7)		86.0 (74.2-97.8)		86.4 (76.2-96.7)		12.5 (-3.7-28.7)	20.3 (-6.4-47.1)	19.0 (-3.7-41.7)
Niger - Total	100.0	10,960	100.0	5,444	100.0	16,404	100.0	5,379	100.0	8,140	100.0	13,519			
Quality-assured ACTs	58.7 (40.6-76.9)		23.4 (9.2-37.6)		36.9 (20.2-53.7)		36.3 (33.8-38.8)		25.4 (22.5-28.3)		27.0 (24.2-29.7)		-22.4 (-40.6- -4.2)	2 (-12.3-16.4)	-10.0 (-26.8-6.9)
Non-quality-assured ACTs	20.4 (11.2-29.5)		14.0 (2.6-25.5)		16.5 (8.3-24.7)		19.5 (18.6-20.3)		12.5 (10.1-14.8)		13.4 (11.3-15.6)		-0.9 (-10.0-8.2)	-1.6 (-13.1-10)	-3 (-11.4-5.4)
Oral artemisinin therapy	0.0		0.4 (-0.4-1.2)		0.2 (-0.2-0.7)		0.0 (0.0-0.1)		0.1 (0.0-0.2)		0.1 (0.0-0.1)		0.0 (0.0-0.1)	-0.3 (-1.1-0.5)	-0.2 (-0.6-0.3)
Non-oral artemisinin monotherapy	0.0		0.0 (0.0-0.1)		0.0		0.5 (0.4-0.6)		0.3 (0.2-0.3)		0.3 (0.2-0.4)		0.5 (0.4-0.6)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
Non-artemisinin therapy	20.9 (4.6-37.2)		62.2 (42.7-81.7)		46.4 (26.3-66.4)		43.7 (41.1-46.3)		61.8 (56.7-66.9)		59.2 (54.5-63.9)		22.8 (6.5-39.2)	-0.4 (-20.4-19.6)	12.9 (-7.6-33.3)
Nigeria - Total	100.0	12,549	100.0	1,202	100.0	13,751	100.0	4,700	100.0	1,881	100.0	6,581			
Quality-assured ACTs	8.3 (-2.4-19.0)		6.0 (-0.5-12.5)		6.4 (0.7-12.2)		60.6 (40.8-80.4)		40.1 (22.1-58.0)		48.1 (34.0-62.1)		52.3 (29.9-74.7)	34.1 (15.0-53.1)	41.7 (26.5-56.8)
Non-quality-assured ACTs	35.0 (21.0-49.0)		0.5 (-0.2-1.2)		7.2 (0.7-13.6)		8.1 (0.1-16.2)		7.2 (-0.5-14.9)		7.6 (1.9-13.2)		-26.9 (-42.9- -10.8)	6.7 (-1.0-14.3)	0.4 (-8.2-9.0)
Oral artemisinin therapy	1.6 (0.4-2.9)		0.3 (-0.1-0.7)		0.6 (0.1-1.0)		1.5 (0.3-2.7)		0.3 (-0.1-0.7)		0.8 (0.1-1.4)		-0.1 (-1.8-1.6)	0.0 (-0.6-0.5)	0.2 (-0.6-1.0)
Non-oral artemisinin monotherapy	0.9 (0.5-1.3)		1.2 (-0.3-2.8)		1.2 (-0.1-2.4)		2.0 (1.1-2.8)		7.4 (-3.4-18.3)		5.3 (-1.3-11.9)		1.0 (0.1-2.0)	6.2 (-4.7-17.1)	4.1 (-2.6-10.8)
Non-artemisinin therapy	54.2 (40.7-67.8)		91.9 (84.6-99.3)		84.7 (73.9-95.4)		27.8 (13.4-42.2)		45.0 (28.6-61.5)		38.3 (25.9-50.7)		-26.4 (-46.1- -6.7)	-46.9 (-64.9- -28.9)	-46.4 (-62.7- -30.1)
Tanzania - mainland - Total	100.0	1,273	100.0	3,144	100.0	4,417	100.0	1,885	100.0	8,146	100.0	10,031			
Quality-assured ACTs	89.8 (69.0-110.7)		37.9 (17.6-58.2)		58.3 (27.4-89.2)		75.8 (53.5-98.0)		55.4 (34.9-75.8)		56.6 (37.4-75.7)		-14.1 (-44.2-16)	17.5 (-11.0-45.9)	-1.8 (-37.7-34.2)
Non-quality-assured ACTs	7.0 (-10.1-24.1)		0.5 (-0.2-1.1)		3 (-2.6-8.7)		0.3 (-0.4-1.0)		0.2 (-0.1-0.6)		0.2 (-0.1-0.6)		-6.7 (-23.6-10.3)	-0.2 (-1.0-0.5)	-2.8 (-8.4-2.8)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	1.8 (-2.5-6.0)		0.0		0.7 (-0.7-2.1)		0.1 (-0.1-0.4)		0.0		0.0		-1.6 (-5.9-2.6)	0.0	-0.7 (-2.1-0.7)
Non-artemisinin therapy	1.4 (0.8-2.0)		61.6 (41.7-81.6)		38.0 (8.9-67.0)		23.8 (1.5-46.1)		44.4 (23.9-64.9)		43.2 (24.0-62.4)		22.4 (0.3-44.4)	-17.2 (-45.5-11.0)	5.3 (-29.2-39.7)
Uganda - Total	100.0	425	100.0	17,466	100.0	17,891	100.0	5,907	100.0	10,144	100.0	16,052			
Quality-assured ACTs	71.7 (62.9-80.5)		63.9 (52.2-75.6)		64.2 (52.9-75.4)		57.1 (41-73.2)		84.9 (79.6-90.3)		81.3 (74.5-88.0)		-14.6 (-32.8-3.5)	21.0 (8.4-33.6)	17.1 (4.2-30.0)
Non-quality-assured ACTs	6.2 (-2.2-14.6)		0.4 (0.0-0.9)		0.7 (0.0-1.3)		3.4 (-0.3-7.2)		0.2 (-0.1-0.5)		0.6 (0.0-1.2)		-2.8 (-11.7-6.2)	-0.3 (-0.8-0.3)	-0.1 (-1.0-0.9)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	0.0		0.0		0.0		0.0 (0.0-0.1)		0.0		0.0		0.0 (0.0-0.1)	0.0	0.0
Non-artemisinin therapy	22.1 (4.9-39.3)		35.7 (23.8-47.5)		35.2 (23.7-46.6)		39.5 (22-56.9)		14.9 (9.6-20.2)		18.1 (11.6-24.7)		17.4 (-6.7-41.4)	-20.8 (-33.5- -8.1)	-17.0 (-29.9- -4.2)
Zanzibar - Total	100.0	508	100.0	342	100.0.0	850	100.0	241	100.0	278	100.0	518			
Quality-assured ACTs	16.2		32.7		22.8		43.0		33.8		38.1		26.8	1.2	15.3
Non-quality-assured ACTs	34.0		0.9		20.7		2.8		2.2		2.5		-31.2	1.4	-18.2
Oral artemisinin therapy	0.2		0.0		0.1		0.0		0.0		0		-0.2	0.0	-0.1
Non-oral artemisinin monotherapy	0.4		3.2		1.5		0.5		0.0		0.2		0.0	-3.2	-1.3
Non-artemisinin therapy	49.1		63.3		54.8		53.8		63.9		59.2		4.7	0.7	4.4

Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding. Nigeria baseline data collection was conducted in 2009. Baseline market share estimates for Nigeria are calculated without excluding oversampled public health facilities, private health facilities and pharmacies in urban areas. Therefore, urban baseline market share estimates are weighted too heavily in total baseline estimates.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.4.2: Percent distribution of antimalarial sales volumes for private not-for-profit facilities, at baseline (2010) and endline (2011)

Total number of AETDs of each type of antimalarial sold or distributed in the week preceding the survey visit (n), as a percentage of all antimalarial AETDs sold or distributed in the week preceding the survey visit for private not-for-profit facilities with any antimalarials in stock at the time of the survey visit (N), by urban-rural location, according to country

Country/Antimalarial	BASELINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N*	ENDLINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N*	PERCENTAGE POINT CHANGE Urban % (95% CI)	Rural % (95% CI)	Total % (95% CI)
Ghana - Total	100.0	1,108	100.0	3,155	100.0	4,262	100.0	2,723	100.0	929	100.0	3,652			
Quality-assured ACTs	8.4 (4.6-12.1)		13.3 (1.7-24.8)		12.7 (2.4-23,0)		75.4 (59.4-91.3)		65.1 (60.8-69.4)		73.8 (59.7-87.8)		67.0 (50.8-83.2)	51.8 (39.6-64,0)	61.0 (43.8-78.2)
Non-quality-assured ACTs	88.8 (84.7-92.9)		53.0 (36.8-69.2)		57.1 (41.7-72.5)		16.3 (0.4-32.2)		4.2 (-0.9-9.3)		14.4 (1.1-27.7)		-72.5 (-88.8- -56.3)	-48.8 (-65.6- -32.1)	-42.7 (-62.8- -22.6)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.5 (-0.5-1.5)		0.1 (-0.1-0.2)		0.0	0.5 (-0.5-1.5)	0.1 (-0.1-0.2)
Non-oral artemisinin monotherapy	2.1 (1.5-2.7)		10.7 (0.6-20.8)		9.7 (0.6-18.8)		1.6 (1.1-2.1)		1.3 (0.7-2,0)		1.6 (1.1-2,0)		-0.5 (-1.3-0.3)	-9.4 (-19.5-0.7)	-8.2 (-17.2-0.8)
Non-artemisinin therapy	0.7 (0.6-0.8)		23.0 (11.9-34.0)		20.5 (10.0-30.9)		6.8 (5.7-7.8)		28.9 (21.7-36.1)		10.2 (5-15.4)		6.1 (5.0-7.2)	5.9 (-7.1-18.9)	-10.2 (-21.8-1.3)
Kenya - Total	100.0	952	100.0	737	100.0	1,689	100.0	357	100.0	620	100.0	976			
Quality-assured ACTs	68.7 (40.6-96.9)		16.4 (-2.5-35.3)		27.7 (-1.7-57,0)		89.9 (85.5-94.3)		80.6 (73.9-87.3)		81.8 (75.8-87.8)		21.2 (-7,0-49.3)	64.2 (44.4-84,0)	54.1 (24.5-83.7)
Non-quality-assured ACTs	10.2 (-1.4-21.8)		3.1 (-3.7-9.9)		4.6 (-2.1-11.3)		2.1 (-0.9-5.1)		0.0		0.3 (-0.1-0.7)		-8.1 (-19.9-3.8)	-3.1 (-9.8-3.6)	-4.3 (-11,0-2.3)`
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	4.4 (-2.4-11.2)		0.4 (-0.5-1.2)		1.2 (-0.7-3.2)		1.1 (0.1-2.1)		0.4 (,00-0.9)		0.5 (0.1-0.9)		-3.3 (-10.1-3.4)	0.1 (-0.9-1,0)	-0.7 (-2.7-1.3)
Non-artemisinin therapy	16.6 (-5.1-38.4)		80.2 (56.4-104,0)		66.5 (31.5-101.4)		6.9 (3.5-10.2)		19.0 (12.2-25.8)		17.4 (11.2-23.6)		-9.8 (-31.5-12,0)	-61.2 (-85.6- -36.7)	-49.0 (-84.1- -14,0)
Madagascar - Total	100.0	19	-	0	100.0	19	100.0	237	100.0	22	100.0	258			
Quality-assured ACTs	15.8 (-6.5-38,0)		-		15.8 (-6.5-38,0)		41.3 (21.1-61.5)		85.1 (55.8-114.3)		66.3 (38.3-94.3)		25.6 (-3.7-54.8)	-	50.6 (15.5-85.6)
Non-quality-assured ACTs	0.0		-		0.0		0.0		0.0		0.0		0.0	-	0.0
Oral artemisinin therapy	0.0		-		0.0		0.0		0.0		0.0		0.0	-	0.0
Non-oral artemisinin monotherapy	0.0		-		0.0		0.0		0.0		0.0		0.0	-	0.0
Non-artemisinin therapy	84.2 (62,0-106.5)		-		84.2 (62,0-106.5)		58.7 (38.5-78.9)		14.9 (-14.3-44.2)		33.7 (5.7-61.7)		-25.6 (-54.8-3.7)	-	-50.6 (-85.6- -15.5)
Niger - Total	100.0	26	-	0	100.0	26	100.0	7	100.0	913	100.0	920		-	
Quality-assured ACTs	0.0		-		0.0		40.1 (40.1-40.1)		32.5 (32.5-32.5)		34.8 (31.4-38.2)		40.1 (0.0-0.0)	-	34.8 (31.4-38.2)
Non-quality-assured ACTs	16.2 (-15.6-48,0)		-		16.2 (-15.6-48,0)		13.8 (13.8-13.8)		29.1 (29.1-29.1)		24.6 (17.6-31.5)		-2.4 (-33.3-28.5)	-	8.4 (-23.3-40,0)
Oral artemisinin therapy	0.0		-		0.0		0.9 (0.9-0.9)		0.3 (0.3-0.3)		0.3 (-0.1-0.7)		0.9 (0.9-0.9)	-	0.3 (-0.1-0.7)
Non-oral artemisinin monotherapy	0.0		-		0.0		0.0		0.3 (0.3-0.3)		0.2 (0.1-0.3)		0.0	-	0.2 (0.1-0.3)
Non-artemisinin therapy	83.8 (52,0-115.6)		-		83.8 (52,0-115.6)		45.2 (45.2-45.2)		38.0 (38.0-38.0)		40.1 (36.9-43.4)		-38.7 (-69.6- -7.8)	-	-43.7 (-74.7- -12.6)
Nigeria - Total	100.0	231	100.0	152	100.0	383	100.0	351	100.0	36	100.0	387			
Quality-assured ACTs	6.8 (-2.6-16.2)		34.8 (34.1-35.5)		33.8 (32.0-35.6)		39.2 (-5.2-83.5)		49.4 (35.4-63.4)		40.3 (0.2-80.4)		32.4 (-12.7-77.5)	14.7 (0.7-28.6)	6.5 (-33.5-46,5)
Non-quality-assured ACTs	10.0 (-1.4-21.3)		28.2 (27.9-28.5)		27.5 (26.0-29.1)		0.8 (-1.2-2.8)		0.0		0.7 (-1.0-2.4)		-9.2 (-20.6-2.3)	-28.2 (-28.5- -27.9)	-26.8 (-29.1- -24.5)
Oral artemisinin therapy	15.5 (-6.1-37.1)		0.0		0.5 (-0.7-1.7)		0.1 (-0.1-0.3)		14.0 (7.2-20.0)		1.6 (-1.8-5.0)		-15.4 (-36.8-6.1)	14.0 (7.3-20.7)	1.1 (-2.5-4.6)
Non-oral artemisinin monotherapy	1.9 (-0.8-4.7)		0.3 (0.3-0.3)		0.4 (0.3-0.5)		35.7 (5.7-65.8)		0.7 (0.4-1.1)		32.0 (2.2-61.7)		33.8 (3.8-63.8)	0.4 (0.1-0.8)	31.6 (1.9-61.2)
Non-artemisinin therapy	65.9 (34.5-97.2)		36.7 (36.4-37.1)		37.7 (35.3-40.1)		24.2 (8.4-40.0)		35.8 (19.1-52.6)		25.4 (11.3-39.5)		-41.7 (-76.6- -6.8)	-0.9 (-17.6-15.7)	-12.3 (-26.5-2.0)
Tanzania - mainland - Total	100.0	783	100.0	2,158	100.0	2,941	100.0	308	100.0	22	100.0	329			
Quality-assured ACTs	27.4 (21.5-33.4)		13.6 (2.4-24.8)		17.3 (5.1-29.5)		37.2 (8.3-66.0)		92.6 (78.7-106.6)		43.2 (16.8-69.7)		9.7 (-19.4-38.8)	79.0 (61.4-96.7)	25.9 (-2.9-54.6)
Non-quality-assured ACTs	15.2 (13.8-16.5)		6.5 (4.4-8.6)		8.8 (5.1-12.6)		25.2 (-11.6-62,0)		0.0		22.4 (-10.8-55.6)		10.0 (-26.4-46.3)	-6.5 (-8.6- -4.4)	13.6 (-19.4-46.6)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	0.5 (0.5-0.6)		0.1 (-0.1-0.2)		0.2 (-0.1-0.5)		2.5 (-1.2-6.2)		0.0		2.2 (-1.1-5.6)		2.0 (-1.7-5.6)	-0.1 (-0.2-0.1)	2.0 (-1.3-5.3)
Non-artemisinin therapy	56.9 (49.5-64.2)		79.8 (68.6-91.1)		73.7 (58.3-89,0)		35.2 (4.1-66.3)		7.4 (-6.6-21.3)		32.1 (4.6-59.7)		-21.7 (-53.2-9.9)	-72.5 (-90.2- -54.8)	-41.5 (-72.6- -10.4)
Uganda - Total	100.0	356	100.0	738	100.0	1,093	100.0	518	100.0	1,878	100.0	2,395			
Quality-assured ACTs	58.0 (38.6-77.3)		41.2 (17.7-64.6)		47.4 (27.5-67.3)		63.6 (49.4-77.7)		49.5 (21.8-77.3)		50.5 (24.3-76.7)		5.6 (-17.9-29.1)	8.4 (-27.3-44.1)	3.1 (-29.3-35.5)
Non-quality-assured ACTs	10.3 (-13.7-34.4)		7.3 (-3.5-18.1)		8.4 (-2.3-19.2)		11.0 (2.2-19.9)		3.6 (-1.7-8.9)		4.1 (-1.0-9.2)		0.7 (-24.3-25.7)	-3.7 (-15.5-8.1)	-4.3 (-16,0-7.3)
Oral artemisinin therapy	0.0		0.8 (-0.9-2.6)		0.5 (-0.6-1.6)		0.0		0.0		0.0		0.0	-0.8 (-2.5-0.9)	-0.5 (-1.6-0.6)
Non-oral artemisinin monotherapy	0.5 (0.3-0.6)		0.5 (-0.3-1.3)		0.5 (0.0-1.0)		1.6 (-0.2-3.3)		0.5 (-0.2-1.2)		0.6 (-0.1-1.2)		1.1 (-0.6-2.8)	0 (-1,0-1,0)	0.1 (-0.7-0.9)
Non-artemisinin therapy	31.2 (26.5-35.9)		50.2 (27.1-73.4)		43.2 (25.8-60.6)		23.8 (9.3-38.4)		46.4 (16.2-76.5)		44.8 (16-73.6)		-7.4 (-22.5-7.7)	-3.9 (-41.3-33.6)	1.7 (-31.5-34.8)
Zanzibar - Total	100.0	8	100.0	7	100.0	15	-	0	100.0	4	100.0	4	-		
Quality-assured ACTs	0.0		0.0		0.0		-		100.0		100.0		-	100.0	100.0
Non-quality-assured ACTs	35.5		89.8		59.5		-		0.0		0.0		-	-89.8	-59.5
Oral artemisinin therapy	0.0		0.0		0.0		-		0.0		0.0		-	0	0.0
Non-oral artemisinin monotherapy	0.0		0.0		0.0		-		0.0		0.0		-	0	0.0
Non-artemisinin therapy	64.5		10.2		40.5		-		0.0		0.0		-	-10.2	-40.5

Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding.

Nigeria baseline data collection was conducted in 2009. Baseline market share estimates for Nigeria are calculated without excluding oversampled public health facilities, private health facilities and pharmacies in urban areas. Therefore urban baseline market share estimates are weighted too heavily in total baseline estimates.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

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Table 2.4.3: Percent distribution of antimalarial sales volumes for private for-profit facilities, at baseline (2010) and endline (2011)

Total number of AETDs of each type of antimalarial sold or distributed in the week preceding the survey visit (n), as a percentage of all antimalarial AETDs sold or distributed in the week preceding the survey visit for private for-profit facilities with any antimalarials in stock at the time of the survey visit (N), by urban-rural location, according to country

| Country/Antimalarial | BASELINE | | | | | | ENDLINE | | | | | | PERCENTAGE POINT CHANGE | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | | Urban | Rural | Total |
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N*	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N*	% (95% CI)	% (95% CI)	% (95% CI)
Ghana - Total	100.0	24,920	100.0	27,186	100.0	52,107	100.0	16,881	100.0	5,695	100.0	22,576			
Quality-assured ACTs	5.8 (2.0-9.6)		6.6 (2.6-10.7)		6.5 (3.1-9.8)		52.5 (49.0-56.1)		49.2 (36.7-61.7)		51.8 (47.9-55.7)		46.7 (41.5-51.9)	42.6 (29.6-55.6)	45.3 (40.3-50.4)
Non-quality-assured ACTs	47.3 (35.0-59.7)		26.1 (21.0-31.2)		30.2 (25-35.4)		21.7 (16.2-27.2)		12.3 (8.4-16.2)		19.7 (15.1-24.2)		-25.6 (-39.0- -12.3)	-13.8 (-20.1- -7.4)	-10.5 (-17.3- -3.7)
Oral artemisinin therapy	4.7 (3.2-6.3)		5.1 (3.0-7.1)		5.0 (3.3-6.7)		3.3 (2.3-4.3)		4.4 (2.1-6.7)		3.5 (2.6-4.5)		-1.4 (-3.3-0.4)	-0.7 (-3.7-2.4)	-1.5 (-3.4-0.5)
Non-oral artemisinin monotherapy	5.6 (-0.3-11.6)		3.1 (0.1-6.1)		3.6 (0.9-6.3)		1.4 (0.9-1.9)		2.8 (0.2-5.5)		1.7 (1.0-2.4)		-4.2 (-10.1-1.7)	-0.3 (-4.2-3.6)	-1.9 (-4.6-0.9)
Non-artemisinin therapy	36.6 (24.7-48.4)		59.1 (52.7-65.5)		54.8 (48.5-61)		21.1 (15.3-26.9)		31.2 (19.0-43.4)		23.3 (18.0-28.6)		-15.5 (-28.5- -2.4)	-27.9 (-41.5- -14.2)	-31.5 (-39.6- -23.3)
Kenya - Total	100.0	17,221	100.0	6,295	100.0	23,516	100.0	22,995	100.0	6,767	100.0	29,761			
Quality-assured ACTs	25.5 (16.4-34.5)		5.9 (3.8-7.9)		12.1 (6-18.2)		62.2 (54.7-69.6)		61.0 (49.3-72.6)		61.4 (53.6-69.2)		36.7 (25.1-48.3)	55.1 (43.3-66.8)	49.3 (39.5-59.1)
Non-quality-assured ACTs	22.1 (13.0-31.1)		5.3 (1.3-9.3)		10.7 (4.1-17.3)		13.3 (8.7-17.9)		3.4 (1.2-5.7)		7.2 (4.5-9.9)		-8.8 (-18.9-1.2)	-1.9 (-6.4-2.6)	-3.5 (-10.6-3.6)
Oral artemisinin therapy	0.6 (-0.5-1.7)		1.8 (0-3.6)		1.4 (-0.1-2.9)		0.2 (-0.2-0.6)		0.0		0.1 (-0.1-0.2)		-0.4 (-1.6-0.8)	-1.8 (-3.5- -0.1)	-1.3 (-2.8-0.2)
Non-oral artemisinin monotherapy	1.7 (0.1-3.3)		0.5 (0.2-0.8)		0.9 (0.3-1.4)		1.2 (0.2-2.1)		0.1 (0.0-0.2)		0.5 (0.1-0.9)		-0.5 (-2.4-1.3)	-0.4 (-0.6- -0.1)	-0.4 (-1.0-0.3)
Non-artemisinin therapy	50.2 (34.2-66.1)		86.5 (82.5-90.5)		74.9 (63.8-86.0)		23.2 (14.1-32.4)		35.5 (23.7-47.3)		30.8 (22.4-39.2)		-26.9 (-45.1- -8.7)	-51.0 (-63.3- -38.7)	-44.1 (-57.8- -30.3)
Madagascar - Total	100.0	9,266	100.0	1,408	100.0	10,675	100.0	4,241	100.0	1,692	100.0	5,933			
Quality-assured ACTs	6.3 (3.8-8.8)		7.0 (2.9-11.1)		6.8 (3.6-10.1)		35.0 (23.2-46.8)		18.0 (7.1-29.0)		22.0 (12.9-31.0)		28.7 (16.8-40.7)	11.0 (-0.5-22.6)	15.1 (5.6-24.6)
Non-quality-assured ACTs	1 (0.0-2.0)		0.0		0.2 (-0.1-0.5)		0.4 (0.1-0.7)		0.0		0.1 (0.0-0.2)		-0.6 (-1.6-0.4)	0.0	-0.1 (-0.4-0.2)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-artemisinin therapy	92.7 (90.0-95.4)		93.0 (88.9-97.1)		92.9 (89.7-96.1)		64.6 (52.8-76.4)		82.0 (71.0-92.9)		77.9 (68.9-87)		-28.1 (-40.1- -16.1)	-11.0 (-22.6-0.5)	-15.0 (-24.5- -5.5)
Niger - Total	100.0	9,712	100.0	8,020	100.0	17,733	100.0	21,454	100.0	4,125	100.0	25,579			
Quality-assured ACTs	8.8 (2.7-14.9)		1.5 (0.6-2.4)		3.7 (1.2-6.2)		9.7 (9.0-10.3)		6.7 (6.3-7.2)		7.6 (7.2-8.0)		0.9 (-5.2-7.0)	5.2 (4.2-6.2)	3.9 (1.4-6.4)
Non-quality-assured ACTs	7.8 (3.5-12.2)		0.1 (-0.1-0.2)		2.4 (1.0-3.8)		3.2 (2.8-3.5)		1.4 (1.2-1.5)		1.9 (1.7-2.0)		-4.7 (-9.0- -0.4)	1.3 (1.1-1.5)	-0.5 (-1.9-0.9)
Oral artemisinin therapy	0.2 (0.0-0.4)		0.0		0.1 (0-0.2)		0.0		0.0		0.0		-0.2 (-0.4-0.0)	0.0	-0.1 (-0.1-0.0)
Non-oral artemisinin monotherapy	0.1 (-0.1-0.3)		0.0		0.0 (0.0-0.1)		0.0		0.0		0.0		-0.1 (-0.3-0.1)	0.0	-0.0 (-0.1-0.0)
Non-artemisinin therapy	83.0 (75.3-90.7)		98.4 (97.5-99.4)		93.8 (90.5-97.2)		87.1 (86.2-88.0)		91.9 (91.4-92.5)		90.6 (90.0-91.1)		4.1 (-3.6-11.8)	-6.5 (-7.6- -5.4)	-3.3 (-6.7-0.1)
Nigeria - Total	100.0	86,795	100.0	11,174	100.0	97,970	100.0	53,647	100.0	11,333	100.0	64,979			
Quality-assured ACTs	2.3 (1.2-3.4)		1.6 (0.3-2.9)		2.2 (1.2-3.2)		17.1 (13.1-21.1)		19.7 (15.1-24.3)		17.8 (14.4-21.1)		14.8 (10.7-19.0)	18.1 (13.4-22.8)	15.6 (12.1-19.1)
Non-quality-assured ACTs	5.5 (1.3-9.8)		2.5 (0.6-4.3)		5.1 (1.5-8.8)		9.8 (6.2-13.4)		4.2 (2.2-6.3)		8.4 (5.4-11.3)		4.3 (-1.3-9.8)	1.8 (-1.0-4.5)	3.2 (-1.4-7.9)
Oral artemisinin therapy	9.1 (4.8-13.3)		3.4 (1.7-5.0)		8.3 (4.4-12.2)		4.9 (3.6-6.1)		3.2 (2.1-4.3)		4.4 (3.5-5.3)		-4.2 (-8.6-0.2)	-0.2 (-2.2-1.8)	-3.9 (-7.9-0.1)
Non-oral artemisinin monotherapy	0.4 (-0.1-1.0)		0.2 (0.0-0.4)		0.4 (-0.1-0.9)		0.6 (0.0-1.3)		0.3 (0.1-0.4)		0.5 (0.1-1.0)		0.2 (-0.6-1.1)	0.1 (-0.2-0.3)	0.1 (-0.5-0.8)
Non-artemisinin therapy	82.7 (80.0-85.4)		92.4 (89.0-95.7)		84.0 (80.9-87.0)		67.6 (62.1-73.1)		72.6 (67.3-77.9)		68.9 (64.8-73.0)		-15.1 (-21.2- -9.0)	-19.7 (-26.0- -13.5)	-15.1 (-20.2- -10.0)
Tanzania - mainland - Total	100.0	3,444	100.0	2,711	100.0	6,155	100.0	19,063	100.0	6,713	100.0	25,776			
Quality-assured ACTs	2.8 (1.9-3.7)		1.0 (0.1-1.9)		2.2 (1.1-3.3)		30.4 (25.3-35.6)		33.8 (19-48.6)		32.1 (24-40.3)		27.6 (22.4-32.7)	32.7 (18.1-47.4)	30.0 (21.9-38.1)
Non-quality-assured ACTs	13.0 (6.3-19.7)		0.9 (-0.1-1.9)		8.6 (1.0-16.2)		10.2 (5.3-15.1)		2.3 (0.6-4.0)		6.1 (2.9-9.4)		-2.8 (-11.0-5.5)	1.4 (-0.5-3.4)	-2.5 (-10.7-5.7)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	0.2 (0.0-0.3)		0.0		0.1 (0.0-0.2)		0.0 (0.0-0.1)		0.0		0.0		-0.1 (-0.3-0)	0.0	-0.1 (-0.2-0.0)
Non-artemisinin therapy	84.1 (76.5-91.7)		98.1 (96.7-99.5)		89.1 (80.4-97.9)		59.4 (50.5-68.3)		63.9 (47.8-80.0)		61.7 (52.3-71.1)		-24.7 (-36.3- -13.1)	-34.2 (-50.1- -18.2)	-27.4 (-40.1- -14.7)
Uganda - Total	100.0	2,646	100.0	12,129	100.0	14,775	100.0	22,832	100.0	14,444	100.0	37,276			
Quality-assured ACTs	3.9 (2.6-5.3)		5.6 (2-9.2)		5.1 (2.5-7.7)		36.8 (32.4-41.3)		39.3 (28.6-50.0)		38.5 (31.5-45.5)		32.9 (28.4-37.5)	33.8 (22.6-44.9)	33.4 (26-40.8)
Non-quality-assured ACTs	31.9 (23.3-40.4)		22.0 (15.2-28.8)		24.9 (18.7-31.0)		19.1 (15.2-23.0)		21.1 (4.4-37.8)		20.4 (9.2-31.6)		-12.8 (-21.9- -3.6)	-0.9 (-18.7-16.9)	-4.5 (-17.1-8.1)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	1.3 (0.5-.02)		0.3 (0.1-0.5)		0.6 (0.1-1.0)		1.0 (0.4-1.5)		0.8 (-0.1-1.8)		0.9 (0.2-1.5)		-0.3 (-1.2-0.6)	0.6 (-0.4-1.5)	0.3 (-0.4-1.1)
Non-artemisinin therapy	63.0 (52.6-73.3)		72.2 (65.2-79.2)		69.5 (62.9-76.1)		43.1 (36.6-49.7)		38.8 (30.4-47.1)		40.3 (33.8-46.7)		-19.8 (-31.9- -7.8)	-33.4 (-44.1- -22.7)	-29.2 (-38.3- -20.2)
Zanzibar - Total	100.0	1,335	100.0	97	100.0	1,432	100.0	3075	100.0	299	100.0	3,374			
Quality-assured ACTs	2.1		0		2.0		60.1		66.9		60.7		58.0	66.9	58.7
Non-quality-assured ACTs	26.4		14.0		25.6		22.1		2.5		20.3		-4.4	-11.5	-5.3
Oral artemisinin therapy	20.6		4.5		19.5		0.2		0.6		0.2		-20.4	-3.9	-19.3
Non-oral artemisinin monotherapy	0.8		0		0.8		0.3		0.4		0.3		-0.5	0.4	-0.5
Non-artemisinin therapy	50		81.5		52.1		17.3		29.6		18.4		-32.6	-52.0	-33.7

Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding.

Nigeria baseline data collection was conducted in 2009. Baseline market share estimates for Nigeria are calculated without excluding oversampled public health facilities, private health facilities and pharmacies in urban areas. Therefore urban baseline market share estimates are weighted too heavily in total baseline estimates. Baseline QAACT market share is also likely to be biased upwards, however, the magnitude of this bias is minimal because of the very low share of antimalarial sales accounted for by health facilities and pharmacies (2.3% at baseline in urban areas).

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.4.4: Percent distribution of antimalarial sales volumes for all outlets (all sectors combined), at baseline (2010) and endline (2011)

Indicator 4.1: Total number of AETDs of each type of antimalarial sold or distributed in the week preceding the survey visit (n), as a percentage of all antimalarial AETDs sold or distributed in the week preceding the survey visit for all outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location, according to country

Country/Antimalarial	BASELINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N*	ENDLINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N*	PERCENTAGE POINT CHANGE Urban % (95% CI)	Rural % (95% CI)	Total % (95% CI)
Ghana - Total	100.0	31,580	100.0	41,915	100.0	73,495	100.0	21,538	100.0	10,050	100.0	31,588			
Quality-assured ACTs	9.7 (6.1-13.3)		18.7 (12.1-25.4)		17.3 (11.6-22.9)		57.8 (52-63.6)		56.9 (49.1-64.7)		57.6 (52.8-62.3)		48.1 (41.4-54.8)	38.2 (28-48.3)	40.3 (33.0-47.6)
Non-quality-assured ACTs	51.2 (41.1-61.2)		30.9 (25.5-36.3)		34.2 (29.1-39.3)		21.0 (15.8-26.3)		14.8 (10.9-18.8)		19.3 (15.4-23.3)		-30.1 (-41.4- -18.9)	-16.0 (-22.6- -9.4)	-14.9 (-21.2- -8.5)
Oral artemisinin therapy	3.7 (2.6-4.7)		3.6 (2.2-5.0)		3.6 (2.4-4.8)		2.5 (1.8-3.2)		2.6 (1.0-4.2)		2.5 (1.9-3.2)		-1.2 (-2.4-0.1)	-1 (-3.1-1.1)	-1.1 (-2.5-0.3)
Non-oral artemisinin monotherapy	4.6 (-0.1-9.3)		3.5 (1.3-5.7)		3.7 (1.7-5.7)		1.4 (0.9-1.8)		2.6 (1.1-4.1)		1.7 (1.1-2.3)		-3.3 (-7.9-1.4)	-0.9 (-3.6-1.7)	-2.0 (-4.0-0.0)
Non-artemisinin therapy	30.8 (22.4-39.2)		43.3 (36.5-50.0)		41.2 (35.2-47.2)		17.3 (12.0-22.7)		23.1 (16.8-29.4)		18.9 (14.5-23.3)		-13.5 (-23.4- -3.7)	-20.2 (-29.3- -11.1)	-22.3 (-29.7- -15)
Kenya - Total	100.0	21,528	100.0	10,216	100.0	31,743	100.0	25,719	100.0	12,745	100.0	38,464			
Quality-assured ACTs	32.9 (23.9-42)		23.2 (9.7-36.7)		25.8 (14.4-37.3)		60.3 (54.3-66.3)		56.0 (36.2-75.8)		57.1 (42.2-72)		27.4 (16.6-38.1)	32.9 (9.1-56.6)	31.3 (12.7-49.9)
Non-quality-assured ACTs	18.0 (11.3-24.6)		3.7 (1.3-6.1)		7.6 (3.6-11.5)		11.9 (7.4-16.4)		1.8 (0.5-3.0)		4.5 (2.5-6.4)		-6.0 (-14.0-1.9)	-1.9 (-4.6-0.8)	-3.1 (-7.5-1.2)
Oral artemisinin therapy	0.5 (-0.4-1.4)		1.1 (-0.3-2.5)		0.9 (-0.2-2.1)		0.2 (-0.2-0.6)		0.0		0.0 (0.0-0.1)		-0.3 (-1.2-0.7)	-1.1 (-2.5-0.3)	-0.9 (-2.0-0.2)
Non-oral artemisinin monotherapy	1.7 (0.3-3)		0.3 (0.1-0.6)		0.7 (0.3-1.1)		1.1 (0.2-1.9)		0.2 (-0.1-0.6)		0.5 (0.1-0.8)		-0.6 (-2.2-0.1)	-0.1 (-0.5-0.3)	-0.2 (-0.8-0.3)
Non-artemisinin therapy	47.0 (33.7-60.2)		71.7 (58.8-84.5)		65.0 (51.6-78.4)		26.5 (18.1-34.9)		42.0 (21.5-62.4)		37.9 (21.9-53.9)		-20.4 (-35.9- -4.9)	-29.7 (-53.6- -5.8)	-27.1 (-47.8- -6.4)
Madagascar - Total	100.0	10,069	100.0	1,684	100.0	11,754	100.0	5,573	100.0	2,512	100.0	8,085			
Quality-assured ACTs	7.8 (4.7-11)		13.2 (7.4-19.0)		12.1 (7.4-16.7)		31.2 (21.2-41.2)		18.0 (8.8-27.3)		20.7 (12.6-28.8)		23.4 (13-33.7)	4.9 (-5.9-15.7)	8.6 (-0.6-17.9)
Non-quality-assured ACTs	1.1 (0.0-2.2)		1.8 (-0.1-3.7)		1.7 (0.1-3.2)		0.3 (-0.1-0.6)		0.4 (-0.1-1.0)		0.4 (0.0-0.8)		-0.8 (-1.9-0.3)	-1.4 (-3.3-0.6)	-1.2 (-2.8-0.3)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-artemisinin therapy	91.0 (87.9-94.2)		85.0 (79.3-90.7)		86.3 (81.6-91)		68.5 (58.5-78.4)		81.5 (72.2-90.9)		78.9 (70.8-87.0)		-22.6 (-32.9- -12.2)	-3.5 (-14.3-7.3)	-7.4 (-16.7-1.9)
Niger - Total	100.0	20,698	100.0	13,472	100.0	34,169	100.0	26,841	100.0	13,177	100.0	40,018			
Quality-assured ACTs	34.0 (14.6-53.4)		10.5 (5.1-15.9)		18.4 (9.1-27.6)		11.1 (10.2-12.1)		9.0 (8.4-9.6)		9.6 (9.0-10.1)		-22.8 (-42.1- -3.5)	-1.5 (-6.9-3.9)	-8.8 (-18.0-0.4)
Non-quality-assured ACTs	14.2 (7.4-20.9)		5.8 (1.1-10.6)		8.6 (4.4-12.9)		4.1 (3.5-4.6)		2.7 (2.3-3.1)		3.1 (2.7-3.4)		-10.1 (-16.8- -3.4)	-3.1 (-7.8-1.6)	-5.5 (-9.8- -1.3)
Oral artemisinin therapy	0.1 (0.0-0.2)		0.2 (-0.2-0.5)		0.1 (-0.1-0.4)		0.0		0.0		0.0		-0.1 (-0.2-0.0)	-0.1 (-0.5-0.2)	-0.1 (-0.3-0.1)
Non-oral artemisinin monotherapy	0.1 (-0.1-0.2)		0.0		0.0 (0.0-0.1)		0.1 (0.0-0.1)		0.0		0.0		0.0 (0.0-0.1)	0.0 (-0.1-0.1)	0.0 (0.0-0.1)
Non-artemisinin therapy	51.7 (28.4-75)		83.6 (75.9-91.2)		72.9 (61.1-84.7)		84.7 (83.3-86.2)		88.3 (87.3-89.2)		87.3 (86.5-88.2)		33.0 (9.9-56.2)	4.7 (-2.9-12.3)	14.5 (2.7-26.2)
Nigeria - Total	100.0	99,613	100.0	12,545	100.0	112,159	100.0	58,701	100.0	13,283	100.0	71,985			
Quality-assured ACTs	2.4 (1.2-3.6)		2.8 (0.8-4.8)		2.4 (1.4-3.5)		19.0 (14.2-23.9)		22.9 (18.2-27.7)		20.1 (16.2-24.1)		16.7 (11.7-21.6)	20.2 (15.1-25.3)	17.7 (13.6-21.8)
Non-quality-assured ACTs	5.7 (1.5-9.9)		2.6 (0.8-4.3)		5.2 (1.7-8.8)		9.6 (6.2-13.1)		4.7 (2.5-6.8)		8.2 (5.5-10.9)		3.9 (-1.5-9.3)	2.1 (-0.7-4.9)	3.0 (-1.5-7.5)
Oral artemisinin therapy	9.0 (4.8-13.2)		2.9 (1.6-4.2)		8.1 (4.2-12.0)		4.7 (3.5-5.8)		2.8 (1.7-3.8)		4.1 (3.3-5.0)		-4.4 (-8.7-0.0)	-0.1 (-1.8-1.5)	-3.9 (-7.9-0.0)
Non-oral artemisinin monotherapy	0.4 (-0.1-1.0)		0.4 (0.0-0.7)		0.4 (-0.1-0.9)		1.1 (0.5-1.7)		1.4 (-0.3-3.1)		1.2 (0.5-1.8)		0.7 (-0.2-1.5)	1.0 (-0.7-2.8)	0.7 (-0.1-1.6)
Non-artemisinin therapy	82.5 (79.9-85.0)		91.5 (87.7-95.2)		83.9 (80.9-86.8)		65.6 (59.9-71.3)		68.3 (63.1-73.4)		66.3 (62.1-70.6)		-16.9 (-23.1- -10.6)	-23.2 (-29.5- -16.9)	-17.5 (-22.7- -12.4)
Tanzania - mainland - Total	100.0	5,500	100.0	8,016	100.0	13,516	100.0	21,256	100.0	14,880	100.0	36,137			
Quality-assured ACTs	32.2 (17.6-46.8)		20.7 (9.6-31.8)		26.3 (13.9-38.6)		34.0 (28.6-39.4)		45.9 (31.9-59.9)		42.2 (32.0-52.3)		1.8 (-13.6-17.2)	25.2 (7.6-42.8)	15.9 (0.1-31.7)
Non-quality-assured ACTs	11.3 (7.3-15.3)		2.0 (0.4-3.5)		6.5 (3.1-9.9)		9.7 (4.4-15.1)		1.1 (0.2-2.1)		3.8 (1.4-6.3)		-1.6 (-8.1-5)	-0.8 (-2.6-1)	-2.7 (-6.8-1.5)
Oral artemisinin therapy	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	0.0
Non-oral artemisinin monotherapy	0.7 (-0.5-1.9)		0.0		0.3 (-0.2-0.9)		0.1 (0.0-0.2)		0.0		0.0 (0.0-0.1)		-0.6 (-1.8-0.6)	0.0	-0.3 (-0.9-0.2)
Non-artemisinin therapy	55.8 (41.8-69.8)		77.3 (67.2-87.5)		66.9 (52.1-81.7)		56.2 (48-64.4)		52.9 (39.0-66.9)		54.0 (44.0-64.0)		0.4 (-15.6-16.4)	-24.4 (-41.5- -7.3)	-12.9 (-30.6-4.7)
Uganda - Total	100.0	3,430	100.0	30,392	100.0	33,821	100.0	29,263	100.0	26,551	100.0	55,814			
Quality-assured ACTs	18.9 (3.5-34.2)		43.7 (35.3-52.2)		40.0 (31.7-48.2)		41.7 (34.7-48.8)		61.5 (55.3-67.8)		56.7 (51.2-62.3)		22.9 (6.4-39.4)	17.8 (7.5-28.1)	16.8 (7.1-26.5)
Non-quality-assured ACTs	26.1 (11.8-40.4)		8.1 (4.4-11.9)		10.8 (6-15.7)		15.5 (12.2-18.9)		10.0 (1.7-18.3)		11.4 (5.4-17.4)		-10.6 (-24.9-3.8)	1.9 (-7.1-10.9)	0.5 (-7.1-8.1)
Oral artemisinin therapy	0.0		0.0 (0.0-0.1)		0.0 (0.0-0.1)		0.0		0.0		0.0		0.0	0 (-0.1-0)	0.0 (-0.1-0.0)
Non-oral artemisinin monotherapy	1.0 (0.2-1.8)		0.1 (0.0-0.2)		0.2 (0.0-0.5)		0.8 (0.4-1.2)		0.4 (0.0-0.8)		0.5 (0.2-0.8)		-0.2 (-1.1-0.7)	0.3 (-0.1-0.7)	0.3 (-0.1-0.7)
Non-artemisinin therapy	54.1 (48.6-59.5)		48.0 (40.9-55.2)		48.9 (42.9-55)		42.0 (36.6-47.4)		28.0 (21.3-34.8)		31.4 (24.9-37.9)		-12.1 (-19.6- -4.5)	-20.0 (-29.7- -10.4)	-17.5 (-26.3- -8.8)
Zanzibar - Total	100.0	1,852	100.0	446	100.0	2,298	100.0	3,316	100.0	581	100.0	3,897			
Quality-assured ACTs	6.0		25.1		9.7		58.9		51.3		57.8		52.9	26.2	48.1
Non-quality-assured ACTs	28.6		5.1.0		24.0		20.7		2.3		17.9		-7.9	-2.7	-6.1
Oral artemisinin therapy	14.9		1.0		12.2		0.2		0.3		0.2		-14.8	-0.7	-12
Non-oral artemisinin monotherapy	0.7		2.5		1.1		0.3		0.2		0.3		-0.4	-2.2	-0.8
Non-artemisinin therapy	49.8		66.4		53		20		45.8		23.8		-29.8	-20.6	-29.2

 Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding.

Nigeria baseline data collection was conducted in 2009. Baseline market share estimates for Nigeria are calculated without excluding oversampled public health facilities, private health facilities and pharmacies in urban areas. Therefore urban baseline market share estimates are weighted too heavily in total baseline estimates. Baseline QAACT market share is also likely to be biased upwards, however, the magnitude of this bias is minimal because of the very low share of antimalarial sales accounted for by health facilities and pharmacies (2.3% at baseline in urban areas).

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.4.5: Market share of quality-assured ACTs, by presence of the AMFm logo at endline, 2011

Total number of AETDs of quality-assured ACTs sold or distributed in the week preceding the survey visit (n), as a percentage of all antimalarial AETDs sold or distributed in the week preceding the survey visit for all outlets with any antimalarials in stock at the time of the survey visit (N), by presence of the AMFm logo, type of outlet, and urban-rural location, according to country

Country/Type of outlet	WITH LOGO						WITHOUT LOGO					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N*	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N*
Ghana – Total	56.2 (50.3-62.1)	21,538	55.3 (46.8-63.7)	10,050	56.0 (51.1-60.8)	31,588	1.6 (0.8-2.3)	21,538	1.6 (0.2-3.1)	10,050	1.6 (0.9-2.3)	31,588
Public health facility	71.9 (62.2-81.6)		63.6 (54.3-72.9)		66.3 (58.5-74.1)		0.0		3.9 (-0.5-8.4)		2.7 (-0.2-5.5)	
Private not-for-profit health facility	75.4 (59.4-91.3)		65.1 (60.8-69.4)		73.8 (59.7-87.8)		0.0		0.0		0.0	
Private for-profit outlet	50.5 (46.7-54.3)		48.7 (36.0-61.3)		50.1 (46.0-54.1)		2.1 (1.1-3.0)		0.5 (0.1-0.9)		1.7 (0.9-2.5)	
Community health worker	-		-		-		-		-		-	
Kenya - Total	56.1 (50.5-61.7)	25,719	48.5 (30.3-66.6)	12,745	50.5 (36.7-64.3)	38,464	4.2 (2.2-6.2)	25,719	7.5 (3.5-11.6)	12,745	6.7 (3.8-9.6)	38,464
Public health facility	23.7 (9.1-38.4)		35.8 (6.1-65.4)		34.9 (7.7-62.1)		13.9 (3.1-24.7)		12.5 (0.4-24.7)		12.6 (1.2-24.0)	
Private not-for-profit health facility	61.5 (30.4-92.5)		41.8 (14.4-69.1)		44.4 (19.8-68.9)		28.4 (-3.2-60.1)		38.8 (10.4-67.2)		37.4 (12.3-62.6)	
Private for-profit outlet	59.4 (52.5-66.3)		59.9 (48.1-71.6)		59.7 (51.9-67.4)		2.8 (0.6-4.9)		1.1 (0.4-1.9)		1.7 (0.7-2.8)	
Community health worker	-		-		-		-		-		-	
Madagascar - Total	27.5 (18.2-36.7)	5,573	15.4 (6.7-24.1)	2,512	17.8 (10.3-25.3)	8,085	3.7 (1.2-6.3)	5,573	2.7 (0.6-4.7)	2,512	2.9 (1.1-4.6)	8,085
Public health facility	7.3 (3.4-11.1)		10.4 (0.5-20.3)		10.1 (1.4-18.7)		2.9 (0.0-5.9)		2.6 (0.6-4.5)		2.6 (0.8-4.4)	
Private not-for-profit health facility	20.0 (2.4-37.7)		30.2 (-24-84.3)		25.8 (-0.8-57.2)		21.3 (-0.8-43.4)		54.9 (-6.4-116.2)		40.5 (-1.3-82.3)	
Private for-profit outlet	31.9 (20.5-43.3)		17.7 (6.8-28.6)		21.0 (12.1-29.9)		3.1 (0.9-5.4)		0.3 (-0.1-0.7)		1.0 (0.3-1.7)	
Community health worker	71.7 (42.1-101.3)		0.8 (-0.9-2.4)		1.1 (-0.6-2.9)		28.3 (-1.3-57.9)		64.3 (40.1-88.5)		64.1 (40.0-88.2)	
Niger - Total	4.9 (4.5-5.4)	26,841	3.8 (3.5-4.1)	13,177	4.1 (3.9-4.4)	40,018	6.2 (5.7-6.7)	26,841	5.1 (4.8-5.4)	13,177	5.4 (5.1-5.7)	40,018
Public health facility	17.1 (15.4-18.9)		11.8 (10.5-13.2)		12.6 (11.3-13.9)		19.1 (18.2-20.0)		13.3 (11.7-14.9)		14.1 (12.7-15.5)	
Private not-for-profit health facility	18.0 (18.0-18.0)		30.4 (30.4-30.4)		26.7 (21.1-32.3)		19.2 (19.2-19.2)		2.1 (2.1-2.1)		7.3 (-0.5-15.0)	
Private for-profit outlet	4.2 (3.9-4.5)		2.7 (2.5-3)		3.1 (2.9-3.4)		5.4 (5.1-5.8)		4.0 (3.8-4.2)		4.4 (4.2-4.6)	
Community health worker	-		-		-		-		-		-	
Nigeria - Total	16.3 (12.3-20.4)	58,701	16.7 (12.1-21.3)	13,283	16.4 (13.2-19.6)	71,985	2.7 (0.2-5.2)	58,701	6.3 (1.5-11.1)	13,283	3.7 (1.4-6.0)	71,985
Public health facility	24.6 (7.0-42.2)		8.2 (-2.1-18.4)		14.6 (5.6-23.6)		36.0 (1.3-70.7)		31.9 (11.2-52.6)		33.5 (14.9-52.1)	
Private not-for-profit health facility	32.2 (-0.3-64.8)		40.5 (26.5-54.4)		33.1 (3.6-62.6)		7.0 (-4.8-18.8)		9.0 (4.6-13.3)		7.2 (-3.5-17.8)	
Private for-profit outlet	15.8 (12.1-19.5)		18.1 (13.4-22.8)		16.4 (13.3-19.5)		1.3 (0.5-2.1)		1.6 (0.8-2.4)		1.4 (0.8-2.0)	
Community health worker	100.0 (100.0-100.0)		1.3 (-1.5-4.1)		2.0 (-1.6-5.6)		0.0		18.4 (4.8-32.0)		18.3 (4.7-31.9)	
Tanzania - mainland - Total	30.5 (25.1-36.0)	21,256	23.7 (11.3-36)	14,880	25.8 (17-34.6)	36,137	3.5 (0.4-6.5)	21,256	22.2 (6.2-38.3)	14,880	16.4 (4.5-28.3)	36,137
Public health facility	59.1 (27.6-90.6)		18.3 (-0.6-37.1)		20.7 (2.3-39.1)		16.6 (-4.8-38.1)		37.1 (14.0-60.1)		35.9 (13.8-58)	
Private not-for-profit health facility	32.7 (-0.7-66.1)		70.6 (11.7-129.5)		36.8 (6.1-67.6)		4.5 (-0.8-9.7)		22.0 (-22.9-67.0)		6.4 (-0.6-13.4)	
Private for-profit outlet	28.1 (23.4-32.8)		30.4 (17.1-43.6)		29.3 (22-36.5)		2.3 (-0.3-5.0)		3.4 (0.5-6.3)		2.9 (0.8-4.9)	
Community health worker	-		-		-		-		-		-	
Uganda - Total	35.4 (27.7-43.1)	29,263	45.9 (36.2-55.5)	26,551	43.3 (36-50.7)	55,814	6.3 (3.6-9.0)	29,263	15.7 (10.1-21.2)	26,551	13.4 (8.6-18.3)	55,814
Public health facility	49.4 (28.4-70.4)		61.3 (48.5-74.1)		59.8 (48.4-71.1)		7.7 (1.4-14.0)		23.6 (10.8-36.3)		21.5 (9.8-33.3)	
Private not-for-profit health facility	11.0 (1.0-21.0)		18.4 (-2.5-39.3)		17.9 (-1.5-37.2)		52.5 (35.0-70.1)		31.2 (14.0-48.3)		32.6 (16.0-49.2)	
Private for-profit outlet	31.9 (27.7-36.1)		34.6 (25-44.2)		33.7 (27.4-39.9)		4.9 (3.7-6.2)		4.8 (1.9-7.6)		4.8 (2.9-6.8)	
Community health worker	77.5 (29.5-125.5)		13.6 (-5.4-32.7)		14.6 (-4.7-33.8)		22.5 (-25.5-70.5)		85.5 (66.5-104.5)		84.6 (65.4-103.8)	
Zanzibar - Total	55.9	3,316	51.1	581	55.2	3,897	3	3,316	0.2	581	2.6	3,897
Public health facility	34.5		33.8		34.1		8.5		0.0		3.9	
Private not-for-profit health facility			0.0		0.0				0.0		0.0	
Private for-profit outlet	57.6		66.6		58.3		2.6		0.3		2.4	
Community health worker	-		-		-		-		-		-	

Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.4.6: Percent distribution of antimalarial sales volumes of ALL antimalarials by outlet type at baseline (2010) and endline (2011)

Total number of AETDs sold or distributed in the week preceding the survey visit by each outlet type (n), as a percentage of all antimalarial AETDs sold or distributed in the week preceding the survey visit by all outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	%	N	%	N	%	N*	%	N	%	N	%	N*
Ghana – Total	100.0	31,580	100.0	41,915	100.0	73,495	100.0	21,538	100.0	10,050	100.0	31,588
Public health facility	17.4		28.0		26.2		6.2		34.4		13.9	
Private not-for-profit health facility	4.9		7.6		7.2		17.7		8.8		15.3	
Private for-profit outlet	77.6		64.3		66.5		76		56.7		70.8	
Community health worker	0.0		0.1		0.1		0.0		0.0		0.0	
Kenya – Total	100.0	21,528	100.0	10,216	100.0	31,743	100.0	25,719	100.0	12,745	100.0	38,464
Public health facility	16.1		30.1		26.3		9.3		44.5		35.3	
Private not-for-profit health facility	5		6.7		6.2		1.5		3.6		3.0	
Private for-profit outlet	78.9		62.5		66.9		89.2		51.9		61.7	
Community health worker	0.1		0.7		0.5		0.0		0.0		0.0	
Madagascar – Total	100.0	10,069	100.0	1,684	100.0	11,754	100.0	5,573	100.0	2,512	100.0	8,085
Public health facility	10.8		15.4		14.5		16.2		30.2		27.4	
Private not-for-profit health facility	0.0		0.0		0.0		3.5		1.2		1.6	
Private for-profit outlet	89.1		80.5		82.3		80.2		67.0		69.7	
Community health worker	0.0		4.0		3.2		0		1.6		1.3	
Niger – Total	100.0	20,698	100.0	13,472	100.0	34,169	100.0	26,841	100.0	13,177	100.0	40,018
Public health facility	50.4		41.0		44.2		23.8		59.2		45.9	
Private not-for-profit health facility	0.1		0.0		0.0		0.0		8.1		5.1	
Private for-profit outlet	49.5		58.9		55.8		76.1		32.6		49.0	
Community health worker	0.0		0.1		0.0		0.0		0.0		0.0	
Nigeria – Total	100.0	99,613	100.0	12,545	100.0	112,159	100.0	58,701	100.0	13,283	100.0	71,985
Public health facility	0.6		14.5		2.8		3.8		15.3		7.1	
Private not-for-profit health facility	0.0		1.5		0.2		1.1		0.4		0.9	
Private for-profit outlet	99.3		83.7		96.9		95.0		84.2		92.0	
Community health worker	0.0		0.3		0.1		0.0		0.2		0.0	
Tanzania - mainland – Total	100.0	5,500	100.0	8,016	100.0	13,516	100.0	21,256	100.0	14,880	100.0	36,137
Public health facility	31.3		45.6		38.6		7.6		55.9		40.8	
Private not-for-profit health facility	8.8		22.6		15.9		1.8		0.1		0.6	
Private for-profit outlet	59.9		31.8		45.4		90.5		44.0		58.5	
Community health worker	0.0		0.0		0.0		0.0		0.0		0.0	
Uganda – Total	100.0	3,430	100.0	30,392	100.0	33,821	100.0	29,263	100.0	26,551	100.0	55,814
Public health facility	14.1		63.6		56.0		21.9		46.7		40.7	
Private not-for-profit health facility	9.9		3.0		4.1		1.6		7.0		5.7	
Private for-profit outlet	75.9		33.0		39.5		76.5		46.0		53.4	
Community health worker	0.1		0.4		0.4		0.0		0.4		0.3	
Zanzibar – Total	100.0	1,852	100.0	446	100.0	2,297	100.0	3,316	100.0	581	100.0	3,897
Public health facility	27.4		76.7		37.0		7.3		47.9		13.3	
Private not-for-profit health facility	0.5		1.5		0.7		0.0		0.7		0.1	
Private for-profit outlet	72.1		21.8		62.3		92.7		51.5		86.6	
Community health worker	0.0		0.0		0.0		0.0		0.0		0.0	

Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding. Nigeria baseline data collection was conducted in 2009. Baseline market share estimates for Nigeria are calculated without excluding oversampled public health facilities, private health facilities and pharmacies in urban areas. Therefore urban baseline market share estimates are weighted too heavily in total baseline estimates.

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.4.7: Percent distribution of antimalarial sales volumes by private for-profit outlets by outlet type at baseline (2010) and endline (2011)

Total number of AETDs sold or distributed in the week preceding the survey visit by each private for-profit outlet type (n), as a percentage of all antimalarial AETDs sold or distributed in the week preceding the survey visit by all private for-profit outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	%	N	%	N	%	N	%	N	%	N	%	N
Ghana – Total private for –profit	100.0	24,920	100.0	27,186	100.0	52,107	100.0	16,881	100.0	5,695	100.0	22,576
Health facility/pharmacy	58.8		27.2		33.3		54.0		26.3		47.9	
Drug store	41.0		72.5		66.4		45.8		73.0		51.8	
General retailer/itinerant	0.2		0.2		0.2		0.2		0.6		0.3	
Kenya – Total private for –profit	100.0	17,221	100.0	6,295	100.0	23,516	100.0	22,995	100.0	6,767	100.0	29,761
Health facility/pharmacy	62.4		15.2		30.3		31.8		31.9		31.9	
Drug store	34.1		72.9		60.5		65.9		57.2		60.5	
General retailer/itinerant	3.5		11.8		9.2		2.3		10.8		7.6	
Madagascar – Total private for –profit	100.0	9,266	100.0	1,408	100.0	10,675	100.0	4,241	100.0	1,692	100.0	5,933
Health facility/pharmacy	55.6		2.6		14.6		49.0		9.6		18.8	
Drug store	6.6		60.1		48.0		27.0		49.4		44.1	
General retailer/itinerant	37.8		37.3		37.4		24.0		41.0		37.1	
Niger – Total private for –profit	100.0	9,712	100.0	8,021	100.0	17,733	100.0	21,454	100.0	4,125	100.0	25,579
Health facility/pharmacy	14.9		-		4.4		42.4		1.3		25.3	
Drug store	6.3		0.8		2.4		14.5		3.2		9.8	
General retailer/itinerant	78.8		99.2		93.1		43.1		95.6		65.0	
Nigeria – Total private for –profit	100.0	86,795	100.0	11,174	100.0	97,970	100.0	53,647	100.0	11,333	100.0	64,979
Health facility/pharmacy	1.7		6.0		2.3		17.0		6.6		14.3	
Drug store	94.1		90.8		93.7		81.4		91.6		84.0	
General retailer/itinerant	4.2		3.2		4.0		1.6		1.8		1.7	
Tanzania - mainland – Total private for –profit	100.0	3,444	100.0	2,711	100.0	6,155	100.0	19,063	100.0	6,713	100.0	25,776
Health facility/pharmacy	66.6		2.4		43.5		43.3		25.0		33.9	
Drug store	33.4		83.9		51.5		56.4		74.4		65.7	
General retailer/itinerant	-		-		5.0		0.3		0.6		0.5	
Uganda – Total private for –profit	100.0	2,646	100.0	12,129	100.0	14,775	100.0	22,832	100.0	14,444	100.0	37,276
Health facility/pharmacy	64.3		27.1		38.0		75.5		49.0		58.2	
Drug store	33.5		72.5		61.1		24.5		50.4		41.4	
General retailer/itinerant	2.2		0.4		0.9		-		0.6		0.4	
Zanzibar – Total private for -profit	100.0	1,335	100.0	97	100.0	1,432	100.0	3,075	100.0	299	100.0	3,374
Health facility/pharmacy	86.1		46.7		83.4		77.7		47.4		75.0	
Drug store	13.9		53.3		16.6		21.7		51.9		24.4	
General retailer/itinerant	-		-		-		0.6		0.7		0.6	

Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding.

Nigeria baseline data collection was conducted in 2009. Baseline market share estimates for Nigeria are calculated without excluding oversampled public health facilities, private health facilities and pharmacies in urban areas. Therefore, urban baseline market share estimates are weighted too heavily in total baseline estimates. Baseline market share for health facilities/pharmacies in this table is also likely to be biased upwards, however, the magnitude of this bias is minimal because of the very low share of antimalarial sales accounted for by public and private health facilities and pharmacies (2.3% at baseline in urban areas).

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.4.8: Percent distribution of sales volumes of quality-assured ACTs by outlet type at baseline (2010) and endline (2011)

Total number of AETDs of quality-assured ACTs sold or distributed in the week preceding the survey visit by each outlet type (n), as a percentage of all AETDs of quality-assured ACTs sold or distributed in the week preceding the survey visit by all outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country.

| Country/Type of outlet | BASELINE | | | | | | ENDLINE | | | | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | |
	%	N	%	N	%	N	%	N	%	N	%	N
Ghana - Total	100.0	2,893	100.0	7,759	100.0	10,651	100.0	12,141	100.0	5,768	100.0	17,909
Public health facility	49.3		71.4		69.4		7.8		40.9		16.7	
Private not-for-profit health facility	4.3		5.4		5.3		23.1		10.1		19.6	
Private for-profit outlet	46.4		22.7		24.9		69.1		49.0		63.7	
Community health worker	-		0.4		0.4		-		-		-	
Kenya - Total	100.0	7,780	100.0	2,586	100.0	10,366	100.0	15,811	100.0	7,341	100.0	23,152
Public health facility	28.4		78.5		61.2		5.8		38.4		29.4	
Private not-for-profit health facility	10.4		4.7		6.7		2.3		5.1		4.3	
Private for-profit outlet	61.0		15.9		31.5		91.9		56.5		66.3	
Community health worker	0.2		0.9		0.6		-		-		-	
Madagascar - Total	100.0	569	100.0	243	100.0	812	100.0	1,724	100.0	425	100.0	2,150
Public health facility	28.4		33.6		32.9		5.3		21.8		16.8	
Private not-for-profit health facility	0.3		-		-		4.6		5.6		5.3	
Private for-profit outlet	71.3		42.8		46.7		90.0		66.9		73.9	
Community health worker	-		23.6		20.4		0.1		5.7		4.0	
Niger - Total	100.0	7,742	100.0	1,410	100.0	9,152	100.0	6,928	100.0	2,462	100.0	9,390
Public health facility	87.2		91.6		88.9		36.7		73.1		55.5	
Private not-for-profit health facility	-		-		-		0.1		12.1		6.3	
Private for-profit outlet	12.8		8.4		11.1		63.2		14.7		38.2	
Community health worker	-		-		-		-		-		-	
Nigeria - Total	100.0	4,286	100.0	557	100.0	4843	100.0	11,889	100.0	2,902	100.0	14,791
Public health facility	2.2		31.5		7.4		12.2		26.7		16.9	
Private not-for-profit health facility	-		19.4		3.4		2.3		0.8		1.8	
Private for-profit outlet	95.8		49.1		87.6		85.4		72.4		81.3	
Community health worker	2.0		-		1.6		-		0.1		-	
Tanzania - mainland - Total	100.0	1,315	100.0	1,310	100.0	2625	100.0	7,464	100.0	6,827	100.0	14,292
Public health facility	87.3		83.5		85.8		17.0		67.4		54.7	
Private not-for-profit health facility	7.5		14.9		10.5		2.0		0.2		0.7	
Private for-profit outlet	5.2		1.6		3.8		81.0		32.4		44.6	
Community health worker	-		-		-		-		-		-	
Uganda - Total	100.0	606	100.0	10,928	100.0	11,533	100.0	11,886	100.0	15,263	100.0	27,149
Public health facility	53.6		92.8		90.0		30.0		64.4		58.3	
Private not-for-profit health facility	30.6		2.9		4.8		2.4		5.6		5.1	
Private for-profit outlet	15.8		4.2		5.0		67.5		29.4		36.2	
Community health worker	-		0.1		0.1		-		-		-	
Zanzibar - Total	100.0	111	100.0	112	100.0	223	100.0	1,953	100.0	298	100.0	2,250
Public health facility	74.2		100.0		87.1		5.3		31.6		8.8	
Private not-for-profit health facility	-		-		0.0		-		1.3		0.2	
Private for-profit outlet	25.8		-		12.9		94.7		67.1		91.1	
Community health worker	-		-		-		-		-		-	

Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding.

Nigeria baseline data collection was conducted in 2009. Baseline market share estimates for Nigeria are calculated without excluding oversampled public health facilities, private health facilities and pharmacies in urban areas. Therefore urban baseline market share estimates are weighted too heavily in total baseline estimates.

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.4.9: Percent distribution of sales volumes of quality-assured ACTs by private for-profit outlets by outlet type at baseline (2010) and endline (2011)

Total number of AETDs of quality-assured ACTs sold or distributed in the week preceding the survey visit by each private for-profit outlet type (n), as a percentage of all AETDs of quality-assured ACTs sold or distributed in the week preceding the survey visit by all private for-profit outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country.

| Country/Type of outlet | BASELINE | | | | | | ENDLINE | | | | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | |
	%	N	%	N	%	N	%	N	%	N	%	N
Ghana – Total private for –profit	100.0	1,098	100.0	1,759	100.0.0	2,857	100.0	8,798	100.0	2,867	100.0	11,665
Health facility/pharmacy	87.4		46.9		53.9		57.4		37.2		53.2	
Drug store	12.6		53.1		46.1		42.4		62.4		46.5	
General retailer/itinerant	-		-		-		0.3		0.4		0.3	
Kenya – Total private for –profit	100.0	4,983	100.0	430	100.0	5,413	100.0	14,564	100.0	4,316	100.0	18,880
Health facility/pharmacy	74.3		25.5		58.2		26.0		26.0		26.0	
Drug store	25.7		74.5		41.8		72.8		65.0		68.0	
General retailer/itinerant	-		-		-		1.2		9.1		6.1	
Madagascar – Total private for –profit	100.0	435	100.0	117	100.0	552	100.0	1,518	100.0	330	100.0	1,848
Health facility/pharmacy	71.5		6.8		20.2		80.5		37.4		53.3	
Drug store	24.9		71.7		62.0		19.5		62.0		46.3	
General retailer/itinerant	3.5		21.5		17.8		-		0.6		0.4	
Niger – Total private for –profit	100.0	882	100.0	120	100.0	1,003	100.0	4,635	100.0	365	100.0	5,000
Health facility/pharmacy	34.1		-		24.4		42.3		8.3		35.5	
Drug store	7.1		2.3		5.7		12.7		23.0		14.8	
General retailer/itinerant	58.9		97.7		69.9		45.0		68.7		49.7	
Nigeria – Total private for –profit	100.0	3,392	100.0	424	100.0	3,815	100.0	9,367	100.0	2,207	100.0	11,573
Health facility/pharmacy	2.8		9.5		3.4		16.6		10.7		14.9	
Drug store	95.1		90.5		94.6		82.6		89.3		84.5	
General retailer/itinerant	2.1		-		1.9		0.8		0.1		0.6	
Tanzania - mainland – Total private for –profit	100.0	85	100.0	27	100.0	111	100.0	5,788	100.0	2,438	100.0	8,225
Health facility/pharmacy	88.7		3.3		74.1		58.3		13.7		34.1	
Drug store	11.3		81.2		23.2		41.0		86.3		65.6	
General retailer/itinerant	3.2		-		2.6		0.7		-		0.3	
Uganda – Total private for –profit	100.0	95	100.0	523	100.0	618	100.0	8,371	100.0	5,610	100.0	13,981
Health facility/pharmacy	77.5		19.0		32.2		73.2		43.6		53.5	
Drug store	22.5		81.0		67.8		26.7		55.6		46.0	
General retailer/itinerant	-		-		-		0.1		0.8		0.5	
Zanzibar – Total private for –profit	100.0	29	-	0	100.0	29	100.0	1,849	100.0	200	100.0	2,049
Health facility/pharmacy	96.5				96.5		77.6		48.9		74.8	
Drug store	3.5				3.5		21.9		50.1		24.7	
General retailer/itinerant	-		-		-		0.5		1.0		0.5	

Note: The sum of urban and rural Ns may not exactly equal the total N due to rounding. Nigeria baseline data collection was conducted in 2009. Baseline market share estimates for Nigeria are calculated without excluding oversampled public health facilities, private health facilities and pharmacies in urban areas. Therefore, urban baseline market share estimates are weighted too heavily in total baseline estimates. Baseline market share for health facilities/pharmacies in this table is also likely to be biased upwards, however, the magnitude of this bias is minimal because of the very low share of antimalarial sales accounted for by public and private health facilities and pharmacies (2.3% at baseline in urban areas).

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.5 Provider Knowledge of first line antimalarial treatment and quality-assured ACT dosing regimen

2.5.1 Provider Knowledge of first line antimalarial treatment

Table 2.5.1 shows the percentage of providers who could correctly state their country's first-line antimalarial. At endline, the percentage was relatively high in Ghana (85%), Kenya (71%), Tanzania mainland (96%), Uganda (79%) and Zanzibar (94%); somewhat lower in Nigeria (51%); and only 33% in Madagascar and Niger. In Ghana, Kenya, Madagascar, Niger, Nigeria and Uganda, knowledge of the first-line medicine was higher in public health facilities than in private for-profit outlets, but in Tanzania mainland and Zanzibar there was no difference. Significant increases in knowledge between baseline and endline were seen in Ghana, Kenya, Niger, Nigeria and Tanzania mainland, in all cases reflecting an increase in knowledge in the private for-profit sector. Nigeria also showed an increase in the public sector, where knowledge had been relatively low at baseline (39%).

Table 2.5.1: Provider knowledge of first line antimalarial treatment at baseline (2010) and endline (2011)

Percentage of providers able to correctly identify the antimalarial for first line treatment (n) among outlets with antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N
Ghana - Total	84.2 (80.2-87.5)	598	73.5 (68.3-78.2)	543	75.6 (71.2-79.5)	1,141	89.8 (82.8-94.2)	573	78.5 (69.7-85.3)	381	85.4 (80.1-89.5)	954
Public health facility	97.8 (91.8-99.4)	67	97.0 (92.1-98.9)	135	97.1 (93.0-98.9)	202	99.6 (98.1-99.9)	94	96.2 (92.3-98.2)	204	97.2 (94.4-98.6)	298
Private not-for-profit health facility	100.0	5	88.3 (60.5-97.4)	9	90.3 (65.3-97.9)	14	100.0	4	100.0	8	100.0	12
Private for-profit outlet												
Health facility/pharmacy	88.5 (82.1-92.8)	314	88.9 (75.2-95.5)	62	88.6 (82.7-92.7)	376	97.5 (93.5-99.1)	270	100.0	26	97.9 (94.4-99.2)	296
Drug store	78.6 (73.1-83.1)	210	69.7 (63.7-75.1)	331	70.8 (65.5-75.6)	541	86.2 (76.1-92.5)	202	70.8 (59.8-79.8)	140	80.2 (72.8-86.0)	342
General retailer/itinerant	44.3 (9.3-86.0)	2	32.1 (11.7-62.8)	3	33.6 (14.3-60.5)	5	64.5 (20.5-92.8)	3	32.7 (3.8-85.7)	3	48.5 (16.0-82.4)	6
Total	83.0 (78.7-86.6)	526	70.7 (65.0-75.8)	396	73.2 (68.5-77.4)	922	89.0 (81.2-93.9)	475	72.3 (61.4-81.1)	169	83.3 (76.9-88.2)	644
Community health worker	-	0	100.0	3	100.0	3	-	0	-	0	-	0
Kenya - Total	67.2 (60.1-73.5)	1,035	48.1 (41.2-55.1)	877	52.7 (46.5-58.7)	1,912	76.6 (68.8-83.0)	1,048	68.2 (58.7-76.3)	799	70.6 (63.4-76.8)	1,847
Public health facility	95.2 (88.1-98.1)	137	96.9 (94.0-98.5)	259	96.5 (94.0-98.0)	396	94.8 (86.8-98.1)	137	97.9 (94.8-99.1)	294	97.6 (95.0-98.9)	431
Private not-for-profit health facility	96.0 (77.2-99.4)	23	96.7 (79.2-99.6)	15	96.5 (85.8-99.2)	38	97.7 (85.3-99.7)	19	87.8 (71.3-95.5)	27	89.8 (75.6-96.2)	46
Private for-profit outlet												
Health facility/pharmacy	88.3 (80.4-93.3)	363	80.7 (67.9-89.2)	103	84.2 (75.6-90.1)	466	91.8 (87.1-94.9)	408	83.7 (75.5-89.6)	113	86.8 (81.5-90.8)	521
Drug store	82.9 (77.9-87.0)	269	54.5 (40.1-68.1)	156	60.7 (45.4-74.2)	425	88.0 (85.2-90.4)	328	86.2 (79.9-90.7)	145	86.9 (83.2-90)	473
General retailer/itinerant	16.6 (11.1-24.1)	239	15.5 (9.6-24.1)	323	15.7 (10.6-22.7)	562	26.0 (14.2-42.9)	156	33.9 (21.0-49.7)	220	32.5 (21.6-45.7)	376
Total	62.8 (54.9-70.1)	871	39.0 (32.7-45.8)	582	44.9 (39.1-50.9)	1,453	75.5 (67.5-82.0)	892	61.8 (50.5-72.0)	478	66.1 (57.9-73.4)	1,370
Community health worker	79.5 (26.1-97.7)	4	69.6 (28.5-93.0)	21	69.9 (29.5-92.8)	25	-	0	-	0	-	0
Madagascar - Total	23.2 (14.6-34.8)	1,434	23.1 (14.5-34.7)	962	23.1 (15.9-32.4)	2,396	35.3 (30.7-40.3)	979	32.7 (26.6-39.3)	1,384	33.0 (27.7-38.8)	2,363
Public health facility	70.3 (62.7-76.9)	67	86.3 (80.3-90.7)	444	81.8 (76.3-86.3)	511	90.9 (81.7-95.7)	65	85.6 (78.9-90.4)	553	86.2 (80.2-90.6)	618
Private not-for-profit health facility	89.1 (59.1-97.9)	6	-	0	89.1 (59.1-97.9)	6	82.4 (67.8-91.3)	26	71.0 (26.0-94.5)	5	75.5 (45.7-91.8)	31
Private for-profit outlet												
Health facility/pharmacy	68.1 (62-73.7)	122	89.6 (51.2-98.6)	9	77.5 (64.7-86.6)	131	77.0 (69.8-82.9)	105	66.5 (27.6-91.2)	12	72.2 (52.9-85.8)	117
Drug store	58.1 (51-64.8)	28	37.6 (28.3-47.9)	227	45.4 (36.6-54.5)	255	84.4 (76.5-90.0)	28	51.0 (43.8-58.2)	346	54.5 (47.5-61.4)	374
General retailer/itinerant	3.3 (2.4-4.5)	1,209	7.7 (3.9-14.6)	244	6.8 (3.7-12.3)	1,453	13.1 (9.5-17.8)	740	13.7 (9.4-19.6)	403	13.7 (9.8-18.7)	1,143
Total	16.9 (10.5-26.1)	1,359	11.3 (7.0-17.6)	480	12.5 (8.7-17.7)	1,839	26.7 (22.6-31.2)	873	18.1 (13.9-23.1)	761	19.4 (15.7-23.6)	1,634
Community health worker	70.1 (21.7-95.2)	2	60.9 (37-80.5)	38	60.9 (37-80.5)	40	100.0	15	70.5 (55.9-81.9)	65	71.3 (57-82.2)	80
Niger - Total	22.1 (15.6-30.4)	833	15.9 (12.7-19.8)	1,198	17.2 (14.2-20.7)	2,031	40.5 (34.4-47)	924	30.3 (26.1-34.8)	738	33.1 (29.6-36.8)	1,662
Public health facility	90.5 (81.5-95.4)	91	84.9 (79.5-89.1)	385	85.5 (80.6-89.3)	476	97.2 (94-98.7)	102	88.6 (84.1-92.0)	220	89.8 (85.9-92.7)	322
Private not-for-profit health facility	37.5 (5.8-85.5)	4	-	0	37.5 (5.8-85.5)	4	100.0	2	100.0	1	100.0	3
Private for-profit outlet												
Health facility/pharmacy	76.5 (66.1-84.5)	106	96.4 (70.1-99.7)	12	79.4 (69.4-86.8)	118	82.2 (73.9-88.3)	95	100.0	4	83.2 (75.2-89.0)	99
Drug store	59.3 (17.4-90.9)	14	61.5 (22.0-90.0)	7	60.7 (29.4-85.1)	21	78.5 (58.4-90.5)	15	100.0	3	90.5 (77.6-96.3)	18
General retailer/itinerant	15.5 (8.5-26.4)	617	8.3 (5.7-11.9)	792	9.7 (7.0-13.3)	1,409	34.4 (27.7-41.9)	710	22.5 (17.7-28.1)	510	25.7 (21.7-30.2)	1,220
Total	19.2 (12.5-28.4)	737	8.9 (6.3-12.6)	811	11.1 (8.4-14.5)	1,548	37.6 (31.3-44.3)	820	23.0 (18.2-28.7)	517	27.2 (23.2-31.6)	1,337
Community health worker	0.0	1	51.0 (5.7-94.7)	2	44.6 (5.7-91.4)	3	-	0	-	0	-	0
Nigeria - Total	15.4 (11.3-20.7)	1,677	15.7 (12.2-20.0)	345	15.5 (12.1-19.6)	2,022	54.3 (44.0-64.2)	1,029	53.0 (43.3-62.5)	471	53.8 (46.5-60.9)	1,500
Public health facility	52.5 (40.7-64.0)	179	38.1 (26.3-51.5)	43	39.0 (27.8-51.5)	222	99.0 (96.2-99.8)	43	80.8 (65.1-90.4)	52	86.7 (74.6-93.5)	95
Private not-for-profit health facility	35.7 (8.0-78.0)	5	0.0	2	2.6 (0.3-17.6)	7	100.0	6	93.1 (54.1-99.4)	3	97.4 (81.1-99.7)	9
Private for-profit outlet												
Health facility/pharmacy	32.8 (26.4-40.0)	711	23.6 (18.4-29.8)	24	25.8 (20.9-31.4)	735	77.9 (70.2-84.2)	99	47.6 (32.3-63.3)	31	66.9 (57.9-74.8)	130
Drug store	15.0 (10.4-21.1)	693	9.4 (5.2-16.5)	254	14.1 (10.1-19.4)	947	51.4 (39.9-62.8)	804	50.7 (40.0-61.5)	362	51.2 (42.9-59.4)	1,166
General retailer/itinerant	13.7 (6.6-26.4)	83	0.0	16	10.9 (5.4-20.6)	99	25.9 (11.8-47.8)	74	23.6 (7.7-53.3)	19	25.3 (13.4-42.8)	93
Total	15.0 (11.0-20.3)	1,487	10.6 (7.2-15.5)	294	14.3 (10.8-18.6)	1,781	52.3 (42.0-62.3)	977	49.4 (39.5-59.3)	412	51.2 (43.9-58.4)	1,389
Community health worker	58.3 (19.4-89.0)	6	21.2 (2.7-72.4)	6	37.5 (13.5-69.9)	12	100.0	3	19.1 (2.3-70.4)	4	22.3 (3.1-71.9)	7
Tanzania - mainland - Total	94.5 (89.3-97.2)	320	86.6 (80.3-91.1)	304	88.4 (83.1-92.2)	624	95.6 (91.3-97.8)	596	96.1 (91.5-98.3)	191	95.9 (93.0-97.7)	787
Public health facility	100.0	5	96.4 (86.1-99.2)	55	96.7 (87.0-99.2)	60	90.0 (50.4-98.8)	7	97.6 (90.5-99.4)	48	97.2 (90.9-99.2)	55
Private not-for-profit health facility	100.0	6	100.0	17	100.0	23	79.1 (27.1-97.5)	4	-	-	88.9 (47.2-98.6)	6
Private for-profit outlet												
Health facility/pharmacy	96.5 (93.1-98.3)	220	100.0	12	97.2 (94.3-98.6)	232	97.3 (89.3-99.4)	321	99.5 (95.3-100)	16	97.9 (91.7-99.5)	337
Drug store	94.1 (86.5-97.5)	88	90.8 (85.2-94.4)	149	91.9 (87.7-94.8)	237	96.0 (92.5-97.9)	259	95.9 (87.0-98.8)	113	95.9 (91.6-98.1)	372
General retailer/itinerant	0.0	1	70.7 (58.5-80.4)	70	70.2 (58.2-80.0)	71	81.9 (30.9-97.9)	5	91.0 (82.9-95.4)	12	90.2 (82.9-94.5)	17
Total	93.9 (88.2-96.9)	309	82.7 (75.1-88.4)	231	85.6 (79.2-90.3)	540	96.0 (92.5-98.0)	585	95.5 (88.4-98.3)	141	95.7 (92.1-97.7)	726
Community health worker	-	0	100.0	1	100.0	1	-	0	-	0	-	0

Table 2.5.1: *Cont.*													

	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda - Total	76.2 (63.4-85.5)	544	77.8 (72.2-82.6)	1,869	77.5 (72.3-82.0)	2,413	81.3 (79.1-83.4)	1,412	77.9 (72.2-82.7)	1722	78.6 (74.1-82.5)	3,134
Public health facility	92.2 (83.4-96.5)	76	95.9 (93.9-97.2)	693	95.5 (93.4-97)	769	93.6 (85.2-97.4)	144	95.8 (92.6-97.7)	534	95.5 (92.7-97.3)	678
Private not-for-profit health facility	100.0	4	91.3 (78.3-96.9)	27	92.6 (80.1-97.5)	31	100.0	13	92.2 (73.9-98.0)	28	93.0 (76.7-98.2)	41
Private for-profit outlet												
Health facility/pharmacy	72.3 (67.0-77.1)	389	68.7 (61.1-75.4)	356	70.5 (65.4-75.1)	745	83.1 (81.0-85.0)	814	79.3 (72.5-84.8)	388	81.0 (77.0-84.5)	1,202
Drug store	78.5 (55.3-91.5)	72	75.6 (69.4-80.8)	745	76.0 (70-81.1)	817	76.9 (72.1-81.0)	435	73.0 (67.8-77.6)	676	73.5 (69.1-77.6)	1,111
General retailer/itinerant	59.8 (7.5-96.5)	2	55.3 (36.9-72.4)	19	55.9 (37.3-73)	21	51.5 (11.1-90.1)	4	27.1 (6.6-66.1)	14	28.5 (7.7-65.7)	18
Total	74.7 (61.1-84.8)	463	73.8 (68.2-78.8)	1,120	74.0 (68.8-78.6)	1,583	80.3 (78.0-82.3)	1,253	73.1 (67.4-78.1)	1078	74.8 (70.4-78.8)	2,331
Community health worker	100.0	1	95.9 (93.2-97.6)	29	96.0 (93.2-97.7)	30	100.0	2	93.0 (87.6-96.1)	82	93.0 (87.6-96.1)	84
Zanzibar - Total	81.5	189	90.3	124	85.0	313	93.2	222	94.2	120	93.6	342
Public health facility	91.1	56	97.6	83	95.0	139	95.8	48	96.1	76	96.0	124
Private not-for-profit health facility	50.0	2	100.0	1	66.7	3	100.0	1	100.0	1	100.0	2
Private for-profit outlet												
Health facility/pharmacy	82.2	73	81.8	11	82.1	84	97.6	82	100.0	16	98.0	98
Drug store	71.9	57	80.0	25	74.4	82	88.6	88	87.5	24	88.4	112
General retailer/itinerant	100.0	1	25.0	4	40.0	5	66.7	3	66.7	3	66.7	6
Total	77.9	131	75.0	40	77.2	171	92.5	173	90.7	43	92.1	216
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.5.2 Provider knowledge of quality-assured ACT dosing regimen for an adult and a child

Tables 2.5.2 and 2.5.3 show the percentage of providers with QAACTs in stock who could correctly state the dosing regimen for a QAACT of their choice for adults and children. At endline, over 90% of QAACT stockists could correctly state the adult dose in Ghana, Kenya and Tanzania mainland, and over 80% in Uganda and Zanzibar (Table 2.5.2). Only 49% of providers in Madagascar could correctly state the adult dose. Data were available at baseline and endline in Ghana, Kenya, Tanzania mainland, Uganda and Zanzibar. Of these countries, significant increases from baseline in knowledge were seen in Ghana, Tanzania mainland and Zanzibar in both the public and private for-profit sectors.

The results for child doses at endline were similar to those for adult doses in Tanzania mainland and Uganda, but were lower for child doses in Ghana, Kenya, Nigeria and Zanzibar, and higher for child doses in Madagascar (Table 2.5.3). Knowledge of child dosing increased significantly from baseline in Ghana, Tanzania mainland and Zanzibar.

Table 2.5.2: Provider knowledge of dosing regimen for quality-assured ACTs (QAACTs) for an adult, at baseline (2010) and endline (2011)

Percentage of providers able to describe correctly the dosing regimen for quality-assured ACTs for an adult (n) among outlets with QAACTs in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	70.8 (60.6-79.3)	357	55.8 (47.2-64.1)	210	60.5 (53.7-66.9)	567	91.4 (88.7-93.6)	475	88.1 (83.2-91.8)	302	90.2 (87.8-92.2)	777
Public health facility	41.3 (32.6-50.7)	58	43.3 (33.6-53.5)	115	43.0 (34.5-52.0)	173	91.9 (82.2-96.6)	64	84.5 (77.0-89.9)	166	86.5 (80.8-90.8)	230
Private not-for-profit health facility	30.0 (5.3-76.9)	2	50.3 (15.5-84.8)	4	46.9 (16.8-79.5)	6	100.0	3	100.0	8	100.0	11
Private for-profit outlet												
Health facility/pharmacy	88.8 (83.6-92.5)	237	81.8 (59.7-93.2)	31	87.0 (80.6-91.6)	268	92.2 (88.6-94.7)	240	100.0	23	93.3 (89.8-95.6)	263
Drug store	45.5 (30.8-61.0)	60	57.9 (44.7-70.1)	57	55.5 (44.4-66.1)	117	90.7 (86.6-93.7)	165	88.0 (80.5-92.9)	103	89.7 (86.1-92.4)	268
General retailer/itinerant	-	0	-	0	-	0	100.0	3	49.2 (7.3-92.3)	2	79.7 (36.3-96.4)	5
Total	74.9 (64.1-83.3)	297	61.2 (49.5-71.8)	88	66.5 (58.0-74.0)	385	91.3 (88.3-93.5)	408	88.4 (81.8-92.9)	128	90.3 (87.6-92.5)	536
Community health worker	-	0	65.2 (37.3-85.6)	3	65.2 (37.3-85.6)	3	-	0	-	0	-	0
Kenya – Total	95.2 (91.2-97.4)	515	95.6 (92.5-97.4)	311	95.4 (93.2-97)	826	90.5 (84.8-94.2)	819	91.6 (86.4-94.9)	584	91.3 (87.5-94.0)	1,403
Public health facility	85.8 (71.8-93.5)	103	94.1 (88.3-97.1)	206	92.5 (87.1-95.7)	309	94.8 (90.8-97.1)	127	90.3 (85.3-93.8)	284	90.7 (86.0-93.9)	411
Private not-for-profit health facility	97.6 (85.2-99.7)	15	100.0	14	99.5 (96.3-99.9)	29	100.0	16	93.9 (68.3-99.1)	27	95.1 (72.8-99.3)	43
Private for-profit outlet												
Health facility/pharmacy	97.0 (89.8-99.1)	244	93.0 (77.8-98.1)	51	95.3 (88.1-98.2)	295	87.9 (83.3-91.4)	344	97.1 (88.9-99.3)	87	93.4 (88.4-96.4)	431
Drug store	97.0 (92.6-98.8)	151	97.2 (86.3-99.5)	36	97.1 (91.9-99)	187	92.3 (82.3-96.8)	302	95.7 (89-98.4)	120	94.2 (89.1-97.0)	422
General retailer/itinerant	-	0	-	0	-	0	74.2 (53.2-88.0)	30	75.4 (61.8-85.4)	66	75.3 (63.1-84.4)	96
Total	97.0 (93.4-98.6)	395	95.7 (87.6-98.6)	87	96.3 (92.5-98.2)	482	90.0 (83.7-94)	676	91.8 (85.0-95.7)	273	91.1 (86.6-94.2)	949
Community health worker	100.0	2	100.0	4	100.0	6	-	0	-	0	-	0
Madagascar –Total	-	-	-	-	-	-	71.6 (64.1-78.1)	201	45.2 (33.7-57.3)	726	49.2 (38.5-60.0)	927
Public health facility	-	-	-	-	-	-	85.7 (74.7-92.4)	53	84.5 (80.0-88.1)	488	84.6 (80.5-87.9)	541
Private not-for-profit health facility	-	-	-	-	-	-	74.3 (56.0-86.7)	22	100.0	2	87.6 (69.2-95.7)	24
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	72.2 (65.8-77.9)	87	9.7 (0.6-64.4)	2	66.5 (52.7-77.9)	89
Drug store	-	-	-	-	-	-	73.9 (64.3-81.7)	25	64.4 (50.9-76)	174	66.1 (54.9-75.7)	199
General retailer/itinerant	-	-	-	-	-	-	0.0	2	33.7 (6.1-79.8)	4	32.7 (6.1.0-78.4)	6
Total	-	-	-	-	-	-	72.0 (66.9-76.6)	114	56.5 (38.4-72.9)	180	62.3 (50.0-73.2)	294
Community health worker	-	-	-	-	-	-	0.0	12	0.0	56	0.0	68
Niger – Total	88.5 (72.8-95.7)	149	76.7 (61.1-87.3)	163	80.4 (68.7-88.5)	312	-					
Public health facility	86.6 (52.0-97.5)	50	92.0 (84.0-96.2)	137	91.2 (83.4-95.5)	187	-	-	-	-	-	-
Private not-for-profit health facility	-	0	-	0	-	0	-	-	-	-	-	-
Private for-profit outlet							-	-	-	-	-	-
Health facility/pharmacy	83.9 (60.0-94.7)	55	100.0	3	87.2 (65.3-96.1)	58	-	-	-	-	-	-
Drug store	75.4 (47.2-91.3)	8	100.0	1	83.1 (53.7-95.4)	9	-	-	-	-	-	-
General retailer/itinerant	93.0 (74.8-98.3)	35	53.6 (24.4-80.6)	22	68.3 (44.1-85.4)	57	-	-	-	-	-	-
Total	89.0 (74.1-95.8)	98	57.8 (29.2-81.9)	26	71.8 (51.9-85.7)	124	-	-	-	-	-	-
Community health worker	-	0	-	0	-	0	-	-	-	-	-	-
Nigeria – Total	-	-	-	-	-	-	83.2 (78.0-87.3)	592	73.4 (62.1-82.3)	245	79.4 (73.6-84.2)	837
Public health facility	-	-	-	-	-	-	97.0 (90.2-99.1)	32	73.6 (46.5-89.9)	28	81.4 (60.4-92.6)	60
Private not-for-profit health facility	-	-	-	-	-	-	67.9 (15.4-96.1)	4	93.1 (54.1-99.4)	3	78.8 (33.6-96.5)	7
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	95.5 (82.0-99.0)	65	90.9 (70.2-97.7)	13	94.7 (84.5-98.3)	78
Drug store	-	-	-	-	-	-	82.2 (76.2-87.0)	467	73.2 (60.3-83.0)	196	78.7 (72.2-84.0)	663
General retailer/itinerant	-	-	-	-	-	-	45.9 (20.7-73.4)	21	0.0	3	41.7 (18.6-69.1)	24
Total	-	-	-	-	-	-	82.9 (77.8-87.0)	553	73.7 (61.7-83.0)	212	79.5 (73.8-84.3)	765
Community health worker	-	-	-	-	-	-	33.3 (33.3-33.3)	3	9.0 (0.6-62.4)	2	10.2 (0.9-59.5)	5
Tanzania - mainland – Total	68.2 (47.4-83.6)	112	84.4 (72.4-91.8)	59	80.7 (70.9-87.7)	171	95.9 (90.5-98.3)	459	99.0 (96.1-99.7)	130	97.9 (95.7-98.9)	589
Public health facility	56.9 (9.7-94.2)	3	88.8 (74.7-95.5)	35	86.3 (73.0-93.6)	38	88.3 (45.0-98.6)	6	100.0	38	99.4 (96.0-99.9)	44
Private not-for-profit health facility	66.7 (66.7-66.7)	3	100.0	6	92.7 (67.6-98.7)	9	72.2 (18.2-96.8)	3	100.0	2	87.2 (42.2-98.4)	5
Private for-profit outlet												
Health facility/pharmacy	85.7 (74.9-92.3)	97	28.2 (3.0-83.2)	3	79.0 (59.3-90.7)	100	98.6 (97.0-99.3)	286	100.0	13	98.9 (97.6-99.5)	299
Drug store	59.2 (26.8-85.1)	9	68.1 (36.4-88.9)	13	64.6 (41.7-82.3)	22	96.1 (89.8-98.6)	161	98.3 (93.7-99.6)	75	97.4 (94.4-98.8)	236
General retailer/itinerant	-	0	42.5 (4.0-92.9)	2	42.5 (4.0-92.9)	2	100.0	3	100.0	2	100.0	5
Total	71.4 (51.4-85.6)	106	62 .0 (37.8-81.4)	18	66.7 (50.4-79.7)	124	96.6 (91.5-98.7)	450	98.4 (94.1-99.6)	90	97.6 (94.9-98.9)	540
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.5.2: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda – Total	91.2 (80.6-96.3)	265	83.9 (75.3-89.8)	768	85.3 (77.6-90.7)	1,033	95.3 (93.9-96.3)	1,123	87.2 (74.8-94)	1,282	89.1 (79.5-94.5)	2,405
Public health facility	96.2 (85.2-99.1)	58	93.5 (89.8-95.9)	605	93.7 (90.2-96)	663	99.6 (97.2-99.9)	129	98.4 (95.9-99.4)	483	98.6 (96.5-99.4)	612
Private not-for-profit health facility	100.0	2	78.1 (46.5-93.6)	10	82.7 (53.0-95.3)	12	100.0	10	100.0	24	100.0	34
Private for-profit outlet												
Health facility/pharmacy	97.0 (94.9-98.3)	199	84.3 (66.2-93.7)	74	92.6 (82.6-97)	273	94.5 (91.8-96.4)	682	96.1 (91.7-98.2)	304	95.4 (93.1-96.9)	986
Drug store	59.7 (25.5-86.5)	6	87.8 (74.7-94.6)	64	84.6 (70.9-92.6)	70	95.5 (93.2-97.1)	297	94.3 (91.1-96.4)	411	94.5 (91.9-96.3)	708
General retailer/itinerant	-	0	0.0	1	0.0	1	100.0	3	66.0 (47.6-80.6)	9	68.3 (52.5-80.8)	12
Total	89.1 (72.4-96.3)	205	86.1 (75.3-92.6)	139	87.1 (78.3-92.6)	344	95.0 (93.5-96.1)	982	93.9 (91-95.9)	724	94.2 (92.1-95.7)	1,706
Community health worker	-	0	24.8 (13.5-41.2)	14	24.8 (13.5-41.2)	14	46.3 (5.2-93.1)	2	16.6 (4.1-47.9)	51	16.8 (4.2-47.9)	53
Zanzibar – Total	34.5	55	40.8	76	38.2	131	85.3	170	82.7	104	84.3	274
Public health facility	28.6	42	40.0	75	35.9	117	82.9	41	82.4	68	82.6	109
Private not-for-profit health facility	-	0	-	0	-	0	0.0	1	100.0	1	50.0	2
Private for-profit outlet												
Health facility/pharmacy	58.3	12	100.0	1	61.5	13	89.6	67	86.7	15	89.0	82
Drug store	-	1	-	0	0.0	1	83.3	60	77.8	18	82.1	78
General retailer/itinerant	-	0	-	0	-	0	100.0	1	100.0	2	100.0	3
Total	53.8	13	100.0	1	57.1	14	86.7	128	82.9	35	85.9	163
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: "describe correctly" implies that the respondent correctly stated the number of tablets that should be taken at a time, the number of times the medicine should be taken per day and the duration of the dose in number of days for a 60kg adult for a specific product which they selected from the QAACTs that they stocked. These data are not available for Madagascar and Nigeria at baseline, as they were not collected in the ACTwatch questionnaire. Data are not available for Niger at endline at this time. Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.5.3: Provider knowledge of dosing regimen for quality-assured ACTs (QAACTs) for a child, at baseline (2010) and endline (2011)

Percentage of providers able to describe correctly the dosing regimen for quality-assured ACTs for a child (n) among outlets with QAACTs in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

| | BASELINE | | | | | | ENDLINE | | | | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | |
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	34.4 (28.9-40.3)	361	33.3 (25.9-41.7)	207	33.7 (28.2-39.6)	568	51.1 (44.9-57.2)	460	46.6 (40.2-53.0)	280	49.4 (44.8-53.9)	740
Public health facility	46.9 (38.9-55.0)	57	34.8 (26.2-44.5)	114	36.4 (28.7-44.9)	171	67.9 (55.8-77.9)	65	49.8 (42.6-56.9)	154	54.9 (48.3-61.4)	219
Private not-for-profit health facility	0.0	2	100.0	4	83.4 (57.0-95.0)	6	100.0	3	56.4 (22.9-84.9)	7	74.1 (45.4-90.7)	10
Private for-profit outlet												
Health facility/pharmacy	45.6 (39.5-51.9)	241	47.1 (31.5-63.3)	29	46.0 (39.9-52.2)	270	70.3 (63.5-76.2)	238	63.9 (39.8-82.5)	21	69.4 (62.8-75.3)	259
Drug store	8.6 (4.9-14.9)	61	27.2 (18.4-38.2)	57	23.7 (16.3-33.1)	118	40.3 (34.4-46.4)	151	43.9 (35.9-52.2)	96	41.6 (36.9-46.6)	247
General retailer/itinerant	-	0	-	0	-	0	35.5 (7.2-79.5)	3	0.0	2	21.3 (4.3-61.7)	5
Total	33.7 (27.9-40.1)	302	29.9 (21.7-39.5)	86	31.4 (25.8-37.6)	388	49.1 (42.7-55.5)	392	44.9 (37.9-52.2)	119	47.8 (42.8-52.7)	511
Community health worker	-	0	0.0	3	0.0	3	-	0	-	0	-	0
Kenya – Total	77.3 (63.1-87.2)	490	72.8 (63.9-80.1)	301	74.4 (66.8-80.7)	791	67.7 (60.7-74.0)	823	66.2 (59.9-71.9)	587	66.6 (61.8-71.1)	1,410
Public health facility	90.6 (82.2-95.3)	102	86.8 (78.8-92.1)	208	87.5 (80.9-92.1)	310	88.1 (80.7-92.9)	127	88.5 (81.4-93.1)	285	88.5 (81.9-92.8)	412
Private not-for-profit health facility	81.4 (53.0-94.5)	17	66.9 (27.4-91.5)	12	70.6 (37.5-90.5)	29	94.6 (78.5-98.8)	16	81.1 (54.6-93.9)	27	83.6 (61.2-94.3)	43
Private for-profit outlet												
Health facility/pharmacy	80.2 (63.4-90.5)	229	68.2 (47.3-83.7)	43	75.2 (62.0-84.9)	272	61.6 (49.0-72.9)	345	65.0 (56.6-72.5)	88	63.7 (56.5-70.2)	433
Drug store	66.2 (48.7-80.2)	140	56.3 (43.7-68.1)	30	60.4 (50.3-69.7)	170	70.0 (62.2-76.7)	305	60.3 (49.1-70.5)	120	64.4 (56.7-71.3)	425
General retailer/itinerant	-	0	-	0	-	0	40.4 (19.4-65.5)	30	41.7 (28.3-56.5)	67	41.6 (29.2-55.0)	97
Total	74.1 (57.2-85.9)	369	61.0 (51.8-69.4)	73	67.4 (57.9-75.7)	442	65.8 (57.9-72.9)	680	57.7 (51.1-64.0)	275	60.6 (54.3-66.5)	955
Community health worker	100.0	2	73.9 (57.5-85.6)	8	74.8 (59.9-85.4)	10	-	0	-	0	-	0
Madagascar – Total	-	-	-	-	-	-	59.2 (51.4-66.5)	195	59.2 (53.6-64.6)	717	59.2 (54.3-63.9)	912
Public health facility	-	-	-	-	-	-	73.6 (56.6-85.7)	51	65.0 (57.2-72.0)	483	65.9 (58.8-72.3)	534
Private not-for-profit health facility	-	-	-	-	-	-	76.5 (56.6-89.0)	21	34.7 (3.1-90.0)	2	54.6 (18.3-86.6)	23
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	51.5 (40.7-62.2)	87	100.0	2	56.0 (42.8-68.3)	89
Drug store	-	-	-	-	-	-	39.7 (20.7-62.5)	23	42.9 (35.9-50.2)	173	42.4 (35.5-49.6)	196
General retailer/itinerant	-	-	-	-	-	-	0.0	2	0.0	4	0.0	6
Total	-	-	-	-	-	-	48.0 (38.4-57.8)	112	37.7 (30.4-45.6)	179	41.6 (35.6-47.7)	291
Community health worker	-	-	-	-	-	-	75.5 (60.0-86.3)	11	63.7 (55.8-71.0)	53	64.0 (56.3-71.1)	64
Niger – Total	62.2 (52.4-71.2)	184	74.9 (64.0-83.3)	179	70.6 (63.3-77.0)	363	53.7 (47.1-60.2)	302	60.2 (50.2-69.3)	204	57.7 (51.1-64.1)	506
Public health facility	71.3 (53.1-84.5)	61	82.0 (75.7-87)	146	80.3 (74.4-85)	207	86.3 (78.1-91.8)	90	84.2 (77.1-89.4)	149	84.6 (78.6-89.1)	239
Private not-for-profit health facility	100.0	1	-	0	100.0	1	0.0	1	100.0	1	80.6 (32.5-97.3)	2
Private for-profit outlet												
Health facility/pharmacy	47.7 (29.2-66.8)	65	94.6 (52.5-99.6)	3	56.3 (34.3-76.1)	68	54.1 (37.8-69.6)	65	91.6 (61.9-98.6)	4	57.9 (41.7-72.5)	69
Drug store	97.1 (78.4-99.7)	8	100.0	1	98.0 (84.5-99.8)	9	88.4 (69.8-96.2)	9	48.7 (8.5-90.7)	2	67.1 (29.7-90.8)	11
General retailer/itinerant	58.9 (43.5-72.6)	49	65.4 (46.3-80.6)	29	62.9 (50.3-74.0)	78	45.8 (37.4-54.4)	137	36.8 (23.1-52.9)	48	41.0 (32.3-50.3)	185
Total	59.9 (48.5-70.2)	122	67.6 (48.7-82.1)	33	64.1 (53.1-73.9)	155	48.3 (40.9-55.7)	211	38.0 (24.8-53.3)	54	43.1 (35.1-51.4)	265
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria – Total	-	-	-	-	-	-	51.0 (40.4-61.4)	594	61.6 (51.3-70.9)	247	55.1 (46.9-63.0)	841
Public health facility	-	-	-	-	-	-	73.6 (44.9-90.5)	32	54.8 (30.9-76.6)	29	60.9 (41.6-77.4)	61
Private not-for-profit health facility	-	-	-	-	-	-	100.0	5	93.1 (54.1-99.4)	3	97.0 (78.9-99.7)	8
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	55.6 (31.5-77.2)	64	65.8 (36.2-86.7)	13	57.4 (37.0-75.6)	77
Drug store	-	-	-	-	-	-	48.3 (37.6-59.1)	470	61.0 (49.7-71.1)	197	53.3 (44.5-61.9)	667
General retailer/itinerant	-	-	-	-	-	-	49.7 (23.2-76.4)	20	100.0	3	54.4 (28.6-78.1)	23
Total	-	-	-	-	-	-	49.3 (38.7-60.0)	554	61.5 (50.7-71.2)	213	53.7 (45.1-62.1)	767
Community health worker	-	-	-	-	-	-	66.7 (66.7-66.7)	3	100.0	2	98.4 (82.3-99.9)	5
Tanzania - mainland – Total	68.9 (45.0-85.8)	110	80.1 (68.2-88.2)	62	77.6 (67.5-85.2)	172	87.0 (76.4-93.3)	443	93.8 (85.7-97.5)	119	91.3 (85.2-95.0)	562
Public health facility	78.5 (21.4-98.0)	3	84.3 (72.0-91.8)	37	83.8 (71.9-91.3)	40	88.3 (45.0-98.6)	6	98.2 (87.3-99.8)	37	97.8 (89.2-99.6)	43
Private not-for-profit health facility	100.0	3	93.3 (60.9-99.2)	7	94.7 (67.2-99.4)	10	60.4 (11.6-94.7)	3	100.0	2	81.8 (32.4-97.7)	5
Private for-profit outlet												
Health facility/pharmacy	81.2 (71.6-88.1)	95	8.3 (0.7-54.9)	3	72.7 (55-85.3)	98	88.0 (79.1-93.4)	278	96.1 (83.0-99.2)	12	89.9 (81.8-94.6)	290
Drug store	43.8 (14.7-77.9)	9	70.4 (34.8-91.4)	12	59.4 (36-79.2)	21	87.9 (75.6-94.4)	153	90.8 (77.8-96.6)	67	89.5 (81.2-94.4)	220
General retailer/itinerant	-	0	35.7 (4.4-87.1)	3	35.7 (4.4-87.1)	3	63.1 (12.0-95.5)	3	100.0	1	81.6 (28.5-98.0)	4
Total	61.1 (43.7-76.1)	104	59.0 (30.6-82.4)	18	60.0 (42.6-75.2)	122	87.5 (76.6-93.8)	434	91.2 (78.5-96.7)	80	89.5 (81.7-94.2)	514
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.5.3: *Cont.*

Percentage of providers able to describe correctly the dosing regimen for quality-assured ACTs for a child (n) among outlets with QAACTs in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda – Total	65.9 (44.4-82.4)	264	82.2 (77.1-86.4)	771	79.1 (72.3-84.5)	1,035	78.4 (74.8-81.6)	1,129	82.3 (78.5-85.5)	1,270	81.4 (78.2-84.1)	2,399
Public health facility	93.8 (82.2-98.0)	59	90.4 (86.3-93.3)	606	90.7 (86.7-93.6)	665	92.2 (85.2-96)	131	95.3 (93.0-96.8)	480	94.8 (92.8-96.3)	611
Private not-for-profit health facility	100.0	2	78.1 (46.5-93.6)	10	82.7 (53.0-95.3)	12	77.1 (63.5-86.7)	10	94.8 (78.9-98.9)	24	92.8 (80.8-97.5)	34
Private for-profit outlet												
Health facility/pharmacy	63.3 (41.5-80.7)	197	75.7 (58.7-87.2)	75	67.8 (52.9-79.7)	272	75.2 (70.5-79.5)	687	81.4 (72.1-88.2)	299	78.6 (72.7-83.5)	986
Drug store	23.8 (3.6-72.2)	6	67.4 (57.3-76.1)	65	62.5 (49.8-73.6)	71	81.3 (74.6-86.6)	296	79.7 (74.3-84.2)	407	80.0 (75.5-83.8)	703
General retailer/itinerant	-	0	0.0	1	0.0	1	37.6 (5.0-87.3)	3	40.7 (26.4-56.8)	9	40.5 (26.5-56.3)	12
Total	54.9 (27.0-80.0)	203	68.4 (60.4-75.4)	141	64.1 (52.9-73.9)	344	77.4 (73.2-81.1)	986	78.9 (73.4-83.5)	715	78.5 (74.3-82.1)	1,701
Community health worker	-	0	100.0	14	100.0	14	46.3 (5.2-93.1)	2	86.1 (74.7-92.9)	51	85.8 (74.8-92.5)	53
Zanzibar – Total	37.9	58	35.2	71	36.4	129	52.1	169	48.5	97	50.8	266
Public health facility	43.5	46	35.7	70	38.8	116	56.8	44	51.5	66	53.6	110
Private not-for-profit health facility	-	0	-	0	-	0	100	1	0.0	1	50.0	2
Private for-profit outlet												
Health facility/pharmacy	20.0	10	0.0	1	18.2	11	53.7	67	50.0	12	53.2	79
Drug store	0.0	2	-	0	0.0	2	46.4	56	43.8	16	45.8	72
General retailer/itinerant	-	0	-	0	-	0	0.0	1	0.0	2	0.0	3
Total	16.7	12	0.0	1	15.4	13	50	124	43.3	30	48.7	154
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: " describe correctly" implies that the respondent correctly stated the number of tablets that should be taken at a time, the number of times the medicine should be taken per day and the duration of the dose in number of days for child under 2 years (10kg) for a specific product which they selected from the QAACTs that they stocked. These data are not available for Madagascar and Nigeria at baseline, as they were not collected in the ACTwatch questionnaire. Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.5.3 Reasons for not stocking quality-assured ACTs

Table 2.5.4 shows the reasons given for not stocking QAACTs by private providers (results are not reported for public health facilities and Community Health Workers (CHWs) as it is assumed that they do not have control over the products they stock). At endline in Ghana, Kenya, Madagascar and Niger, the three most commonly reported reasons for not stocking QAACTs were "QAACTS are not available from my suppliers," "I don't know about these drugs" and "my customers do not ask for them." By contrast in Nigeria, Tanzania mainland and Uganda the three most common reasons were "QAACTs are too expensive," "my customers do not ask for them" and "I am temporarily out of stock." In Zanzibar the three most common reasons were "QAACTs are not available from my suppliers," "my customers do not ask for them" and "I am temporarily out of stock."

Some changes were evident between baseline and endline (no baseline data were available for Madagascar and Nigeria). The percentage of respondents in private for-profit outlets saying that QAACTs were too expensive fell in Ghana, Kenya, Niger and Zanzibar; the percentage saying they didn't know about QAACTs fell in Ghana and Uganda; the percentage saying that they were not available from their suppliers fell in Niger and the percentage saying they were not allowed to sell QAACTs fell in Zanzibar. Increases were seen in those saying they were temporarily out of stock in Niger, Tanzania mainland, Uganda and Zanzibar; and in those saying that customers can get QAACTs free from public health facilities in Uganda.

Table 2.5.4: Reasons for not stocking quality-assured ACTs (QAACTs) for private providers, at baseline (2010) and endline (2011)

Providers stating a specific reason why they were not stocking QAACTs (n) as a percentage of all outlets not stocking QAACTs at the time of the survey visit (N), by urban-rural location and type of reason specified, according to country

Country/Type of reason specified	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana												
Too expensive	37.0 (31.3-43.1)	219	28.1 (21.9-35.3)	305	29.3 (23.8-35.5)	524	5.3 (1.5-16.8)	39	5.1 (1.9-12.7)	40	5.2 (2.3-11.1)	79
They are not available/my suppliers do not have it in stock	29.8 (23.5-37)	219	37.8 (29.8-46.5)	305	36.7 (29.7-44.3)	524	54.2 (40.4-67.4)	39	43.5 (27.2-61.2)	40	49.0 (37.8-60.4)	79
My customers do not ask for them	19.0 (13.9-25.5)	219	16.7 (11.9-22.9)	305	17.0 (12.7-22.4)	524	20.9 (10.6-37.2)	39	11.4 (5.9-21)	40	16.3 (10.2-25.1)	79
I don't know about these drugs	31.6 (24.4-39.9)	219	44.0 (36.2-52.2)	305	42.3 (35.5-49.4)	524	8.2 (3.0-20.4)	39	26.6 (16.2-40.3)	40	17.1 (10.4-26.8)	79
Other	25.8 (19.1-34)	219	13.8 (9.7-19.4)	305	15.5 (11.7-20.2)	524	29.7 (20.3-41.2)	40	28.8 (15.5-47.1)	44	29.3 (20.7-39.6)	84
Kenya												
Too expensive	32.5 (26.7-39)	467	27.0 (21.5-33.4)	490	28.1 (23.2-33.5)	957	12.4 (9.5-15.9)	299	10.6 (7.6-14.6)	316	10.9 (8.4-14.1)	615
Not profitable	6.8 (3.1-14.4)	467	3.7 (2.2-6.1)	490	4.3 (2.8-6.6)	957	3.7 (2-6.8)	299	3.2 (1.9-5.5)	316	3.3 (2.2-5.1)	615
The outlet is not allowed to sell them	11.5 (7.9-16.3)	467	7.2 (3.9-12.8)	490	8 (5.1-12.4)	957	9.3 (6.1-13.8)	299	11.4 (8.9-14.6)	316	11.0 (8.8-13.6)	615
They have too many side effects	1.1 (0.5-2.4)	467	0.7 (0.2-3.2)	490	0.8 (0.3-2.4)	957	1.6 (0.4-5.9)	299	1.5 (0.4-5.5)	316	1.5 (0.5-4.4)	615
They do not work well	2 (1.1-3.6)	467	1.4 (0.5-3.6)	490	1.5 (0.7-3.1)	957	4.5 (2.2-9)	299	5.6 (1.9-15)	316	5.3 (2.2-12.4)	615
They are not available/my suppliers do not have it in stock	20.5 (16.2-25.6)	467	32.9 (26.7-39.8)	490	30.5 (25.1-36.4)	957	25.3 (20.2-31.1)	299	28.1 (19-39.4)	316	27.5 (20.1-36.5)	615
My customers do not ask for them	30.8 (24.8-37.5)	467	24.1 (18.9-30.4)	490	25.4 (20.8-30.8)	957	18.8 (15.4-22.7)	299	15.1 (10.5-21.3)	316	15.9 (11.9-20.8)	615
I don't know about these drugs	28.1 (23.7-32.9)	467	30.8 (24.4-38)	490	30.3 (25.1-36)	957	22.4 (17.6-28)	299	27.3 (21.6-33.9)	316	26.3 (21.6-31.7)	615
I am temporarily out of stock	9.5 (6.3-14.2)	467	7.9 (4.8-12.7)	490	8.2 (5.6-12)	957	18.0 (12.7-24.9)	299	12.0 (7.3-19.1)	316	13.2 (9-18.9)	615
Other	11.2 (8.4-14.8)	467	7.2 (4.9-10.5)	490	8 (5.9-10.7)	957	11.6 (7.9-16.7)	299	9.6 (6.1-14.8)	316	10.0 (7-14.1)	615
Madagascar												
Too expensive	-	-	-	-	-	-	3.3 (2.3-4.7)	1,029	4.1 (2-8.1)	697	4 (2.2-7.3)	1,726
Not profitable	-	-	-	-	-	-	0.7 (0.3-1.5)	1,029	0.6 (0.2-1.3)	697	0.6 (0.3-1.2)	1,726
This outlet is not allowed to sell them	-	-	-	-	-	-	14.3 (11.6-17.5)	1,029	6.6 (4.3-10.1)	697	7.7 (5.6-10.6)	1,726
The have too many side effects	-	-	-	-	-	-	0.3 (0.1-0.7)	1,029	0.2 (0-1.5)	697	0.2 (0-1.1)	1,726
They do not work well	-	-	-	-	-	-	0.2 (0.1-0.4)	1,029	0.2 (0-1.3)	697	0.2 (0-1.1)	1,726
The are not available/my suppliers do not have it in stock	-	-	-	-	-	-	31.4 (27.1-36)	1,029	37.8 (30.5-45.7)	697	36.9 (30.5-43.7)	1,726
My customers do not ask for them	-	-	-	-	-	-	25.5 (20.4-31.3)	1,029	18.1 (14.1-23.1)	697	19.2 (15.6-23.4)	1,726
I don't know about these drugs	-	-	-	-	-	-	33.3 (28.9-38)	1,029	35.9 (29.7-41.8)	697	35.5 (29.7-41.8)	1,726
I am temposrily out of stock	-	-	-	-	-	-	3.5 (1.5-8.1)	1,029	2.4 (1.3-4.1)	697	2.5 (1.5-4.1)	1,726
Other	-	-	-	-	-	-	1.9 (0.9-3.7)	1,029	3.7 (1.9-6.9)	697	3.4 (1.9-6.1)	1,726
Niger												
Too expensive	34.2 (26.4-43.0)	669	28.2 (22.2-35.1)	1,004	29.2 (24.1-35)	1,673	10.7 (8.8-13.0)	736	15.1 (12.8-17.6)	632	14.1 (12.2-16.1)	1,368
Not profitable	9.3 (5.2-16.0)	669	5.7 (3.1-10.2)	1,004	6.3 (3.9-9.9)	1,673	4.6 (3.5-6.0)	736	3.2 (2.2-4.5)	632	3.5 (2.7-4.5)	1,368
The outlet is not allowed to sell it	6.7 (3.8-11.6)	669	4.8 (2.7-8.3)	1,004	5.1 (3.3-8.0)	1,673	5.2 (4.1-6.8)	736	2.6 (1.8-3.8)	632	3.2 (2.5-4.2)	1,368
They are not available/my suppliers do not have it in stock	28.3 (21.9-35.8)	669	42.9 (37.8-48.2)	1,004	40.4 (35.9-45.1)	1,673	23.6 (20.2-27.4)	736	27.8 (23.2-32.9)	632	26.8 (23.1-30.8)	1,368
My customers do not ask for them	29.9 (23-37.9)	669	24.7 (18.6-32.2)	1,004	25.6 (20.3-31.8)	1,673	24.1 (20.6-27.9)	736	18.1 (13.8-23.4)	632	19.5 (16.1-23.5)	1,368
I don't know about these drugs	29.4 (22.5-37.6)	669	28.6 (22.1-36.2)	1,004	28.8 (23.1-35.2)	1,673	24.3 (19.8-29.5)	736	31.4 (25.7-37.8)	632	29.8 (25.3-34.7)	1,368
I am temporarily out of stock	3.6 (1.9-6.7)	669	4.2 (3.1-5.7)	1,004	4.1 (3.1-5.4)	1,673	15.6 (10.8-22.2)	736	12.1 (9.2-15.7)	632	12.9 (10.3-16.0)	1,368
Other	5.8 (3.6-9.1)	684	4.4 (3.0-6.4)	1,004	4.7 (3.4-6.3)	1,673	8.6 (6.4-11.4)	736	7.1 (4.3-11.4)	643	7.4 (5.1-10.6)	1,368
Nigeria												
Too expensive	-	-	-	-	-	-	33.3 (27.2-40.1)	402	36.9 (27.6-47.2)	202	34.7 (29.5-40.3)	604
Not profitable	-	-	-	-	-	-	4.8 (3.2-7.1)	402	2.4 (0.9-6.3)	202	3.9 (2.4-6.1)	604
Not allowed to sell	-	-	-	-	-	-	6.2 (3.5-10.6)	402	3.0 (1.1-7.9)	201	4.9 (3.1-7.7)	603
Not available	-	-	-	-	-	-	15.5 (8.6-26.5)	402	20.4 (14.4-28.2)	201	17.4 (11.8-24.9)	603
My customers do not ask for them	-	-	-	-	-	-	46.4 (40.1-52.7)	401	29.0 (22.2-36.9)	202	39.7 (33.7-45.9)	603
Do not know about QAACTs	-	-	-	-	-	-	17.0 (10.2-27)	402	15.0 (9.2-23.5)	202	16.2 (11.3-22.7)	604
Temporarily out of stock	-	-	-	-	-	-	17.6 (9.8-29.5)	402	17.1 (11.0-25.8)	202	17.4 (11.7-25.1)	604
Other	-	-	-	-	-	-	17.9 (11.7-26.5)	402	16.6 (11.6-23.2)	202	17.4 (13.0-22.9)	604
Tanzania – mainland												
It is too expensive	44.8 (35.9-53.9)	134	26.0 (20.0-33.1)	238	29.8 (24.1-36.2)	372	20.5 (11.4-33.9)	93	25.6 (13.9-42.4)	55	23.9 (15.2-35.4)	148
It is not profitable	5.1 (1.9-13.1)	134	3.1 (1.8-5.4)	238	3.5 (2.2-5.6)	372	8.5 (4.1-15.9)	93	7.6 (2.2-23.1)	55	7.9 (3.5-17)	148
The outlet is not allowed to sell it	16.0 (10.0-24.5)	134	22.0 (12.7-35.4)	238	20.8 (12.9-31.7)	372	15.3 (6.6-31.5)	93	13.3 (7.2-23.2)	55	13.9 (8.6-21.8)	148
It has too many side effects	0.0 (0.0-0.0)	134	1.4 (0.5-3.7)	238	1.1 (0.4-3.0)	372	0.0	93	0.0	55	0.0	148
It does not work well	0.8 (0.1-4.9)	134	0.3 (0.0-2.4)	238	0.4 (0.1-1.8)	372	1.5 (0.2-10.1)	93	1.4 (0.2-9.7)	55	1.5 (0.3-6.1)	148
It is not available/my suppliers do not have it in stock	21.9 (12.8-34.9)	134	31.7 (24.3-40.1)	238	29.7 (23.4-36.8)	372	5.4 (2.2-12.5)	93	21.5 (12.6-34.1)	55	16.0 (9.3-26.2)	148
My customers do not ask for it	22.2 (12.1-37.1)	134	18.6 (9.8-32.5)	238	19.3 (11.6-30.5)	372	36.1 (20.8-54.9)	93	15.8 (6.4-34.1)	55	22.7 (12.8-36.9)	148
I don't know about these drugs	24.0 (17.5-31.8)	134	37.1 (27.8-47.5)	238	34.4 (26.9-42.8)	372	2.5 (0.5-10.8)	93	16.4 (6.5-35.5)	55	11.7 (4.5-27)	148
I am temporarily out of stock	0.6 (0.3-1.2)	134	0.3 (0-2.1)	238	0.3 (0.1-1.3)	372	17.6 (8.4-33.2)	93	16.4 (5.9-38.2)	55	16.8 (8.3-31.1)	148
Other	0.1 (0.0-0.7)	148	2.8 (1.2-6.5)	238	2.2 (0.9-5.3)	372	14.8 (6.5-30.3)	93	5.8 (1.7-18.4)	55	8.9 (4.3-17.3)	148

Table 2.5.4: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda												
It is too expensive	54.2 (40.1-67.6)	249	56.4 (51.3-61.4)	1,064	56.0 (51.0-60.8)	1,313	35.9 (26.9-46.1)	225	45.8 (37.7-54.1)	369	44.4 (37.5-51.5)	594
It is not profitable	5.3 (2.7-9.9)	249	6.6 (4.7-9)	1,064	6.3 (4.7-8.4)	1,313	4.2 (2.3-7.6)	225	5.4 (3.1-9.2)	369	5.2 (3.2-8.5)	594
The outlet is not allowed to sell it / Government drug only	20.6 (15.7-26.4)	249	28.3 (22.7-34.6)	1,064	26.7 (21.8-32.2)	1,313	17.3 (14.6-20.5)	224	20.9 (15.3-27.9)	369	20.4 (15.5-26.4)	593
It has too many side effects	0.9 (0.1-5.4)	249	0.5 (0.2-1.3)	1,064	0.6 (0.3-1.3)	1,313	1.6 (0.7-3.6)	225	0.7 (0.2-2.7)	369	0.8 (0.3-2.3)	594
It does not work well	1.5 (0.5-4.7)	249	1.0 (0.4-2.3)	1,064	1.1 (0.5-2.1)	1,313	7.5 (3.9-14.2)	225	2.2 (1.1-4.2)	369	2.9 (1.7-5)	594
It is not available/my suppliers do not have it in stock	13.6 (6.1-27.5)	249	15.7 (12-20.2)	1,064	15.3 (11.8-19.5)	1,313	6.9 (4.5-10.4)	224	9.9 (7.3-13.4)	369	9.5 (7.2-12.5)	593
My customers do not ask for it	29.3 (22.3-37.5)	249	25.1 (18.8-32.6)	1,064	26.0 (20.7-32)	1,313	22.8 (16.3-31.0)	225	20.3 (14.9-27.2)	369	20.7 (15.8-26.6)	594
I don't know about these drugs	12.9 (7.6-21.2)	249	17.1 (13.1-22)	1,063	16.2 (12.6-20.7)	1,312	4.9 (3.2-7.5)	225	6.2 (3.5-10.9)	369	6.1 (3.6-10.0)	594
I am temporarily out of stock	1.5 (0.6-3.7)	249	2.2 (1.4-3.4)	1,064	2.0 (1.4-3)	1,313	22.3 (16.7-29.0)	225	21.9 (17.7-26.8)	369	22.0 (18.2-26.2)	594
I am not responsible for stocking	4.0 (1.1-13.2)	249	2.4 (1.4-4.1)	1,063	2.8 (1.6-4.7)	1,312	19.5 (15.7-23.9)	225	11.1 (6.7-18.0)	369	12.3 (8.2-18)	594
New outlet	0.6 (0.1-3.9)	249	1 (0.5-1.9)	1,063	0.9 (0.5-1.7)	1,312	2.1 (1.2-3.9)	225	3.4 (1.4-7.8)	369	3.2 (1.5-6.9)	594
Customers can get it for free in public facilities	0.9 (0.1-5.6)	249	1.2 (0.6-2.3)	1,063	1.1 (0.6-2.1)	1,312	5.7 (3.9-8.4)	225	9.1 (5.8-14.0)	369	8.6 (5.7-12.8)	594
Other	2.6 (2-3.4)	249	0.3 (0.1-1)	1,063	0.8 (0.4-1.6)	1,312	0.4 (0.1-3.1)	225	1.3 (0.5-3.5)	369	1.2 (0.5-3.0)	594
Zanzibar												
Too expensive	29.3	123	17.5	40	26.4	163	11.6	43	7.7	13	10.7	56
Not profitable	5.7	123	12.5	40	7.4	163	9.3	43	0.0	13	7.1	56
Not allowed to sell	32.5	123	42.5	40	35.0	163	9.3	43	23.1	13	12.5	56
Too many side effects	1.6	123	2.5	40	1.8	163	4.7	43	0.0	13	3.6	56
Does not work well	10.6	123	10.0	40	10.4	163	7.0	43	7.7	13	7.1	56
Not available	16.3	123	12.5	40	15.3	163	23.3	43	7.7	13	19.6	56
Customers do not ask	17.1	123	20.0	40	17.8	163	32.6	43	23.1	13	30.4	56
Don't know about QAACTs	0.8	123	0.0	40	0.6	163	9.3	43	15.4	13	10.7	56
Temporarily out of stock	4.9	123	5.0	40	4.9	163	11.6	43	15.4	13	12.5	56
Avilable for free in PHF	2.4	123	2.5	40	2.5	163	4.7	43	0.0	13	3.6	56
Other	5.7	123	2.5	40	4.9	163	16.3	43	7.7	13	14.3	56

Note: A provider could give more than one response to this question. Percentages may add to more than 100 because more than one reason can be given. This indicator excludes responses from public health facilities and CHWs. These data are not available for Madagascar and Nigeria at baseline, as they were not collected in the ACTwatch questionnaire. Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

2.6 AMFm logo, recommended retail price and provider training

Table 2.6.1 shows the percentage of providers who recognized the AMFm green leaf logo when it was shown to them. This question was included at baseline, both to measure the effect of any early promotion activities in those countries where small numbers of copaid drugs arrived before the completion of baseline data collection, and also as a measure of "noise" arising from yea-saying bias among respondents. As would be expected at baseline, recognition was low, at 2% in Niger, 7% in Ghana, 9% in Tanzania mainland and Zanzibar, and 12% in Uganda. However, in Kenya, recognition was somewhat higher, at 19%, reflecting the fact that the baseline survey took place after the initial launch activities and the arrival of the first copaid drugs in Kenya. The relatively high level of recognition in Uganda could have reflected the Consortium for ACT Private Sector Subsidy (CAPSS) project which had been implemented for several years in a limited number of districts. This project used a green leaf logo very similar to the AMFm logo. Baseline data for this indicator were not collected in Madagascar and Nigeria.

At endline, logo recognition had increased substantially in all countries from baseline. Recognition was highest in Tanzania mainland (87%), Ghana and Zanzibar (both 93%), and lowest in Niger (30%) and Madagascar (31%). Recognition of the logo was higher in urban than rural areas in Ghana, Madagascar, Niger and Zanzibar.

For those providers that recognized the logo, Table 2.6.2 shows their views on its meaning (multiple responses were allowed). The most common meaning in Ghana, Kenya, Madagascar, Niger and Zanzibar was "effective/quality antimalarial." In Nigeria, Tanzania mainland and Uganda, the most common meaning was "ACT." Other common meanings were "affordable antimalarial" and "antimalarial." The percentage that did not know what it meant varied from 9% in Ghana to 31% in Niger.

Table 2.6.3 shows the sources from which providers had seen or heard of the AMFm logo. The most common source was TV/radio in Ghana, Kenya, Madagascar and Zanzibar; and on malaria medicine packaging in Niger, Nigeria, Tanzania mainland and Uganda. TV/ radio was a more common source in urban than in rural areas in Ghana only.

Table 2.6.4 shows the percentage of QAACTs audited bearing the AMFm logo. At baseline, in all countries other than Kenya, less than 1% of QAACTs had the logo, as expected as no or very few copaid ACTs had been released into the market at that time. It is possible that some of the logo observations seen were recorded in error. In Kenya, 11% of QAACTs carried the logo at baseline, rising to 28% in private for-profit outlets. This reflects the timing of the baseline survey, which followed the initial launch and arrival of the first copaid drugs (see Section **). At endline, the percentage of QAACTs bearing the logo was substantial in all countries, ranging

from 50% in Madagascar to 96% in Zanzibar. The percentage of QAACTs bearing the logo was higher in urban areas than rural areas in Kenya, Madagascar and Tanzania mainland.

Table 2.6.5 shows the percentage of all antimalarials audited other than QAACTs that bore the AMFm logo. One would expect this to be extremely low as only QAACTs can be subsidized and thus officially be marked with the logo. In all countries, less than 2% of all antimalarials other than QAACTs bore the logo at baseline and endline. It is likely that some of these cases reflect interviewer error.

Table 2.6.6 shows the percentage of respondents at endline that had heard of "the program that reduces the prices of antimalarial medicines known as ACTs." In all countries, provider knowledge of the AMFm program was lower than recognition of the logo (Table 2.6.1), but followed a similar pattern, with knowledge being lowest in Niger (23%) and Madagascar (13%) and highest in Tanzania mainland (72%), Ghana (76%) and Zanzibar (69%). No differences were observed between urban and rural areas.

Table 2.6.7 shows the sources from which providers had heard of the AMFm program. The most common source in all countries was TV/radio. Other sources commonly mentioned were in training, on malaria medicine packaging, in public health facilities and on posters/ billboards. TV/ radio was a more common source in rural than in urban areas in Uganda only.

Recommended retail prices for copaid QAACTs were set in all countries except Madagascar. Table 2.6.8 shows that the percentage of respondents stating at that there was an RRP for QAACTs bearing the green leaf logo varied from 13% in Niger to 84% in Ghana. Knowledge of the RRP was higher in urban areas than in rural areas in Ghana, Niger and Zanzibar. Knowledge of the RRP was higher in public health facilities than in private for-profit outlets in Madagascar and Niger, but higher in private for-profit outlets in Nigeria.

Of those respondents that knew there was an RRP for QAACTs bearing the green leaf logo, Table 2.6.9 shows that the percentage stating the correct RRP for an adult dose was over 90% in Ghana, Kenya and Zanzibar. It was also quite high in Tanzania mainland (82%) and Niger (61%), but much lower in Nigeria (11%) and Uganda (5%). The percentage stating the correct response was higher in urban areas in Ghana only. It was higher in public health facilities than in private for-profit outlets in Niger, but higher in private for-profit outlets in Nigeria.

Table 2.6.10 shows the percentage of outlets with at least one staff member that had received training on antimalarials with the AMFm logo at endline. This ranged from 6% in Madagascar to 52% in Ghana. Training coverage figures were similar across the public and private for-profit sectors except in Madagascar, where public sector training coverage was higher. There were no rural/urban differences except in Zanzibar, where coverage was lower in urban areas (33%) than in rural areas (46%).

Table 2.6.1: Provider recognition of AMFm logo, at baseline (2010) and endline (2011)

Providers able to recognize AMFm logo (n) as a percentage of the number of outlets with antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N
Ghana - Total	7.5 (5.5-10.1)	599	7.4 (5.0-10.9)	542	7.4 (5.4-10.2)	1141	97.3 (95.0-98.6)	572	87.3 (80.3-92.1)	380	93.4 (90.2-95.6)	952
Public health facility	9.8 (5.6-16.7)	67	10.6 (6.8-16.0)	135	10.5 (7.1-15.2)	202	98.9 (94.5-99.8)	94	96.4 (93.5-98)	202	97.1 (95.0-98.4)	296
Private not-for-profit health facility	36.3 (9.4-75.7)	5	13.8 (2.5-50.3)	9	17.7 (5.2-45.6)	14	100.0	4	100.0	9	100.0	13
Private for-profit outlet												
Health facility/pharmacy	9.7 (6.9-13.6)	314	13.3 (7.2-23.1)	62	11.1 (7.9-15.3)	376	100.0	270	100.0	26	100.0	296
Drug store	4.3 (2.6-6.9)	211	6.6 (4.3-10.2)	330	6.3.0 (4.2-9.4)	541	96.6 (93.3-98.3)	201	83.0 (74.1-89.3)	140	91.3 (87.0-94.2)	341
General retailer/itinerant	0.0	2	0.0	3	0.0	5	64.5 (20.5-92.8)	3	66.3 (36.4-87.2)	3	65.4 (37.3-85.7)	6
Total	6.8 (5.0-9.1)	527	7.0 (4.7-10.4)	395	7.0 (5.1-9.6)	922	97.2 (94.7-98.5)	474	84.0 (75.2-90.1)	169	92.7 (89.0-95.2)	643
Community health worker	-		-	3	-	3	-	0	-	0	-	0
Kenya - Total	29.5 (24-35.6)	1,032	16.0 (12.1-20.8)	875	19.2 (15.5-23.5)	1,907	84.2 (77.9-89)	1048	73.8 (65.0-81.0)	800	76.7 (70.2-82.2)	1,848
Public health facility	19.2 (12.4-28.5)	136	16.9 (11.6-23.9)	257	17.4 (12.9-23.0)	393	84.4 (73-91.5)	137	79.8 (68.2-87.9)	293	80.1 (69.4-87.7)	430
Private not-for-profit health facility	31.0 (15.1-53.3)	23	6.1 (1.3-24.8)	15	13.3 (5.8-27.5)	38	73.0 (37.7-92.4)	19	60.6 (42.7-76.1)	27	63.1 (47.1-76.6)	46
Private for-profit outlet												
Health facility/pharmacy	46.4 (34.5-58.7)	362	43.7 (29.2-59.4)	103	44.9 (35.1-55.1)	465	92.2 (88.9-94.6)	408	90.0 (83.0-94.4)	113	90.9 (86.6-93.9)	521
Drug store	34.5 (27.2-42.8)	271	16.1 (8.2-29.2)	156	20.2 (11.7-32.5)	427	97.9 (95.1-99.1)	329	95.6 (90.0-98.2)	145	96.5 (93.4-98.2)	474
General retailer/itinerant	10.3 (6.4-16.1)	236	9.2 (6.7-12.6)	323	9.4 (7.2-12.3)	559	45.3 (36.9-54)	155	50.0 (38.4-61.5)	222	49.1 (39.5-58.8)	377
Total	30.7 (24.1-38.1)	869	16.5 (11.9-22.4)	582	20.0 (15.6-25.3)	1,451	84.5 (78.0-89.4)	892	73.4 (62.8-81.9)	480	76.9 (69.4-83.0)	1,372
Community health worker	16.1 (2.6-58.1)	4	9.8 (4-22.2)	21	10.0 (4.2-21.8)	25	-	0	-	0	-	0
Madagascar - Total	-	-	-	-	-	-	49.8 (44.1-55.5)	982	34.4 (29.4-39.8)	1,388	36.5 (32.0-41.3)	2,370
Public health facility	-	-	-	-	-	-	89.5 (79.4-95.0)	65	76.1 (70.4-81.0)	553	77.6 (72.4-82.0)	618
Private not-for-profit health facility	-	-	-	-	-	-	83.3 (46.7-96.8)	26	71.0 (26.0-94.5)	5	76.0 (44.2-92.7)	31
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	96.4 (93.5-98.1)	105	50.5 (24.3-76.4)	12	75.6 (54.9-88.8)	117
Drug store	-	-	-	-	-	-	96.8 (89.4-99.1)	28	70.5 (62.1-77.8)	347	73.3 (65.4-80.0)	375
General retailer/itinerant	-	-	-	-	-	-	30.1 (24.0-36.9)	743	23.6 (18.4-29.9)	405	24.5 (19.9-29.9)	1,148
Total	-	-	-	-	-	-	43.7 (38.4-49.1)	876	28.2 (23.4-33.6)	764	30.5 (26.2-35.2)	1,640
Community health worker	-	-	-	-	-	-	92.4 (66.8-98.7)	15	33.2 (20.2-49.4)	66	34.6 (21.4-50.7)	81
Niger - Total	2.6 (1.5-4.4)	833	1.3 (0.7-2.2)	1,198	1.5 (1-2.3)	2,031	39.6 (35.0-44.4)	924	26.8 (23.6-30.3)	738	30.3 (27.6-33.1)	1,662
Public health facility	11.5 (5.5-22.8)	91	2.3 (1.3-4.1)	385	3.2 (2-5.1)	476	90.4 (80.8-95.5)	102	72.7 (66.5-78.1)	220	75.2 (69.9-79.8)	322
Private not-for-profit health facility	0.0	4	0	0	0.0	4	100.0	2	100.0	1	100.0	3
Private for-profit outlet												
Health facility/pharmacy	7.2 (2.3-20.8)	106	3.6 (0.3-29.9)	12	6.7 (2.3-18.4)	118	86.8 (79.3-91.8)	95	100.0	4	87.5 (80.4-92.3)	99
Drug store	0.0	14	0.0	7	0.0	21	96.5 (87.3-99.1)	15	30.7 (5.6-77.0)	3	59.9 (30.0-83.9)	18
General retailer/itinerant	2.0 (1.0-3.9)	617	1.2 (0.6-2.2)	792	1.3. (0.8-2.2)	1,409	33.3 (27.9-39.1)	710	20.9 (17.3-25.0)	510	24.3 (21.3-27.6)	1,220
Total	2.2 (1.2-4.1)	737	1.2 (0.6-2.2)	811	1.4 (0.9-2.2)	1,548	36.9 (32.1-42.1)	820	21.1 (17.6-25.1)	517	25.6 (22.7-28.8)	1,337
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0
Nigeria - Total	-	-	-	-	-	-	54.1 (42.8-64.9)	1,032	50.8 (43.0-58.5)	472	52.8 (45.4-60.0)	1,504
Public health facility	-	-	-	-	-	-	62.2 (32.0-85.2)	43	44.6 (26.9-63.8)	52	50.3 (34.7-65.7)	95
Private not-for-profit health facility	-	-	-	-	-	-	100.0	6	53.2 (7.4-94.1)	3	82.4 (34.3-97.7)	9
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	77.7 (66.1-86.1)	99	59.6 (44.6-72.9)	32	71.1 (61.5-79.1)	131
Drug store	-	-	-	-	-	-	52.0 (38.7-65.0)	807	52.0 (43.0-60.9)	362	52.0 (43.0-60.9)	1,169
General retailer/itinerant	-	-	-	-	-	-	35.3 (17.8-58.0)	74	15.4 (5.4-36.6)	19	30.3 (16.6-48.8)	93
Total	-	-	-	-	-	-	53.3 (41.9-64.5)	980	51.3 (42.8-59.8)	413	52.6 (44.8-60.3)	1,393
Community health worker	-	-	-	-	-	-	33.3 (33.3-33.3)	3	73.6 (21.7-96.5)	4	72.0 (21.7-96.0)	7
Tanzania - mainland - Total	15.3 (10.9-21.0)	322	7.3 (4.8-11.1)	305	9.1 (6.7-12.2)	627	90.8 (86.5-93.8)	596	84.1 (75.3-90.2)	191	86.6 (80.9-90.8)	787
Public health facility	0.0	5	6.1 (2.3-15.3)	56	5.7 (2.1-14.3)	61	100.0	7	84.7 (66.4-94.0)	48	85.4 (67.8-94.2)	55
Private not-for-profit health facility	18.5 (5.9-45.4)	6	13.8 (3.1-44.6)	17	14.7 (4.5-38.8)	23	75.2 (22.9-96.9)	4	100.0	2	86.8 (42.3-98.3)	6
Private for-profit outlet												
Health facility/pharmacy	22.1 (11.2-39.0)	222	0.0	12	18.1 (9.1-32.6)	234	91.7 (75.9-97.5)	321	44.7 (12.1-82.7)	16	79.5 (55.5-92.4)	337
Drug store	14.9 (10.4-20.8)	88	12.3 (7.5-19.7)	149	13.2 (9.4-18.2)	237	90.5 (85.0-94.2)	259	87.3 (75.0-94.0)	113	88.7 (81.8-93.2)	372
General retailer/itinerant	0.0	1	0.0	70	0.0	71	100.0	5	70.0 (31.0-92.4)	12	72.7 (37.4-92.2)	17
Total	16.0 (11.5-21.9)	311	7.1 (4.1-12.1)	231	9.5 (6.7-13.3)	542	90.8 (86.5-93.9)	585	83.7 (73.0-90.7)	141	86.9 (80.7-91.3)	726
Community health worker	-	0	0.0	1	0.0	1	-	0	-	0	-	0

Table 2.6.1: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95 %I)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda - Total	17.1 (9.6-28.6)	544	10.4 (6.7-15.9)	1,876	11.8 (8.1-16.8)	2,420	70.6 (61.4-78.3)	1411	64.6 (55.6-72.6)	1,713	65.8 (58.2-72.6)	3,124
Public health facility	9.3 (5.0-16.6)	76	6.1 (4.3-8.5)	693	6.4 (4.7-8.7)	769	67.5 (51.0-80.6)	144	73.7 (65.5-80.5)	531	72.8 (65.5-79.0)	675
Private not-for-profit health facility	20.8 (3.9-63.0)	4	13.2 (2.5-47.1)	27	14.3 (3.6-42.7)	31	81.7 (48.3-95.5)	13	44.9 (24.8-66.9)	28	49.0 (29.4-68.9)	41
Private for-profit outlet												
Health facility/pharmacy	24.2 (19.8-29.1)	389	20.9 (13-31.7)	356	22.5 (17.7-28.2)	745	74.4 (69.6-78.6)	814	76.2 (70.7-81)	385	75.4 (72..0-78.5)	1,199
Drug store	8.9 (4.4-17.0)	72	8.9 (5.8-13.5)	752	8.9 (6.1-12.9)	824	66.5 (52.8-78.0)	435	67.8 (57.8-76.4)	673	67.6 (58.9-75.2)	1,108
General retailer/itinerant	0.0	2	8.8 (1.7-35.3)	19	7.6 (1.4-32.3)	21	0.0	3	3.5 (0.4-25.4)	14	3.4 (0.4-24.3)	17
Total	17.5 (9.9-29)	463	11.1 (6.9-17.3)	1,127	12.5 (8.6-18)	1,590	70.7 (61.2-78.8)	1,252	67.9 (59.8-75)	1,072	68.6 (61.9-74.5)	2,324
Community health worker	0.0	1	8.1 (3.3-18.7)	29	7.9 (3.3-17.9)	30	0.0	2	38.6 (19.2-62.4)	82	38.4 (19.2-62.2)	84
Zanzibar - Total	10.6	189	6.5	124	8.9	313	96.4	222	85.8	120	92.7	342
Public health facility	7.1	56	4.8	83	5.8	139	100.0	48	84.2	76	90.3	124
Private not-for-profit health facility	50.0	2	100.0	1	66.7	3	100.0	1	100.0	1	100.0	2
Private for-profit outlet												
Health facility/pharmacy	9.6	73	18.2	11	10.7	84	98.8	82	93.8	16	98.0	98
Drug store	14.0	57	4.0	25	11.0	82	94.3	88	87.5	24	92.9	112
General retailer/itinerant	0.0	1	0.0	4	0.0	5	33.3	3	66.7	3	50.0	6
Total	11.5	131	7.5	40	10.5	171	95.4	173	88.4	43	94.0	216
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: All respondents were shown a visual aid depicting the AMFm logo and were asked whether they have seen the symbol before. Providers are "able to recognize the AMFm logo" if they answer that they have seen the symbol before. These data are not available for Madagascar and Nigeria at baseline, as they were not collected in the ACTwatch questionnaire. Nigeria baseline data collection was conducted in 2009.

CI: Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.2: Provider knowledge of the meaning of the AMFm logo at endline, 2011

Providers stating a specific meaning of the AMFm logo (n) as a percentage of outlets that recognized the AMFm logo (N), , by urban-rural location and type of outlet, according to country

Country/Meaning of AMFm logo	Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N
Ghana						
Effective/quality antimalarial	64.2 (54.4-73.0)	559	58.8 (47.1-69.7)	345	62.2 (54.7-69.3)	904
Affordable antimalarial	58.3 (50.7-65.6)	559	35.1 (26.2-45.2)	345	49.8 (43.5-56.2)	904
An antimalarial in high demand	14.5 (10.1-20.4)	559	9.1 (4.7-17)	345	12.6 (9.1-17.1)	904
Effective/quality medicine	4.7 (2.6-8.2)	559	8.5 (4.1-16.7)	345	6.1 (3.8-9.6)	904
Affordable medicine	4.1 (2.0-8.3)	559	2.5 (0.5-11.9)	345	3.5 (1.8-6.9)	904
I don't know what it means	6.9 (4.5-10.3)	559	13.1 (7.9-20.9)	345	9.1 (6.6-12.5)	904
Other	15.3 (10.7-21.5)	559	21.7 (15.0-30.5)	345	17.7 (13.6-22.6)	904
Kenya						
Effective/quality antimalarial	28.2 (23.0-34.0)	921	28.7 (22.6-35.6)	618	28.5 (23.9-33.6)	1,539
Affordable antimalarial	19.1 (13.7-26)	921	14.0 (7.7-24.0)	618	15.6 (10.7-22.1)	1,539
An antimalarial in high demand	2.0 (1.1-3.6)	921	4.3 (2.4-7.5)	618	3.6 (2.2-5.9)	1,539
Effective/quality medicine	4.9 (2.8-8.5)	921	6.8 (4.7-9.9)	618	6.2 (4.5-8.6)	1,539
Affordable medicine	6.5 (4.8-8.7)	921	3.2 (1.2-8.3)	618	4.2 (2.5-6.9)	1,539
Artemisinin Combined Therapy (ACT)	28.3 (24.8-32.1)	921	23.1 (19.2-27.6)	618	24.7 (21.7-28)	1,539
Recommended treatment	8.8 (6.5-11.7)	921	5.0 (3.1-8.0)	618	6.2 (4.6-8.3)	1,539
Subsidized medicine	7.1 (5.6-9.0)	921	3.5 (0.9-12.6)	618	4.7 (2.3-9.0)	1,539
I don't know what it means	20.9 (17-25.4)	921	27.0 (22.1-32.5)	618	25.1 (21.6-29.1)	1,539
Other meaning: Herbal medicine/environment	3.6 (2.2-5.9)	921	7.7 (4.8-12.2)	618	6.4 (4.3-9.5)	1,539
Other meaning: Antimalarial	4.7 (2.9-7.4)	921	6.6 (4.1-10.6)	618	6.0 (4.1-8.9)	1,539
Other meaning: Other	6.6 (4.9-8.8)	921	7.8 (5.2-11.5)	618	7.4 (5.5-9.9)	1,539
Madagascar						
Effective/quality antimalarial	36.9 (28.2-46.5)	418	33.0 (23.8-43.6)	785	33.7 (25.9-42.4)	1,203
Affordable antimalarial	13.5 (9.6-18.8)	418	6.1 (3.6-10.0)	785	7.4 (5.1-10.8)	1,203
Effective/quality medicine	4.9 (3.1-7.7)	418	7 (3.6-13.4)	785	6.7 (3.7-11.7)	1,203
It means nothing	5.8 (3.3-10.2)	418	3.9 (1.9-7.9)	785	4.3 (2.4-7.3)	1,203
I don't know what it means	18.5 (13.1-25.5)	418	21.6 (16.0-28.6)	785	21.0 (16.2-26.8)	1,203
Other meaning: Antimalarial	7.5 (3.7-14.6)	418	11.0 (6.6-17.8)	785	10.4 (6.6-15.9)	1,203
Other meaning: Medicine from a plant	4.8 (2.8-8)	418	6.7 (4.0-11.0)	785	6.3 (4.1-9.8)	1,203
Other meaning: Antimalarials/ACT from a plant	5.6 (3.5-8.7)	418	5.1 (3.0-8.6)	785	5.2 (3.4-8.0)	1,203
Other meaning: Malaria	1.5 (0.6-3.9)	418	3.3 (1.7-6.3)	785	3.0 (1.7-5.4)	1,203
Other meaning: "Green"/ "Plant"/"Health"/"Environment"	4.1 (2.2-7.4)	418	3.4 (1.8-6.3)	785	3.5 (2.1-5.9)	1,203
Other meaning: Other	12.3 (9.1-16.5)	418	6.5 (4.4-9.6)	785	7.6 (5.6-10.2)	1,203
Niger						
Effective/quality antimalarial	40.3 (32.6-48.6)	414	44.3 (35.3-53.7)	262	42.9 (36.4-49.6)	676
Affordable antimalarial	18.1 (13.9-23.2)	414	15.2 (10.8-21.0)	262	16.3 (12.9-20.3)	676
An antimalarial in high demand	9.9 (7.9-12.3)	414	10.0 (6.3-15.6)	262	10.0 (7.3-13.5)	676
Effective/quality medicine	7.6 (5.2-10.9)	414	4.8 (2.4-9.7)	262	5.8 (3.8-8.8)	676
Affordable medicine	5.1 (3.5-7.3)	414	2.7 (1.4-5.2)	262	3.5 (2.4-5.1)	676
I don't know what it means	32.5 (28.3-37.1)	414	30.5 (25.0-36.5)	262	31.2 (27.3-35.4)	676
Other	6.1 (5.1-7.3)	414	4.7 (3.4-6.4)	262	5.1 (4.1-6.3)	676
Nigeria						
Effective/quality antimalarial	20.8 (15.3-27.5)	589	26.7 (19.4-35.5)	234	23.0 (18.3-28.6)	823
Affordable antimalarial	5.5 (3.8-8.1)	589	3.4 (1.4-7.7)	233	4.7 (3.3-6.8)	822
An antimalarial in high demand	3.1 (1.6-5.8)	589	2.8 (1.0-7.2)	234	3.0 (1.7-5.1)	823
Effective/quality medicine	4.3 (2.6-7.1)	589	6.7 (4.0-10.8)	234	5.2 (3.6-7.5)	823
It means nothing	3.1 (1.4-7.0)	589	2.4 (0.9-6.7)	234	2.9 (1.5-5.4)	823
Artemisinin Combination Therapy	33.3 (25.5-42.2)	589	22.6 (15.4-31.8)	233	29.3 (23.3-36.0)	822
An antimalarial	4.4 (1.4-12.9)	589	1.5 (0.7-3.3)	234	5.9 (2.6-13.1)	823
Logo or trademark	2.3 (1.3-4.0)	589	0.8 (0.3-1.9)	234	3.1 (2.0-4.9)	823
Other	15.6 (10.6-22.2)	589	6.8 (4.2-10.9)	234	22.4 (17.9-27.6)	823
Tanzania – mainland						
Effective/quality antimalarial	29.2 (21.6-38.2)	563	17.7 (12.0-25.3)	164	22.1 (16.8-28.6)	727
Affordable antimalarial	21.2 (15.5-28.3)	563	22.6 (15.6-31.6)	164	22.1 (17.1-28.1)	727
An antimalarial in high demand	16.4 (10.1-25.5)	563	12.1 (6.9-20.5)	164	13.8 (9.3-19.9)	727
Effective/quality medicine	12.2 (8.6-17.2)	563	12.0 (7.0-19.8)	164	12.1 (8.5-17)	727
Affordable medicine	11.4 (7.4-17.3)	563	13.6 (9.6-18.8)	164	12.8 (9.7-16.6)	727
A medicine in high demand	5.3 (3.2-8.7)	563	0.4 (0.1-2.7)	164	2.3 (1.2-4.3)	727
Artemisinin combination therapy	50.2 (38.4-61.9)	563	56.4 (46.7-65.5)	164	54.0 (46.2-61.6)	727
Medicinal plant	13.3 (9.9-17.7)	563	6.6 (4.1-10.4)	164	9.1 (6.7-12.4)	727
I don't know what it means	9.4 (5.7-15.1)	563	11.7 (6.6-19.8)	164	10.8 (7.1-16)	727
Other	4.8 (2.8-7.9)	563	5.6 (2.7-11.1)	164	5.3 (3.2-8.6)	727

Table 2.6.2: *Cont.*

Country/Meaning of AMFm logo	Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N
Uganda						
Effective/quality antimalarial	13.7 (11.1-16.7)	1,045	9.7 (6.5-14.2)	1,209	10.6 (7.8-14.2)	2,254
Affordable antimalarial	5.5 (4.0-7.4)	1,046	2.1 (1.1-3.9)	1,211	2.8 (1.7-4.6)	2,257
Effective/quality medicine	3.0 (2.1-4.5)	1,046	1.9 (1.0-3.8)	1,211	2.2 (1.3-3.7)	2,257
A drug / medicine	8.6 (6.4-11.5)	1,044	5.9 (4.5-7.6)	1,211	6.5 (5.2-8.1)	2,255
An antimalarial	33.7 (29.5-38.2)	1,044	33.1 (24.9-42.4)	1,210	33.2 (26.6-40.5)	2,254
An ACT	91.3 (89.4-92.9)	1,047	88.8 (83.8-92.5)	1,214	89.4 (85.5-92.3)	2,261
Herbal medicine	15.7 (12.7-19.4)	1,045	14.1 (11.1-17.9)	1,210	14.5 (11.9-17.5)	2,255
Subsidized medicine	3.7 (2.7-5.1)	1,045	1.3 (0.7-2.4)	1,210	1.8 (1.1-2.9)	2,255
I don't know what it means	22.5 (20.4-24.8)	1,043	27.3 (23.8-31)	1,211	26.2 (23.3-29.4)	2,254
Trademark/Logo/Symbol	2.4 (1.9-3.1)	1,047	3.1 (2.0-4.9)	1,214	2.9 (2.0-4.3)	2,261
Others	12.0 (9.6-15.0)	1,047	9.6 (7.5-12.1)	1,214	10.1 (8.2-12.3)	2,261
Zanzibar						
Effective/quality antimalarial	44.9	214	54.4	103	47.9	317
Affordable antimalarial	18.2	214	15.5	103	17.4	317
An antimalarial in high demand	23.4	214	23.3	103	23.3	317
Effective/quality medicine	29.0	214	34.0	103	30.6	317
Affordable medicine	11.7	214	7.8	103	10.4	317
High demand medicine	10.3	214	10.7	103	10.4	317
ACT	45.3	214	34.0	103	41.6	317
Recommended treatment	10.7	214	10.7	103	10.7	317
Subsidized medicine	12.1	214	9.7	103	11.4	317
Environmental/herbal medicine product	5.6	214	3.9	103	5.0	317
I don't know what it means	14.5	214	9.7	103	12.9	317
Other	5.6	214	4.9	103	5.4	317

Note: Providers could give more than one response to this question. Percentages may add to more than 100.

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.3: Sources from which providers have seen or heard of the AMFm logo at endline, 2011

Providers stating a specific source where they have seen or heard of the AMFm logo (n) as a percentage of providers that recognized the AMFm logo (N), by urban-rural location and type of source specified, according to country

Country/Source	Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana						
On malaria medicine packaging	58.9 (48.7-68.4)	563	65.8 (56.3-74.3)	349	61.4 (54.1-68.2)	912
On medicine packaging	20.4 (15.3-26.5)	563	4.7 (2.1-9.9)	349	14.6 (11.0-19.2)	912
On posters	9.4 (6.9-12.7)	563	11.0 (7.8-15.1)	349	10.0 (7.9-12.5)	912
On TV/radio	83.7 (78-88.1)	563	69.0 (60.4-76.4)	349	78.3 (73.5-82.4)	912
In newspapers/magazines	4.5 (3.1-6.4)	563	1.5 (0.7-3.6)	349	3.4 (2.4-4.8)	912
In pharmacies/ drug shops	26.5 (22.0-31.6)	563	20.5 (15.6-26.6)	349	24.3 (20.9-28.1)	912
In public health facilities	11.2 (8.5-14.5)	563	14.2 (10.1-19.7)	349	12.3 (10.0-15.1)	912
In training	29.2 (22.3-37.2)	563	45.1 (36.8-53.6)	349	35.0 (29.4-41.1)	912
From a supplier	12.4 (9.3-16.3)	563	7.4 (4.6-11.7)	349	10.6 (8.3-13.4)	912
Other	9.2 (7.1-11.8)	563	9.4 (6.0-14.4)	349	9.2 (7.3-11.6)	912
Kenya						
On malaria medicine packaging	56.7 (49.9-63.2)	921	51.0 (42.4-59.6)	618	52.8 (46.5-58.9)	1,539
On medicine packaging	27.3 (19.7-36.4)	921	23.1 (18.8-28.0)	618	24.4 (20.6-28.6)	1,539
On posters	13.7 (10.0-18.4)	921	14.6 (8.4-24.1)	618	14.3 (9.6-20.8)	1,539
On TV/radio	70.8 (65.5-75.6)	921	65.6 (58.8-71.8)	618	67.2 (62.2-71.8)	1,539
In newspapers/magazines	6.4 (4.8-8.6)	921	6.6 (4.2-10.3)	618	6.6 (4.8-9.0)	1,539
In pharmacies/ drug shops	16.2 (12.8-20.2)	921	21.4 (15.3-29.1)	618	19.8 (15.2-25.4)	1,539
In private clinics	3.7 (2.3-5.9)	921	6.9 (3.7-12.4)	618	5.9 (3.5-9.9)	1,539
In public health facilities	11.2 (7.9-15.7)	921	16.7 (11.4-23.8)	618	15.0 (10.9-20.3)	1,539
In training	6.2 (4.3-8.8)	921	5.5 (3.6-8.4)	618	5.7 (4.2-7.7)	1,539
From a supplier	6.2 (3.9-9.8)	921	1.7 (0.9-3.2)	618	3.1 (2.0-4.8)	1,539
From a public event	1.9 (1.0-3.6)	921	3.8 (1.7-8.1)	618	3.2 (1.6-6.2)	1,539
Other	8.5 (6.3-11.5)	921	9.6 (7-12.9)	618	9.2 (7.3-11.6)	1,539
Madagascar						
On malaria medicine packaging	31.2 (25.2-37.9)	418	20.3 (15.4-26.4)	785	22.3 (17.9-27.5)	1,203
On medicine packaging	10.4 (5.3-19.6)	418	3.9 (2.1-7.4)	785	5.1 (3.1-8.4)	1,203
On posters	17.6 (12.4-24.3)	418	15.8 (11.5-21.3)	785	16.1 (12.4-20.7)	1,203
On billboards	6.1 (3.4-10.7)	418	4.6 (2.4-8.7)	785	4.9 (2.9-8.1)	1,203
On TV/radio	55.2 (50.0-60.2)	418	45.5 (36.9-54.5)	785	47.3 (40.2-54.6)	1,203
In newspapers/magazines	3.8 (2.2-6.3)	418	1.8 (1.1-3.2)	785	2.2 (1.5-3.3)	1,203
In pharmacies/drug shops	9.5 (7.2-12.3)	418	10.7 (7.5-15.1)	785	10.5 (7.8-14)	1,203
In public health facilities	6.9 (4.3-10.9)	418	12.5 (6.4-23.1)	785	11.5 (6.3-20.1)	1,203
In training	12.7 (9.2-17.2)	418	15.0 (10.6-20.8)	785	14.6 (10.9-19.3)	1,203
From a public event	3.9 (2.6-5.9)	418	3.4 (1.9-6.1)	785	3.5 (2.2-5.6)	1,203
From a local leader	5.9 (4.1-8.5)	418	6 (3.4-10.5)	785	6.0 (3.7-9.5)	1,203
On clothing	0.8 (0.3-2.1)	418	4.4 (2.6-7.4)	785	3.8 (2.3-6.1)	1,203
Other source	8.7 (6.2-12.2)	418	9.6 (6.4-14.3)	785	9.5 (6.7-13.2)	1,203
Niger						
On malaria medicine packaging	58.3 (52.7-63.7)	414	55.6 (49.2-61.9)	264	56.6 (52-61.1)	678
On medicine packaging	13.2 (9.0-18.9)	415	10.9 (6.9-16.8)	264	11.7 (8.6-15.9)	679
On posters	11.7 (8.8-15.2)	415	13.3 (9.5-18.3)	264	12.7 (10.0-16.0)	679
On billboards	20.7 (15.6-26.9)	415	12.5 (8.0-19.0)	264	15.4 (11.8-19.9)	679
On TV/radio	24.1 (18.4-30.9)	415	16.1 (11.1-22.7)	264	19.0 (14.9-23.7)	679
In pharmacies/ drug shops	15.4 (11.7-20.0)	415	6.8 (4.9-9.4)	264	9.9 (8.0-12.1)	679
In public health facilities	7.8 (6.0-10.2)	415	16.0 (11.0-22.7)	264	13.1 (9.7-17.5)	679
In training	3.5 (2.4-5.0)	415	7.4 (5.0-10.7)	264	6.0 (4.4-8.1)	679
From a supplier	4.2 (3.0-6.1)	415	2.9 (1.4-5.7)	264	3.3 (2.2-5)	679
Don't know	3.3 (2.0-5.2)	415	2.8 (1.1-7.1)	264	3.0 (1.6-5.4)	679
Other	14.1 (10.9-18.1)	415	3.1 (1.6-6.0)	264	7.0 (5.4-9.2)	679

Table 2.6.3: *Cont.*

Country/Type of outlet	Urban % (95% CI)	Urban N	Rural % (95% CI)	Rural N	Total % (95% CI)	Total N
Nigeria						
On malaria medicine packaging	57.7 (48.1-66.8)	591	52.0 (45.6-58.3)	234	55.6 (49.3-61.7)	825
On medicine packaging	22.0 (15.1-30.9)	591	23.1 (15.9-32.4)	234	22.4 (17.1-28.9)	825
On posters	12.0 (9.6-14.7)	591	4.6 (2.1-9.8)	234	9.2 (7.0-12.1)	825
On billboards	3.6 (1.8-7.4)	591	1.2 (0.5-2.8)	234	2.7 (1.5-5.0)	825
On TV/radio	23.7 (16.7-32.5)	591	23.2 (15.8-32.8)	234	23.5 (18.2-29.9)	825
On a prescription	4.7 (2.3-9.5)	591	2.5 (0.7-8.0)	234	3.9 (2.1-7.1)	825
In newspapers/magazines	4.8 (2.8-8.2)	590	0.9 (0.2-3.1)	234	3.3 (2.0-5.6)	824
In pharmacies/ drug shops	15.1 (10.0-22.3)	591	15.2 (10.1-22.3)	234	15.2 (11.3-20.1)	825
In public health facilities	5.9 (4.1-8.5)	591	11.6 (6.4-20.1)	234	8.1 (5.6-11.5)	825
In training	15.8 (12.5-19.9)	591	14.9 (9.7-22.3)	234	15.5 (12.4-19.1)	825
Don't know	3.1 (1.5-6.0)	591	1.2 (0.3-5.0)	234	2.4 (1.2-4.5)	825
Other	10.1 (7.4-13.6)	591	15.1 (11.5-19.7)	234	12.0 (9.7-14.7)	825
Tanzania-mainland						
On malaria medicine packaging	64.4 (58.6-69.9)	563	70.6 (61.2-78.5)	164	68.3 (62.2-73.8)	727
On medicine packaging	31.6 (23.2-41.4)	563	17.3 (10.5-27.1)	164	22.8 (16.5-30.6)	727
On posters	8.2 (6.0-11.3)	563	11.4 (6.3-19.8)	164	10.2 (6.7-15.2)	727
On billboards	10.6 (7.0-15.6)	563	14.7 (10.3-20.6)	164	13.1 (9.9-17.2)	727
On TV/radio	65.5 (58.4-72)	563	62.3 (49.3-73.7)	164	63.5 (55.1-71.2)	727
On a prescription	7.9 (4.9-12.4)	563	9.8 (5.2-17.8)	164	9.1 (5.7-14.0)	727
In newspapers/magazines	9.0 (6.2-12.8)	563	8.9 (4.4-17.1)	164	8.9 (5.7-13.7)	727
In pharmacies/drug shops	12.2 (7.4-19.5)	563	11.3 (6.4-19.2)	164	11.7 (7.9-17.0)	727
In private clinics	4.0 (2.0-8.1)	563	2.6 (0.7-8.5)	164	3.1 (1.5-6.4)	727
In public health facilities	9.1 (5.5-14.7)	563	12.4 (7.4-19.9)	164	11.1 (7.6-15.9)	727
In training	6.2 (3.7-10.1)	563	9.5 (4.3-19.7)	164	8.2 (4.6-14.3)	727
Other	6.3 (4.0-9.8)	563	5.5 (3.2-9.4)	164	5.8 (4.0-8.4)	727
Uganda						
On malaria medicine packaging	52.4 (47.7-57.1)	1,047	50.3 (44.7-56)	1,214	50.8 (46.3-55.3)	2,261
On medicine packaging	21.2 (16.4-26.9)	1,046	13.0 (9.0-18.3)	1,213	14.8 (10.9-19.7)	2,259
On posters	15.5 (13.0-18.4)	1,047	11.3 (7.5-16.6)	1,214	12.2 (9.0-16.4)	2,261
On TV/radio	27.7 (24.5-31.1)	1,047	31.0 (22.4-41.2)	1,214	30.3 (23.5-38.1)	2,261
In newspapers/magazines	4.8 (4.0-5.8)	1,047	2.6 (1.6-4.3)	1,213	3.1 (2.1-4.5)	2,260
In pharmacies/drug shops	23.1 (20.1-26.4)	1,047	17.3 (13.4-22.1)	1,212	18.6 (15.2-22.5)	2,259
In private clinics	7.7 (6.1-9.7)	1,047	9.2 (6.2-13.3)	1,212	8.9 (6.5-12.0)	2,259
In public health facilities	13.9 (11.8-16.5)	1,046	23.0 (17.4-29.8)	1,214	21.0 (16.5-26.4)	2,260
In training	6.4 (4.9-8.3)	1,047	7.8 (5.9-10.3)	1,213	7.5 (6.0-9.4)	2,260
On a T-Shirt	3.9 (2.5-6.1)	1,046	3.7 (1.9-7.1)	1,213	3.8 (2.2-6.3)	2,259
Don't Know	3.7 (2.4-5.6)	1,047	1.8 (0.6-4.8)	1,213	2.2 (1.1-4.2)	2,260
Other	10.0 (8.5-11.9)	1,047	10.2 (7.2-14.2)	1,214	10.2 (7.7-13.2)	2,261
Zanzibar						
On malaria medicine packaging	68.7	214	52.4	103	63.4	317
On medicine packaging	40.7	214	32.0	103	37.9	317
On posters	33.2	214	24.3	103	30.3	317
On billboards	26.6	214	24.3	103	25.9	317
On TV/radio	81.3	214	75.7	103	79.5	317
From a prescription	6.5	214	1.9	103	5.0	317
In newspapers/magazines	15.4	214	16.5	103	15.8	317
In pharmacies/drug shops	20.6	214	23.3	103	21.5	317
In a private clinic	13.1	214	13.6	103	13.2	317
In public health facilities	20.6	214	27.2	103	22.7	317
In training	15.9	214	23.3	103	18.3	317
From a supplier	5.1	214	1.0	103	3.8	317
From a public event	2.8	214	5.8	103	3.8	317
On a T-shirt/cap	1.9	214	4.9	103	2.8	317
I don't know	0.0	214	1	103	0.3	317
Other	3.7	214	6.8	103	4.7	317

Note: Providers could give more than one response to this question. Percentages may add to more than 100.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.4: Percentage of quality-assured ACTs bearing the AMFm logo, at baseline (2010) and endline (2011)

Quality-assured ACTs bearing the AMFm logo (n) as a percentage of all quality-assured ACTs audited (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	BASELINE Urban % (95% CI)	N	BASELINE Rural % (95% CI)	N	BASELINE Total % (95% CI)	N	ENDLINE Urban % (95% CI)	N	ENDLINE Rural % (95% CI)	N	ENDLINE Total % (95% CI)	N
Ghana - Total	0.2 (0.1-0.5)	756	0.6 (0.1-3.0)	376	0.4 (0.1-1.8)	1,132	90.8 (88.2-92.8)	1,563	94.3 (91.1-96.3)	568	91.8 (89.7-93.5)	2,131
Public health facility	0.9 (0.2-3.6)	134	0.0	228	0.1 (0.0-0.6)	362	90.1 (83.0-94.4)	132	90.3 (81.8-95.0)	303	90.2 (84.3-94.0)	435
Private not-for-profit health facility	0.0	7	0.0	6	0.0	13	100.0	12	91.6 (60.7-98.7)	12	96.6 (81.3-99.5)	24
Private for-profit outlet												
Health facility/pharmacy	0.1 (0.0-0.6)	539	0.0	55	0.1 (0.0-0.4)	594	81.6 (79.2-83.9)	1,024	92.3 (81.4-97)	69	82.7 (80.1-85.0)	1,093
Drug store	0.0	76	1.3 (0.3-6.2)	76	1 (0.2-5.1)	152	96.4 (94.5-97.7)	392	96.7 (92.4-98.6)	182	96.5 (94.8-97.7)	574
General retailer/itinerant	-	0	-	0	-	0	100.0	3	50.8 (7.7-92.7)	2	80.3 (37.2-96.6)	5
Total	0.1 (0.0-0.4)	615	1.0 (0.2-5.2)	131	0.6 (0.1-2.8)	746	90.6 (87.9-92.7)	1,419	95.7 (91.8-97.7)	253	91.8 (89.5-93.6)	1,672
Community health worker	-	0	0.0	11	0.0	11	-	0	-	0	-	0
Kenya - Total	23.9 (17.8-31.4)	1,029	6.1 (3.1-11.7)	1,020	11.2 (7.8-16.0)	2,049	89.4 (86.0-92.1)	2,048	69.8 (61.6-76.9)	1,619	75.7 (69.7-80.8)	3,667
Public health facility	1.0 (0.3-4.0)	346	0.4 (0.1-0.9)	831	0.5 (0.2-1.0)	1,177	47.3 (36.6-58.2)	395	47.3 (32.9-62.2)	1,102	47.3 (33.7-61.4)	1,497
Private not-for-profit health facility	4.7 (1.3-15.9)	49	0.0	41	1.1 (0.3-4.4)	90	45.8 (16.8-78.0)	41	36.9 (20.8-56.7)	81	38.4 (23.4-55.9)	122
Private for-profit outlet												
Health facility/pharmacy	32.0 (26.9-37.6)	403	25.5 (14.5-40.8)	85	29.4 (23.6-36.0)	488	94.2 (91.9-95.9)	852	91.5 (87.7-94.2)	177	92.6 (90.3-94.4)	1,029
Drug store	38.5 (28.7-49.3)	228	19.5 (5.2-51.5)	48	27.1 (12.9-48.4)	276	93.9 (90.9-95.9)	719	95.2 (89.2-97.9)	189	94.5 (91.6-96.5)	908
General retailer/itinerant	-	0	-	0	-	0	100.0	41	97.5 (91.3-99.3)	70	97.8 (92.3-99.4)	111
Total	34.6 (28.4-41.4)	631	21.8 (9.1-43.6)	133	28.3 (18.9-39.9)	764	94.2 (92.3-95.6)	1,612	94.2 (91.4-96.2)	436	94.2 (92.5-95.5)	2,048
Community health worker	40.5 (4.2-91.4)	3	0.0	15	0.8 (0.1-10.2)	18	-	0	-	0	-	0
Madagascar - Total	-	-	-	-	-	-	64.0 (57.6-69.9)	874	46.5 (36.1-57.1)	2,403	50.3 (41.6-59.0)	3,277
Public health facility	-	-	-	-	-	-	55.3 (36.6-72.7)	201	52.8 (44.6-60.9)	1,789	53.1 (45.5-60.6)	1,990
Private not-for-profit health facility	-	-	-	-	-	-	49.0 (34.5-63.6)	78	45.7 (8.3-88.7)	7	47.4 (22.6-73.4)	85
Private for-profit outlet	-	-	-	-	-	-						
Health facility/pharmacy	-	-	-	-	-	-	67.9 (64.1-71.5)	480	62.2 (11.1-95.6)	9	67.5 (61.3-73.1)	489
Drug store	-	-	-	-	-	-	78.8 (59.2-90.5)	86	92.7 (88.5-95.5)	486	89.8 (84.2-93.6)	572
General retailer/itinerant	-	-	-	-	-	-	47.9 (9.9-88.5)	3	51.5 (19.1-82.7)	11	51.4 (19.6-82.2)	14
Total	-	-	-	-	-	-	69.9 (65.0-74.4)	569	83.6 (74.6-89.9)	506	76.6 (71.1-81.4)	1,075
Community health worker	-	-	-	-	-	-	34.6 (20.8-51.5)	26	10.4 (2-40)	101	11.1 (2.4-38.5)	127
Niger - Total	1.4.0 (0.5-4.3)	432	0.2 (0.0-1.3)	289	0.6 (0.2-1.8)	721	65.1 (60.7-69.3)	757	54.0 (46.0-61.7)	295	59.0 (54.0-63.7)	1,052
Public health facility	0.5 (0.1-3.6)	123	0.4 (0.0-2.5)	237	0.4 (0.1-1.8)	360	56.1 (49.2-62.8)	222	32.1 (23.2-42.6)	226	37.7 (30.4-45.6)	448
Private not-for-profit health facility	0.0	1	0.0	0	0.0	1	0.0	1	100.0	5	95.4 (70.6-99.4)	6
Private for-profit outlet												
Health facility/pharmacy	0.4 (0.1-2.5)	223	0.0	5	0.4 (0.1-2.3)	228	53.7 (45.2-62.1)	328	87.4 (48.5-98.1)	8	55.6 (46.6-64.3)	336
Drug store	7.9 (1.3-35.7)	13	0.0	2	5.1 (0.7-28.8)	15	84.1 (68.7-92.7)	20	74.4 (38.6-93.0)	4	79.2 (58.6-91.1)	24
General retailer/itinerant	1.6 (0.2-10.1)	72	0.0	45	0.6 (0.1-4.0)	117	71.8 (65.8-77.1)	186	75.9 (65.2-84.0)	52	73.7 (68.0-78.7)	238
Total	1.7 (0.5-5.8)	308	0.0	52	0.8 (0.2-2.9)	360	67.5 (62.4-72.3)	534	76.0 (66.1-83.8)	64	70.9 (66.1-75.3)	598
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Nigeria - Total	-	-	-	-	-	-	70.7 (44.6-87.8)	73	32.2 (12.5-61.0)	65	43.8 (24.4-65.2)	138
Public health facility	-	-	-	-	-	-	60.9 (44.2-75.4)	10	39.0 (14.2-71.2)	6	52.2 (32.8-70.9)	16
Private not-for-profit health facility	-	-	-	-	-	-	81.5 (73.0-87.8)	195	79.6 (47.5-94.4)	25	81.2 (72.8-87.5)	220
Private for-profit outlet	-	-	-	-	-	-	86.5 (80.8-90.7)	1,185	87.7 (81.2-92.1)	501	87.0 (82.8-90.3)	1,686
Health facility/pharmacy	-	-	-	-	-	-	80.3 (38.7-96.3)	45	100.0	4	81.9 (43.6-96.4)	49
Drug store	-	-	-	-	-	-	85.7 (80.6-89.6)	1,425	87.3 (80.7-91.9)	530	86.3 (82.3-89.5)	1,955
General retailer/itinerant	-	-	-	-	-	-	100.0	2	16.6 (1.2-76.8)	3	23.7 (2.6-78.5)	9
Total	-	-	-	-	-	-	84.8 (79.8-88.8)	1,514	80.6 (71.5-87.3)	604	83.1 (78.8-86.7)	2,118
Community health worker	-	-	-	-	-	-	70.7 (44.6-87.8)	73	32.2 (12.5-61.0)	65	43.8 (24.4-65.2)	138
Tanzania - mainland - Total	0.4 (0.1-1.9)	275	0.4 (0-2.6)	141	0.4 (0.1-1.8)	416	89.9 (85.5-93.1)	1,689	68.6 (55.6-79.3)	356	76.9 (68.5-83.6)	2,045
Public health facility	0.0	9	0.0	101	0.0	110	64.0 (38.8-83.3)	26	43.3 (30.5-57.0)	130	44.5 (32.2-57.5)	156
Private not-for-profit health facility	0.0	7	0.0	13	0.0	20	70.8 (24.3-94.8)	6	55.0 (6.5-95.6)	7	60.3 (16.0-92.4)	13
Private for-profit outlet												
Health facility/pharmacy	1.2 (0.3-5.3)	245	0.0	5	1.1 (0.2-4.9)	250	88.0 (83.4-91.5)	1,226	56.2 (9.8-93.8)	48	81.9 (63.5-92.1)	1,274
Drug store	0.0	14	3.7 (0.6-21.3)	17	1.9 (0.3-12.8)	31	92.1 (89.1-94.4)	425	95.5 (88.9-98.2)	166	93.8 (90.9-95.9)	591
General retailer/itinerant	-	0	0.0	5	0.0	5	100.0	6	0.0	5	28.0 (4.8-75.1)	11
Total	0.6 (0.1-2.9)	259	2.6 (0.4-16.3)	27	1.5 (0.3-7.1)	286	91.3 (88.3-93.6)	1,657	90.4 (81.2-95.4)	219	90.9 (86.8-93.8)	1,876
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Table 2.6.4: *Cont.*

Country/Type of outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda - Total	1.3 (0.4-4.2)	550	0.8 (0.3-2.4)	2,342	0.9 (0.4-2.1)	2,892	85.3 (78.8-90)	2,536	77.1 (67.8-84.4)	2,958	79.1 (71.8-84.9)	5,494
Public health facility	0.3 (0.0-2.6)	169	0.2 (0.1-0.5)	2,063	0.2 (0.1-0.5)	2,232	65.1 (45-80.9)	351	77.7 (67.6-85.3)	1615	76.0 (67.1-83.1)	1,966
Private not-for-profit health facility	0.0	7	0.0	32	0.0	39	22.4 (6.7-53.7)	23	26.5 (12.9-46.7)	63	26.1 (13.4-44.6)	86
Private for-profit outlet												
Health facility/pharmacy	0.5 (0.2-1.4)	366	1.4 (0.5-3.7)	128	0.8 (0.3-1.9)	494	89.2 (85.4-92.1)	1,696	87.2 (78.3-92.8)	645	88.1 (83.4-91.7)	2,341
Drug store	9.6 (2.4-31.1)	8	2.5 (0.6-9.9)	93	3.1 (1.0-9.4)	101	89.9 (85.3-93.2)	461	91.2 (86.8-94.2)	546	90.9 (87.3-93.5)	1,007
General retailer/itinerant	-	0	100.0	1	100.0	1	68.2 (12-97.1)	2	95.7 (69.8-99.5)	11	94.6 (71.7-99.2)	13
Total	2.2 (0.9-5.1)	374	3.0 (0.8-10.9)	222	2.8 (1-7.4)	596	89.4 (86.0-92.0)	2,159	89.9 (85.9-92.9)	1,202	89.8 (86.9-92.1)	3,361
Community health worker	-	0	0.0	25	0.0	25	30.1 (2.7-87.1)	3	15.7 (3.1-52.6)	78	15.8 (3.1-52.3)	81
Zanzibar - Total	0.0	139	0.9	221	0.6	360	95.4	525	97.3	339	96.2	864
Public health facility	0.0	124	0.9	220	0.6	344	91.9	135	97.0	234	95.1	369
Private not-for-profit health facility	-	0	-	0	-	0	100.0	1	100.0	3	100.0	4
Private for-profit outlet												
Health facility/pharmacy	0.0	13	0.0	1	0.0	14	94.4	213	98.0	50	95.1	263
Drug store	0.0	2	-	0	0.0	2	99.4	174	98.0	49	99.1	223
General retailer/itinerant	-	0	-	0	-	0	100.0	2	100.0	3	100.0	5
Total	0	15	0.0	1	0.0	16	96.7	389	98.0	102	96.9	491
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.5: Percentage of all antimalarials other than quality-assured ACTs bearing the AMFm logo, at baseline (2010) and endline (2011)

All antimalarials other than quality-assured ACTs bearing the AMFm logo (n) as a percentage of all antimalarials audited (N), by urban-rural location and type of outlet, according to country

Country/Type of Outlet	BASELINE						ENDLINE					
	Urban		Rural		Total		Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana - Total	0.9 (0.6-1.2)	7,174	0.6 (0.4-1.0)	3,370	0.7 (0.5-1.0)	10,544	0.4 (0.1-1.1)	4,048	0.3 (0.1-1.2)	1,182	0.4 (0.1-0.9)	5,230
Public health facility	0.2 (0.0-0.8)	271	0.0	476	0.0 (0.0-0.1)	747	0.0	277	0.0	493	0.0	770
Private not-for-profit health facility	0.0	31	0.0	65	0.0	96	0.0	18	0.0	36	0.0	54
Private for-profit outlet												
Health facility/pharmacy	0.9 (0.6-1.2)	5,206	0.4 (0.2-0.8)	809	0.7 (0.5-1.0)	6,015	0.1 (0.1-0.4)	2,755	1.4 (0.4-5.2)	142	0.2 (0.1-0.5)	2,897
Drug store	0.9 (0.5-1.6)	1,660	0.7 (0.5-1.2)	2,014	0.8 (0.5-1.1)	3,674	0.6 (0.2-2.0)	997	0.2 (0.0-1.2)	507	0.5 (0.2-1.4)	1,504
General retailer/itinerant	0.0	6	0.0	6	0.0	12	0.0	1	0.0	4	0.0	5
Total	0.9 (0.6-1.2)	6,872	0.7 (0.4-1.1)	2,829	0.7 (0.5-1.0)	9,701	0.4 (0.1-1.2)	3,753	0.3 (0.1-1.6)	653	0.4 (0.2-1)	4,406
Community health worker	-	0	-	0	-	0	-	0	-	0	-	0
Kenya - Total	0.7 (0.4-1.1)	4199	0.7 (0.3-1.4)	2,102	0.7 (0.4-1.2)	6,301	1.9 (1.0-3.5)	3,933	1.3 (0.6-2.7)	1,927	1.5 (0.9-2.5)	5,860
Public health facility	0.3 (0.0-1.7)	314	0.1 (0.0-0.5)	656	0.1 (0.0-0.5)	970	0.6 (0.2-2.2)	327	1.2 (0.5-2.6)	775	1.1 (0.5-2.5)	1,102
Private not-for-profit health facility	0.0	83	0.0	37	0.0	120	0.0	60	0.0	80	0.0	140
Private for-profit outlet												
Health facility/pharmacy	0.7 (0.4-1.4)	2,265	2.6 (1.0-6.9)	451	1.4 (0.6-3.2)	2,716	2.6 (1.1-6.3)	2,066	2.5 (0.7-8.2)	463	2.6 (1.2-5.5)	2,529
Drug store	0.9 (0.4-1.9)	1,279	0.4 (0.3-0.8)	588	0.6 (0.4-0.9)	1,867	1.9 (1.2-2.8)	1,338	0.3 (0.0-1.6)	407	1.0 (0.6-1.6)	1,745
General retailer/itinerant	0.0	254	0.3 (0.0-2.2)	352	0.3 (0.0-1.8)	606	0.0	142	2.3 (0.9-5.8)	202	1.9 (0.7-4.8)	344
Total	0.7 (0.5-1.2)	3,798	0.8 (0.4-1.7)	1,391	0.8 (0.5-1.3)	5,189	2.0 (1.1-3.6)	3,546	1.5 (0.6-3.3)	1,072	1.7 (1.0-2.8)	4,618
Community health worker	0.0	4	0.0	18	0.0	22	-	0	-	0	-	0
Madagascar - Total	-	-	-	-	-	-	0.5 (0.3-0.9)	1602	0.3 (0.1-0.8)	2,284	0.3 (0.2-0.7)	3,886
Public health facility	-	-	-	-	-	-	0.8 (0.1-3.8)	97	0.8 (0.3-2.0)	799	0.8 (0.3-1.8)	896
Private not-for-profit health facility	-	-	-	-	-	-	0.0	38	0.0	6	0.0	44
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	0.7 (0.3-1.3)	569	0.0	28	0.5 (0.2-1.2)	597
Drug store	-	-	-	-	-	-	1.3 (0.3-4.7)	142	0.1 (0.0-0.6)	1,018	0.3 (0.1-1.0)	1,160
General retailer/itinerant	-	-	-	-	-	-	0.0	756	0.0	424	0.0	1,180
Total	-	-	-	-	-	-	0.5 (0.2-1)	1,467	0.0 (0.0-0.1)	1,470	0.1 (0.1-0.3)	2,937
Community health worker	-	-	-	-	-	-	-	0	8.8 (1.1-46.9)	9	8.8 (1.1-46.9)	9
Niger - Total	0.5 (0.3-0.9)	3,676	0.2 (0.1-0.7)	2,151	0.3 (0.2-0.6)	5,827	2.7 (2.2-3.4)	3,375	1.3 (0.8-2.1)	1,179	1.8 (1.4-2.3)	4,554
Public health facility	0.5 (0.2-1.6)	382	0.2 (0.1-0.8)	1,084	0.2 (0.1-0.7)	1,466	5.9 (4.2-8.4)	405	3.1 (1.8-5.4)	563	3.7 (2.5-5.5)	968
Private not-for-profit health facility	0.0	11	-	0	0.0	11	0.0	4	8.3 (8.3-8.3)	12	7.7 (6.6-8.9)	16
Private for-profit outlet												
Health facility/pharmacy	0.6 (0.3-1.1)	2,241	0.9 (0.1-5.4)	69	0.6 (0.3-1.1)	2,310	2.1 (1.6-2.9)	1,941	66.4 (19.5-94.1)	7	2.6 (1.7-3.7)	1,948
Drug store	1.7 (0.2-11.3)	61	0.0	22	0.8 (0.1-5.4)	83	3.4 (1.8-6.4)	109	0.0	8	2.3 (1.1-4.9)	117
General retailer/itinerant	0.4 (0.1-1.2)	980	0.2 (0.1-1.0)	974	0.3 (0.1-0.8)	1,954	2.5 (1.7-3.6)	916	0.6 (0.2-1.7)	589	1.2 (0.7-1.8)	1,505
Total	0.5 (0.3-0.9)	3,282	0.2 (0.1-0.9)	1,065	0.3 (0.2-0.7)	4,347	2.4 (1.8-3.2)	2,966	0.7 (0.3-1.7)	604	1.4 (1.0-1.9)	3,570
Community health worker	0.0	1	0.0	2	0.0	3	-	0	-	0	-	0
Nigeria - Total	-	-	-	-	-	-	0.1 (0.0-0.4)	8,270	0.2 (0.1-0.8)	2,999	0.2 (0.1-0.4)	11,269
Public health facility	-	-	-	-	-	-	0.0	133	0.0	138	0.0	271
Private not-for-profit health facility	-	-	-	-	-	-	0.0	30	0.0	7	0.0	37
Private for-profit outlet												
Health facility/pharmacy	-	-	-	-	-	-	0.2 (0.0-1.0)	1,240	0.0	154	0.2 (0.0-0.9)	1,394
Drug store	-	-	-	-	-	-	0.1 (0.0-0.3)	6,602	0.3 (0.1-0.9)	2,627	0.2 (0.1-0.4)	9,229
General retailer/itinerant	-	-	-	-	-	-	1.1 (0.2-5.3)	265	0.0	64	0.8 (0.1-4.3)	329
Total	-	-	-	-	-	-	0.1 (0.0-0.4)	8,107	0.3 (0.1-0.9)	2,845	0.2 (0.1-0.4)	10,952
Community health worker	-	-	-	-	-	-	-	0	-	9	-	9
Tanzania - mainland - Total	0.4 (0.2-0.9)	3,984	0.2 (0.1-0.9)	1,132	0.3 (0.1-0.7)	5,116	1.1 (0.6-2.0)	6,741	1.7 (0.9-3.0)	899	1.4 (0.9-2.1)	7,640
Public health facility	0.0	10	0.0	111	0.0	121	0.0	20	2.3 (0.3-14.6)	68	2.1 (0.3-13.4)	88
Private not-for-profit health facility	0.0	48	0.0	70	0.0	118	0.0	23	0.0	6	0.0	29
Private for-profit outlet												
Health facility/pharmacy	0.7 (0.3-1.6)	3329	0.0	130	0.6 (0.2-1.4)	3,459	1.0 (0.5-2.4)	4,726	0.1 (0.0-0.9)	200	0.9 (0.4-2.0)	4,926
Drug store	0.4 (0.1-1.3)	596	0.4 (0.1-1.3)	734	0.4 (0.1-0.9)	1,330	1.1 (0.5-2.5)	1,956	1.7 (0.9-3.3)	612	1.4 (0.8-2.3)	2,568
General retailer/itinerant	0.0	1	0.0	84	0.0	85	8.5 (3.8-18.0)	16	0.0	13	2.1 (0.3-13.6)	29
Total	0.4 (0.2-1)	3926	0.3 (0.1-1.2)	948	0.4 (0.2-0.8)	4,874	1.1 (0.6-2.1)	6,698	1.6 (0.8-3.1)	825	1.3 (0.9-2.1)	7,523
Community health worker	-	0	0.0	3	0.0	3	-	0	-	0	-	0

Table 2.6.5: *Cont.*

All antimalarials other than quality-assured ACTs bearing the AMFm logo (n) as a percentage of all antimalarials audited (N), by urban-rural location and type of outlet, according to country

| Country/Type of Outlet | BASELINE | | | | | | ENDLINE | | | | | |
| | Urban | | Rural | | Total | | Urban | | Rural | | Total | |
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Uganda - Total	0.7 (0.4-1.2)	4,746	0.4 (0.2-0.6)	6,694	0.5 (0.3-0.7)	11,440	0.2 (0.2-0.3)	8,688	0.1 (0.0-0.5)	5,983	0.2 (0.1-0.4)	14,671
Public health facility	0.8 (0.1-7.0)	208	0.7 (0.4-1.4)	1,444	0.7 (0.4-1.4)	1,652	0.3 (0-1.7)	389	0.3 (0.1-0.9)	1,147	0.3 (0.1-0.8)	1,536
Private not-for-profit health facility	0.0	21	0.0	110	0.0	131	0.0	56	0.0	113	0.0	169
Private for-profit outlet												
Health facility/pharmacy	0.7 (0.3-1.5)	4,177	0.1 (0.0-0.2)	2,413	0.4 (0.2-0.9)	6,590	0.3 (0.2-0.4)	6,729	0.3 (0.0-2.3)	2,514	0.3 (0.1-0.9)	9,243
Drug store	0.8 (0.2-3.0)	330	0.4 (0.2-0.8)	2,685	0.5 (0.3-0.9)	3,015	0.1 (0.0-0.5)	1,511	0.1 (0.0-0.6)	2,143	0.1 (0.0-0.4)	3,654
General retailer/itinerant	0.0	8	3.5 (0.6-17.8)	24	2.4 (0.4-13.4)	32	0.0	2	0.0	8	0.0	10
Total	0.7 (0.4-1.3)	4,515	0.4 (0.2-0.7)	5,122	0.5 (0.3-0.7)	9,637	0.2 (0.1-0.3)	8,242	0.1 (0-0.6)	4,665	0.2 (0.1-0.4)	12,907
Community health worker	0.0	2	0.0	18	0.0	20	0.0	1	0.0	58	0.0	59
Zanzibar - Total	1.1	626	0.5	213	1.0	839	1.6	370	0.0	101	1.3	471
Public health facility	3.0	100	0.0	115	1.4	215	0.0	35	0.0	33	0.0	68
Private not-for-profit health facility	0.0	7	0.0	3	0.0	10	0.0	5	0.0	2	0.0	7
Private for-profit outlet												
Health facility/pharmacy	1.0	381	2.4	41	1.2	422	2.2	223	0.0	38	1.9	261
Drug store	0.0	137	0.0	50	0.0	187	1.0	102	0.0	26	0.8	128
General retailer/itinerant	0.0	1	0.0	4	0.0	5	0.0	5	0.0	2	0.0	7
Total	0.8	519	1.1	95	0.8	614	1.8	330	0.0	66	1.5	396
Community health worker	-	0	-	0	-	0	-	0	-	0		0

Note: Nigeria baseline data collection was conducted in 2009.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.6: Provider knowledge of the AMFm program at endline, 2011

Providers who have heard of "a program that reduces the prices of antimalarial medicines known as ACTs" (n) as a percentage of outlets with antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	Urban % (95% CI)	Urban N	Rural % (95% CI)	Rural N	Total % (95% CI)	Total N
Ghana – Total	79.4 (73.9-84.0)	572	69.5 (58.9-78.3)	382	75.5 (70.1-80.2)	954
Public health facility	90.8 (85.3-94.3)	94	85.0 (80.0-89.0)	204	86.8 (82.9-89.8)	298
Private not-for-profit health facility	100.0	4	53.7 (24.1-80.9)	9	71.9 (43.4-89.5)	13
Private for-profit outlet						
Health facility/pharmacy	84.5 (78.7-89.0)	269	89.2 (69.3-96.8)	26	85.1 (79.8-89.2)	295
Drug store	75.7 (68.7-81.5)	202	64.7 (52.6-75.1)	140	71.4 (64.9-77.0)	342
General retailer/itinerant	100.0	3	32.7 (3.8-85.7)	3	66.2 (22.2-93.1)	6
Total	78.3 (72.5-83.1)	474	65.9 (53.7-76.3)	169	74.1 (68.2-79.2)	643
Community health worker	-	0	-	0	-	0
Kenya – Total	64.2 (57.0-70.8)	1,045	56.1 (49.1-62.9)	801	58.4 (53.0-63.7)	1,846
Public health facility	70.3 (60.4-78.5)	137	67.3 (55.8-77.0)	294	67.5 (56.9-76.6)	431
Private not-for-profit health facility	75.6 (50.8-90.3)	19	47.5 (30.5-65.1)	27	53.0 (37.6-67.9)	46
Private for-profit outlet						
Health facility/pharmacy	72.3 (62.8-80.1)	406	65.9 (49.8-79.0)	112	68.4 (58.2-77.0)	518
Drug store	70.9 (65.2-76.0)	328	67.3 (57.0-76.2)	145	68.7 (62.1-74.7)	473
General retailer/itinerant	36.5 (24.7-50.3)	155	40.3 (30.7-50.7)	223	39.7 (31.4-48.6)	378
Total	63.7 (56.4-70.4)	889	54.6 (46.6-62.4)	480	57.4 (51.4-63.2)	1,369
Community health worker	-	0	-	0	-	0
Madagascar – Total	15.0 (12.7-17.6)	980	12.3 (10.0-15.2)	1,387	12.7 (10.6-15.1)	2,367
Public health facility	17.8 (12.1-25.3)	65	14.1 (10.2-19.2)	553	14.5 (10.9-19.1)	618
Private not-for-profit health facility	25.8 (14.5-41.6)	25	31.3 (5.9-76.9)	5	29.2 (10.2-59.8)	30
Private for-profit outlet						
Health facility/pharmacy	38.3 (30.9-46.3)	105	25.8 (10.0-52.2)	12	32.7 (22.4-44.9)	117
Drug store	14.5 (7.6-25.7)	28	16.2 (12.0-21.4)	347	16.0 (12.2-20.7)	375
General retailer/itinerant	9.3 (7.4-11.7)	742	10.3 (7.1-14.7)	404	10.1 (7.3-13.9)	1,146
Total	13.9 (11.6-16.6)	875	11.1 (8.2-15.0)	763	11.5 (9.0-14.8)	1,638
Community health worker	33.8 (17.5-55.1)	15	16.9 (10.1-26.9)	66	17.3 (10.6-27.0)	81
Niger – Total	27.2 (24.4-30.3)	917	22.0 (19.3-25.0)	731	23.4 (21.3-25.7)	1,648
Public health facility	78.0 (70.4-84.0)	102	48.9 (40.5-57.5)	220	53.0 (45.7-60.3)	322
Private not-for-profit health facility	100.0	2	100.0	1	100.0	3
Private for-profit outlet						
Health facility/pharmacy	58.9 (49.2-67.9)	95	91.6 (61.9-98.6)	4	60.7 (51.0-69.7)	99
Drug store	66.1 (44.6-82.5)	15	0.0	3	29.3 (13.9-51.6)	18
General retailer/itinerant	21.9 (18.7-25.5)	703	18.5 (15.2-22.3)	503	19.5 (16.9-22.3)	1206
Total	24.5 (21.5-27.8)	813	18.5 (15.2-22.3)	510	20.2 (17.7-23.0)	1323
Community health worker	-	0	-	0	-	0
Nigeria – Total	36.1 (27.0-46.2)	1,009	36.4 (26.2-48.0)	465	36.2 (29.2-43.8)	1,474
Public health facility	40.5 (22.7-61.1)	42	52.6 (36.4-68.3)	50	48.4 (35.5-61.5)	92
Private not-for-profit health facility	41.7 (6.2-88.7)	6	6.9 (0.6-45.9)	3	28.6 (5.0-75.2)	9
Private for-profit outlet						
Health facility/pharmacy	54.3 (41.6-66.4)	94	55.9 (32.2-77.3)	31	54.9 (42.7-66.5)	125
Drug store	35.1 (24.3-47.7)	793	33.6 (23.1-45.9)	358	34.5 (26.5-43.5)	1,151
General retailer/itinerant	19.7 (14.8-25.7)	71	19.1 (6.8-43.3)	19	19.5 (14.0-26.5)	90
Total	35.8 (26.4-46.5)	958	35.1 (24.5-47.4)	408	35.6 (28.3-43.6)	1,366
Community health worker	33.3 (33.3-33.3)	3	0.0	4	1.3 (0.1-12.7)	7
Tanzania - mainland – Total	74.5 (68.4-79.8)	583	71.1 (64.4-77.0)	191	72.3 (67.5-76.7)	774
Public health facility	100.0	6	65.8 (50.0-78.8)	48	67.1 (51.7-79.6)	54
Private not-for-profit health facility	75.2 (22.9-96.9)	4	100.0	2	86.8 (42.3-98.3)	6
Private for-profit outlet						
Health facility/pharmacy	83.8 (65.5-93.4)	313	84.8 (43.6-97.6)	16	84.1 (68.2-92.9)	329
Drug store	72.7 (64.6-79.5)	256	74.0 (66.0-80.7)	113	73.4 (67.9-78.4)	369
General retailer/itinerant	46.6 (10.9-86.2)	4	59.5 (48.7-69.4)	12	58.5 (47.3-68.9)	16
Total	74.0 (67.5-79.6)	573	72.9 (65.7-79.1)	141	73.4 (68.5-77.8)	714
Community health worker	-	0	-	0	-	0
Uganda – Total	31.5 (27.4-35.8)	1,400	23.8 (20.5-27.5)	1,707	25.4 (22.4-28.6)	3,107
Public health facility	29.5 (17.1-45.8)	144	27.5 (23.1-32.3)	527	27.7 (23.4-32.5)	671
Private not-for-profit health facility	33.9 (23.7-45.9)	12	42.9 (27.8-59.5)	26	41.9 (28.2-56.9)	38
Private for-profit outlet						
Health facility/pharmacy	36.4 (34.7-38.1)	805	32.2 (27.1-37.7)	384	34.0 (30.9-37.3)	1,189
Drug store	25.6 (20.1-32.0)	433	22.5 (18.5-27.1)	674	23.0 (19.4-27.0)	1,107
General retailer/itinerant	0.0	4	3.5 (0.4-25.4)	14	3.3 (0.4-23.8)	18
Total	31.5 (27.5-35.8)	1,242	24.1 (20.0-28.8)	1072	25.8 (22.2-29.8)	2,314
Community health worker	53.7 (6.9-94.8)	2	15.2 (14.1-16.3)	82	15.3 (14.2-16.5)	84
Zanzibar – Total	68.9	222	68.3	120	68.7	342
Public health facility	83.3	48	78.9	76	80.6	124
Private not-for-profit health facility	100.0	1	0.0	1	50.0	2
Private for-profit outlet						
Health facility/pharmacy	73.2	82	56.3	16	70.4	98
Drug store	56.8	88	45.8	24	54.5	112
General retailer/itinerant	66.7	3	66.7	3	66.7	6
Total	64.7	173	51.2	43	62.0	216
Community health worker	-	0	-	0	-	0

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.7: Sources from which providers heard of the AMFm program at endline, 2011

Providers stating a specific source where they have seen or heard of "a program that reduces the prices of antimalarial medicines known as ACTs" (n) as a percentage of providers that have heard of "a program that reduces the prices of antimalarial medicines known as ACTs" (N), by urban-rural location and type of source specified, according to country

Country/Source	Urban % (95% CI)	N	Rural % (95% CI)	N	Total % (95% CI)	N
Ghana						
On malaria medicine packaging	13.3 (8.8-19.7)	469	14.7 (8.2-24.8)	294	13.8 (9.9-19)	763
On medicine packaging	3.0 (1.4-6.5)	469	3.1 (1.0-9.0)	294	3.0 (1.6-5.7)	763
On TV/radio	90.0 (82.3-94.5)	469	86.1 (80.8-90.1)	294	88.6 (83.7-92.1)	763
In newspapers/magazines	4.3 (2.5-7.4)	469	1.6 (0.7-3.7)	294	3.4 (2.1-5.3)	763
In pharmacies/ drug shops	8.6 (5.5-13.4)	469	8.8 (5.0-15.0)	294	8.7 (6.1-12.3)	763
In public health facilities	2.9 (1.2-6.6)	469	3.9 (2.3-6.6)	294	3.3 (1.9-5.5)	763
In training	35.0 (25.6-45.6)	469	57.2 (50.1-64.0)	294	42.9 (35.9-50.3)	763
From a supplier	4.4 (2.7-6.9)	469	3.5 (1.6-7.6)	294	4.1 (2.7-6.1)	763
From a friend/family member	3.9 (2.4-6.1)	469	2.6 (1.1-6.1)	294	3.4 (2.2-5.2)	763
Other	9.8 (7.1-13.3)	469	8.5 (5.1-14.1)	294	9.3 (7.1-12.2)	763
Kenya						
On malaria medicine packaging	15.3 (11.0-21.1)	738	11.1 (5.6-20.8)	499	12.4 (8.1-18.6)	1,237
On medicine packaging	8.9 (5.0-15.3)	738	7.4 (4.2-12.8)	499	7.9 (5.2-11.8)	1,237
On posters	9.3 (6.7-12.8)	738	6.8 (3.6-12.4)	499	7.6 (5.1-11.1)	1,237
On TV/radio	92.3 (89.5-94.4)	738	91.5 (87-94.5)	499	91.7 (88.6-94.0)	1,237
In newspapers/magazines	14.4 (11.4-18.1)	738	11.2 (6.8-17.9)	499	12.2 (8.9-16.5)	1,237
In pharmacies/ drug shops	5.6 (3.2-9.4)	738	7.3 (4.7-11.2)	499	6.8 (4.7-9.6)	1,237
In private clinics	0.9 (0.4-2.1)	738	4.7 (2.0-10.8)	499	3.5 (1.5-8.0)	1,237
In public health facilities	6.3 (3.7-10.7)	738	11.4 (6.9-18.3)	499	9.8 (6.3-14.9)	1,237
In training	8.3 (5.5-12.2)	738	9.0 (6.4-12.5)	499	8.8 (6.7-11.4)	1,237
From a supplier	8.1 (6.1-10.8)	738	1.4 (0.6-3.0)	499	3.4 (2.3-5.1)	1,237
From a public event	2.6 (1.4-5.0)	738	3.6 (1.9-6.8)	499	3.3 (2.0-5.6)	1,237
Other source: Other	7.9 (5.5-11.0)	738	6.7 (4.8-9.4)	499	7.1 (5.5-9.0)	1,237
Madagascar						
On malaria medicine packaging	3.9 (1.5-9.7)	133	2.7 (1.0-7.2)	197	2.9 (1.3-6.5)	330
On posters	1.6 (0.5-5.3)	133	3.8 (0.9-14.2)	197	3.5 (0.9-12)	330
On TV/radio	63.3 (56.7-69.5)	133	68.6 (57.2-78.2)	197	67.8 (58.2-76.1)	330
In public health facilities	5.4 (2.7-10.6)	133	15.8 (9.3-25.5)	197	14.1 (8.6-22.4)	330
In training	19.3 (14.1-25.7)	133	23.3 (12.9-38.4)	197	22.6 (13.6-35.1)	330
From a supplier	8.7 (5.8-13)	133	0.7 (0.2-2.0)	197	2.0 (1.2-3.4)	330
From a public even	6.2 (3.4-11.0)	133	3.6 (1.5-8.6)	197	4.0 (2.0-7.9)	330
From a friend/family member	1.2 (0.5-3.0)	133	3.1 (0.7-12.8)	197	2.8 (0.7-10.6)	330
Don't know	0.0	133	0.1 (0.0-0.7)	197	0.1 (0.0-0.6)	330
Other source	7.8 (4.9-12.4)	133	6.5 (3.5-12.0)	197	6.8 (4.0-11.2)	330
Niger						
On malaria medicine packaging	13.2 (8.8-19.3)	299	2.4 (1.2-4.8)	199	5.8 (4-8.4)	498
On posters	5.0 (3.0-8.1)	299	3.0 (1.1-7.6)	199	3.6 (2.0-6.4)	498
On billboards	23.4 (18.3-29.4)	299	16.2 (11.0-23.3)	199	18.5 (14.3-23.6)	498
On TV/radio	53.5 (49.1-57.9)	299	62.7 (53.2-71.3)	199	59.8 (53.3-66.0)	498
On a prescription	8.0 (5.5-11.6)	298	7.8 (4.7-12.8)	199	7.9 (5.5-11.3)	497
In private clinics	3.8 (2.5-5.7)	299	8.8 (5.2-14.6)	199	7.2 (4.6-11.1)	498
In public health facilities	6.4 (4.5-9)	299	11.2 (7.5-16.3)	199	9.7 (7.0-13.2)	498
In training	8.1 (5.9-11)	299	4.6 (2.5-8.3)	199	5.7 (4.0-8.2)	498
From a local leader	4.8 (3.1-7.3)	299	3.0 (1.2-7.3)	199	3.6 (2.0-6.2)	498
From a friend/family member	5.8 (3.6-9.2)	299	4.6 (1.7-12.1)	199	5.0 (2.6-9.4)	498
Other	25.3 (20.5-30.7)	299	12.2 (7.6-19.2)	199	16.4 (12.7-20.8)	498

Table 2.6.7: *Cont.*

Country/Source	Urban % (95% CI)	Urban N	Rural % (95% CI)	Rural N	Total % (95% CI)	Total N
Nigeria						
On malaria medicine packaging	14.0 (7.8-23.7)	397	21.3 (12.7-33.4)	167	16.9 (11.6-24.0)	564
On medicine packaging	3.0 (1.1-7.8)	394	2.7 (1.1-6.5)	164	2.9 (1.4-5.7)	558
On posters	5.1 (3.1-8.4)	394	4.1 (1.6-10.2)	164	4.7 (3.0-7.5)	558
On TV/radio	48.9 (37.6-60.3)	394	67.8 (56.6-77.3)	164	56.4 (47.8-64.6)	558
In newspapers/magazines	7.2 (4.8-10.8)	394	1.0 (0.2-4.3)	164	4.8 (2.9-7.7)	558
In pharmacies/drug shops	6.4 (4.2-9.6)	394	4.3 (1.7-10.4)	164	5.5 (3.7-8.2)	558
In private clinics	4.0 (1.5-10.3)	392	2.6 (0.6-9.6)	163	3.4 (1.5-7.5)	555
In public health facilities	10.2 (5.4-18.3)	394	12.1 (7.4-19.1)	164	10.9 (7.2-16.2)	558
In training	37.6 (30.4-45.3)	393	29.6 (21.8-38.7)	164	34.4 (28.8-40.5)	557
From a supplier	4.8 (2.2-10.0)	394	5.5 (2.1-13.5)	164	5.1 (2.8-9.1)	558
From a public event	6.4 (3.2-12.4)	393	4.1 (1.7-9.6)	163	5.5 (3.2-9.2)	556
From a friend/family member	5.1 (3.2-8.1)	393	3.2 (1.2-8.3)	164	4.4 (2.8-6.8)	557
Don't know	2.0 (0.7-5.8)	394	0.0	164	1.2 (0.4-3.6)	558
In a meeting	12.3 (4.9-27.6)	394	3.4 (1.1-9.9)	164	8.7 (3.9-18.6)	558
Other	21.5 (13.1-33.2)	394	6.0 (2.9-12.2)	164	15.4 (9.8-23.3)	558
Tanzania-mainland						
On malaria medicine packaging	12.7 (6.1-24.5)	463	3.6 (1.4-9.0)	138	7.0 (3.6-13.2)	601
On medicine packaging	5.1 (1.7-14.6)	463	0.4 (0.1-3.2)	138	2.2 (0.7-6.7)	601
On posters	9.8 (6.6-14.5)	463	15.7 (9.5-24.9)	138	13.5 (9.2-19.5)	601
On billboards	8.8 (4.3-17.2)	463	12.9 (7.5-21.5)	138	11.4 (7.2-17.6)	601
On TV/radio	91.3 (86.8-94.3)	463	91.8 (86.2-95.3)	138	91.6 (87.9-94.2)	601
On a prescription	3.8 (1.6-8.7)	463	0.0	138	1.4 (0.5-3.8)	601
In newspapers/magazines	9.1 (6.6-12.5)	463	6.9 (3.1-14.4)	138	7.7 (4.9-12.0)	601
In pharmacies/ drug shops	4.1 (1.1-14.4)	463	1.3 (0.3-5.1)	138	2.4 (0.8-6.6)	601
In public health facilities	5.1 (2.6-10)	463	4.1 (1.5-10.5)	138	4.5 (2.4-8.4)	601
In training	6.3 (3.6-10.6)	463	4.8 (2.0-11.2)	138	5.4 (3.1-9.2)	601
Other	7.2 (4.3-11.8)	463	5.5 (2.7-10.9)	138	6.1 (3.8-9.6)	601
Uganda						
On malaria medicine packaging	10.6 (4.9-21.7)	500	3.7 (1.9-6.8)	453	5.4 (2.8-10.3)	953
On medicine packaging	5.3 (3.1-9.1)	501	2.0 (0.7-5.4)	453	2.8 (1.4-5.7)	954
On posters	5.2 (3.7-7.2)	501	0.9 (0.2-3.3)	453	2.0 (0.9-4.1)	954
On TV/radio	65.8 (61.7-69.7)	501	76.7 (71.6-81.2)	453	73.9 (69.6-77.8)	954
On a prescription	3 (1.9-4.9)	501	0.9 (0.2-3.9)	453	1.5 (0.7-3.2)	954
In newspapers/magazines	14.4 (11.9-17.3)	501	5.3 (3.0-9.1)	453	7.6 (5.1-11.1)	954
In pharmacies/ drug shops	8.8 (6.4-11.9)	501	8.3 (5.1-13.1)	453	8.4 (5.8-12.0)	954
In private clinics	3.4 (1.6-6.9)	500	2.3 (1.1-4.8)	452	2.6 (1.4-4.6)	952
In public health facilities	8.4 (6.5-10.9)	501	7.1 (4.0-12.4)	453	7.4 (4.8-11.3)	954
In training	15.7 (11.1-21.7)	501	11.2 (7.9-15.7)	452	12.3 (9.3-16.2)	953
From a supplier (including medical representative)	8.3 (6-11.4)	501	4.6 (2.4-8.7)	453	5.5 (3.5-8.6)	954
From a friend/family member	10.4 (7.9-13.4)	501	8.4 (6-11.6)	453	8.9 (6.9-11.4)	954
Don't Know	0.0	500	0.2 (0.1-0.7)	453	0.2 (0.0-0.5)	953
Other	11.7 (8.6-15.7)	501	8.9 (6.4-12.2)	453	9.6 (7.5-12.1)	954
Zanzibar						
On malaria medicine packaging	19.0	153	12.2	82	16.6	235
On medicine packaging	15.7	153	9.8	82	13.6	235
On posters	23.5	153	15.9	82	20.9	235
On billboards	20.9	153	11.0	82	17.4	235
On TV/radio	94.8	153	91.5	82	93.6	235
On a prescription	13.7	153	9.8	82	12.3	235
In newspapers/magazines	15.7	153	11.0	82	14.0	235
In pharmacies/drug shops	12.4	153	14.6	82	13.2	235
In private clinics	16.3	153	9.8	82	14.0	235
In public health facilities	19.6	153	19.5	82	19.6	235
In training	15.7	153	22.0	82	17.9	235
From a supplier	2.0	153	6.1	82	3.4	235
From a public event	1.3	153	3.7	82	2.1	235
From a friend/family member	0.7	153	3.7	82	1.7	235
I don't know	0.0	153	0.0	82	0.0	235
Other	2.6	153	2.4	82	2.6	235

Note: Providers could give more than one response to this question. Percentages may add to more than 100.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.8: Providers stating that there is a maximum/recommended retail price (RRP) for antimalarials with the AMFm logo at endline, 2011

Providers stating that there is a RRP for antimalarials with the AMFm logo (n) as a percentage of outlets with antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

	Urban		Rural		Total	
Country/Type of outlet	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	91.3 (86.8-94.4)	572	73.4 (61.7-82.6)	381	84.3 (78.5-88.8)	953
Public health facility	90.2 (85.5-93.5)	94	90.2 (86.5-92.9)	203	90.2 (87.4-92.4)	297
Private not-for-profit health facility	100.0	4	78.2 (54.9-91.3)	9	86.7 (67-95.5)	13
Private for-profit outlet						
Health facility/pharmacy	96.6 (95.3-97.6)	269	92.5 (69.3-98.5)	26	96.1 (93.8-97.6)	295
Drug store	89.6 (83.6-93.5)	202	67.1 (52.9-78.7)	140	80.8 (73.3-86.5)	342
General retailer/itinerant	64.5 (20.5-92.8)	3	32.7 (3.8-85.7)	3	48.5 (16.0-82.4)	6
Total	91.2 (86.4-94.4)	474	68.4 (54.2-79.8)	169	83.4 (76.9-88.4)	643
Community health worker	-	0	-	0	-	0
Kenya – Total	79.3 (73.4-84.1)	1,047	68.6 (59.2-76.6)	801	71.6 (64.7-77.6)	1,848
Public health facility	71.3 (59.5-80.8)	137	79.1 (68.0-87.2)	294	78.6 (68.4-86.1)	431
Private not-for-profit health facility	87.7 (61.6-97.0)	19	59.9 (37.1-79.0)	27	65.3 (45.8-80.8)	46
Private for-profit outlet						
Health facility/pharmacy	84.0 (77.4-89.0)	407	80.5 (71.7-87.1)	112	81.9 (76.3-86.4)	519
Drug store	93.8 (91.0-95.8)	329	92.8 (83.8-97.0)	145	93.2 (88.4-96.1)	474
General retailer/itinerant	41.7 (31.5-52.7)	155	42.9 (31.0-55.7)	223	42.7 (32.7-53.4)	378
Total	79.3 (73.4-84.2)	891	67.2 (55.9-76.7)	480	70.9 (63.0-77.8)	1,371
Community health worker	-	0	-	0	-	0
Madagascar – Total	21.0 (16.6-26.3)	979	14.5 (10.3-20.1)	1,387	15.4 (11.6-20.2)	2,366
Public health facility	39.7 (30.3-49.9)	65	27.6 (23.0-32.8)	553	29.0 (24.6-33.7)	618
Private not-for-profit health facility	28.2 (15.8-45.1)	25	82.4 (31.8-97.9)	5	61.5 (33.6-83.4)	30
Private for-profit outlet						
Health facility/pharmacy	39.6 (26.4-54.5)	105	16.0 (3.3-51.9)	12	28.9 (15.5-47.4)	117
Drug store	24.0 (12.3-41.4)	28	14.7 (10.3-20.7)	347	15.7 (11.3-21.4)	375
General retailer/itinerant	13.8 (9.9-19.0)	741	9.0 (5.0-15.7)	404	9.7 (6.0-15.3)	1,145
Total	18.2 (12.8-25.2)	874	9.7 (5.9-15.5)	763	11.0 (7.4-16.0)	1,637
Community health worker	52.5 (26.2-77.5)	15	27.9 (16.4-43.4)	66	28.5 (17.0-43.6)	81
Niger – Total	21.9 (19.4-24.7)	921	10.2 (8.4-12.4)	737	13.4 (11.8-15.3)	1,658
Public health facility	83.7 (76.8-88.9)	101	45.6 (38.5-52.8)	220	50.9 (44.4-57.4)	321
Private not-for-profit health facility	49.2 (11.3-88.1)	2	100.0	1	83.3 (41.4-97.2)	3
Private for-profit outlet						
Health facility/pharmacy	69.5 (58.5-78.7)	95	100.0	4	71.2 (60.6-80.0)	99
Drug store	79.7 (60.5-90.9)	15	30.7 (5.6-77.0)	3	52.4 (25.9-77.6)	18
General retailer/itinerant	15.1 (12.3-18.3)	708	5.5 (4.0-7.4)	509	8.1 (6.7-9.7)	1,217
Total	18.8 (16.5-21.4)	818	5.7 (4.3-7.7)	516	9.5 (8.1-11.0)	1,334
Community health worker	-	0	-	0	-	0
Nigeria – Total	15.8 (12.3-19.9)	1,014	13.7 (10.5-17.8)	469	15.0 (12.5-17.8)	1,483
Public health facility	7.3 (1.4-30.1)	42	3.6 (1.1-11.2)	52	4.7 (1.7-12.2)	94
Private not-for-profit health facility	52.6 (18.0-84.9)	6	6.9 (0.6-45.9)	3	35.5 (11.1-70.8)	9
Private for-profit outlet						
Health facility/pharmacy	21.9 (12.7-35.1)	94	19.3 (8.4-38.3)	31	20.9 (13.4-31.2)	125
Drug store	16.1 (12.1-21.2)	797	15.0 (11.3-19.7)	360	15.7 (12.8-19.2)	1,157
General retailer/itinerant	1.2 (0.3-3.9)	72	8.3 (2.2-26.5)	19	3.0 (1.0-8.5)	91
Total	15.7 (12.4-19.6)	963	15.2 (11.5-19.7)	410	15.5 (13.0-18.4)	1,373
Community health worker	33.3 (33.3-33.3)	3	0.0	4	1.3 (0.1-12.7)	7
Tanzania - mainland – Total	63.4 (57.3-69.2)	583	58.8 (50-67.1)	191	60.5 (54.4-66.3)	774
Public health facility	68.1 (25.7-93.0)	6	62.2 (44.2-77.4)	48	62.5 (45-77.2)	54
Private not-for-profit health facility	29.7 (4.0-81.1)	4	47.8 (4.9-94.2)	2	38.2 (9.3-78.8)	6
Private for-profit outlet						
Health facility/pharmacy	79.1 (67.1-87.5)	313	42.1 (11.2-80.8)	16	69.4 (50.3-83.5)	329
Drug store	61.8 (54.3-68.7)	256	61.1 (53.9-68)	113	61.4 (56.2-66.4)	369
General retailer/itinerant	31.3 (3.7-84.2)	4	34.6 (26.2-44)	12	34.3 (25.7-44.2)	16
Total	63.9 (57.7-69.6)	573	57.6 (49.6-65.1)	141	60.3 (54.9-65.5)	714
Community health worker	-	0	-	0	-	0
Uganda – Total	12.3 (10.4-14.5)	1,404	9.4 (6.9-12.7)	1,719	10.0 (7.8-12.6)	3,123
Public health facility	7.6 (3.7-14.9)	144	12.4 (9.0-16.9)	533	11.7 (8.7-15.6)	677
Private not-for-profit health facility	13.3 (3.4-39.7)	12	11.3 (4.5-25.5)	27	11.5 (5.1-24.0)	39
Private for-profit outlet						
Health facility/pharmacy	15.8 (13.0-19.2)	809	15.4 (10.5-22.0)	387	15.6 (12.4-19.4)	1,196
Drug store	8.5 (6.2-11.5)	433	8.9 (5.7-13.8)	676	8.9 (6-12.9)	1,109
General retailer/itinerant	0.0	4	0.0	14	0.0	18
Total	12.6 (10.7-14.7)	1,246	10.1 (7.2-14.0)	1,077	10.7 (8.3-13.7)	2,323
Community health worker	0.0	2	1.7 (0.3-8.6)	82	1.6 (0.3-8.6)	84
Zanzibar – Total	84.7	222	72.5	120	80.4	342
Public health facility	85.4	48	73.7	76	78.2	124
Private not-for-profit health facility	100.0	1	0.0	1	50.0	2
Private for-profit outlet						
Health facility/pharmacy	92.7	82	75.0	16	89.8	98
Drug store	77.3	88	70.8	24	75.9	112
General retailer/itinerant	66.7	3	66.7	3	66.7	6
Total	84.4	173	72.1	43	81.9	216
Community health worker	-	0	-	0	-	0

Note: Recommended retail prices were set for copaid ACTs in all pilots except Madagascar.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.9: Providers stating the correct maximum/recommended retail price (RRP) for antimalarials with the AMFm logo at endline, 2011

Providers stating the correct RRP for antimalarials with the AMFm logo (n) as a percentage of providers who responded that there was a RRP for antimalarials with the AMFm logo (N),), by urban-rural location and type of outlet, according to country

Country/Type of outlet	Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	94.8 (92.4-96.5)	533	87.6 (82.8-91.3)	317	92.4 (89.9-94.3)	850
Public health facility	92.5 (81.2-97.3)	85	95.9 (92.4-97.8)	186	94.9 (91.1-97.1)	271
Private not-for-profit health facility	100.0	4	85.3 (45.9-97.5)	7	92.0 (64.3-98.6)	11
Private for-profit outlet						
Health facility/pharmacy	97.0 (93.1-98.7)	261	92.2 (64.5-98.7)	25	96.4 (92.3-98.4)	286
Drug store	94.0 (90.8-96.1)	181	84.8 (76.6-90.5)	98	91.0 (87.4-93.6)	279
General retailer/itinerant	100.0	2	0.0	1	66.2 (20.0-93.9)	3
Total	94.9 (92.6-96.5)	444	84.7 (77.5-90.0)	124	92.0 (89.2-94.2)	568
Community health worker	-	0	-	0	-	0
Kenya – Total	92.4 (89.7-94.5)	887	95.5 (93.1-97.1)	581	94.5 (92.7-95.9)	1,468
Public health facility	91.8 (84.2-95.9)	103	94.5 (86.9-97.8)	240	94.3 (87.5-97.5)	343
Private not-for-profit health facility	79.4 (49.7-93.7)	16	76.4 (43.0-93.3)	16	77.2 (51.9-91.4)	32
Private for-profit outlet						
Health facility/pharmacy	88.1 (81.9-92.4)	378	95.1 (82.4-98.8)	90	92.3 (87.3-95.5)	468
Drug store	96.8 (91.3-98.8)	313	98.6 (95.5-99.5)	132	97.8 (95.2-99.0)	445
General retailer/itinerant	87.3 (75.8-93.8)	77	95.0 (87.8-98.0)	103	93.6 (87.9-96.7)	180
Total	92.9 (90.1-94.9)	768	96.6 (93.6-98.2)	325	95.3 (93.4-96.7)	1,093
Community health worker	-	0	-	0	-	0
Madagascar – Total						
Public health facility						
Private not-for-profit health facility	-	-	-	-	-	-
Private for-profit outlet	-	-	-	-	-	-
Health facility/pharmacy	-	-	-	-	-	-
Drug store	-	-	-	-	-	-
General retailer/itinerant	-	-	-	-	-	-
Total	-	-	-	-	-	-
Community health worker	-	-	-	-	-	-
Niger – Total	66.3 (61.7-70.6)	268	56.4 (43.5-68.5)	132	60.8 (53.0-68.1)	400
Public health facility	85.7 (77.9-91.1)	80	84.1 (75.5-90.0)	99	84.4 (77.9-89.4)	179
Private not-for-profit health facility	100.0	1	0	1	19.4 (2.7-67.5)	2
Private for-profit outlet						
Health facility/pharmacy	71.9 (58.7-82.1)	77	100.0	4	74.1 (61.3-83.9)	81
Drug store	84.6 (60.6-95.1)	11	100.0	1	89.6 (70.0-97.0)	12
General retailer/itinerant	57.5 (50.4-64.4)	99	27.8 (14.3-46.9)	27	42.9 (33.3-53.2)	126
Total	61.8 (56.4-66.9)	187	31.8 (17.6-50.5)	32	48.8 (40.0-57.7)	219
Community health worker	-	0	-	0	-	0
Nigeria – Total	10.8 (4.9-22.4)	198	11.6 (4.4-27.3)	73	11.1 (6.0-19.6)	271
Public health facility	0.0	6	0.0	4	0.0	10
Private not-for-profit health facility	0.0	2	0.0	1	0.0	3
Private for-profit outlet						
Health facility/pharmacy	18.6 (2.8-64.2)	23	17.0 (3.3-55.1)	7	18.0 (4.7-49.6)	30
Drug store	10.4 (4.9-20.5)	160	11.6 (3.7-31.3)	58	10.8 (5.8-19.5)	218
General retailer/itinerant	0.0	6	0.0	3	0.0	9
Total	11.4 (5.2-23.1)	189	12.0 (4.5-28.2)	68	11.6 (6.4-20.3)	257
Community health worker	0.0	1	0	0	0.0	1
Tanzania - mainland – Total	83.4 (74.4-89.7)	412	80.3 (68.5-88.5)	113	81.5 (73.7-87.4)	525
Public health facility	61.2 (13-94.3)	4	63.9 (42.3-81.1)	29	63.8 (43.0-80.5)	33
Private not-for-profit health facility	100.0	1	100.0	1	100.0	2
Private for-profit outlet						
Health facility/pharmacy	89.4 (80.4-94.5)	249	17.6 (5.8-42.4)	11	77.9 (58.2-89.9)	260
Drug store	82.4 (71.8-89.6)	157	88.7 (76.0-95.1)	68	85.9 (78.0-91.3)	225
General retailer/itinerant	100.0	1	100.0	4	100.0	5
Total	83.8 (74.4-90.2)	407	87.3 (76.5-93.6)	83	85.7 (78.8-90.6)	490
Community health worker	-	0	-	0	-	0
Uganda – Total	4.2 (2.2-7.9)	231	4.7 (2.3-9.7)	194	4.6 (2.6-8.2)	425
Public health facility	0.0	18	2.1 (0.3-14.5)	67	1.9 (0.2-13.2)	85
Private not-for-profit health facility	0.0	2	0.0	3	0.0	5
Private for-profit outlet						
Health facility/pharmacy	5.5 (2.9-10.2)	169	8.1 (2.3-24.5)	61	7 (3.2-14.5)	230
Drug store	1.5 (0.2-9.1)	42	4.0 (1.5-10.4)	61	3.7 (1.4-9.2)	103
General retailer/itinerant	-	0	-	0	-	0
Total	4.4 (2.3-8.3)	211	5.4 (2.5-11.4)	122	5.1 (2.8-9.2)	333
Community health worker	-	0	0.0	2	0.0	2
Zanzibar – Total	98.4	188	95.4	87	97.5	275
Public health facility	97.6	41	94.6	56	95.9	97
Private not-for-profit health facility	100.0	1	-	0	100.0	1
Private for-profit outlet						
Health facility/pharmacy	98.7	76	100.0	12	98.9	88
Drug store	98.5	68	94.1	17	97.6	85
General retailer/itinerant	100.0	2	100.0	2	100.0	4
Total	98.6	146	96.8	31	98.3	177
Community health worker	-	0	-	0	-	0

Note: No data are shown for Madagascar as an RRP was not set for copaid ACTs in this country.

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

Table 2.6.10: Providers who have received training on antimalarials with the AMFm logo at endline, 2011

Percentage of outlets with at least one staff member that received training on antimalarials with the AMFm logo (n) among outlets with any antimalarials in stock at the time of the survey visit (N), by urban-rural location and type of outlet, according to country

Country/Type of outlet	Urban		Rural		Total	
	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N
Ghana – Total	52.0 (44.7-59.2)	571	50.9 (40.3-61.4)	381	51.5 (45.4-57.6)	952
Public health facility	59.8 (47.9-70.6)	94	60.3 (49.4-70.3)	204	60.2 (51.8-68.0)	298
Private not-for-profit health facility	80.0 (38.0-96.3)	4	38.7 (13.2-72.2)	8	55.9 (29.6-79.2)	12
Private for-profit outlet						
Health facility/pharmacy	40.3 (34.2-46.7)	268	72.2 (53.7-85.2)	26	44.5 (38.8-50.3)	294
Drug store	55.6 (46.2-64.6)	202	47.2 (36.1-58.4)	140	52.3 (45.0-59.4)	342
General retailer/itinerant	0.0	3	32.7 (3.8-85.7)	3	16.4 (2.6-58.6)	6
Total	50.9 (43.5-58.3)	473	48.8 (37.7-60.0)	169	50.2 (44.0-56.4)	642
Community health worker	-	0	-	0	-	0
Kenya – Total	15.3 (11.7-19.8)	1,047	11.2 (8.4-14.8)	800	12.3 (10-15.1)	1,847
Public health facility	20.0 (14.4-27.2)	137	11.6 (7.3-17.9)	294	12.2 (8.1-18.1)	431
Private not-for-profit health facility	19.0 (6.5-44.2)	19	19.8 (9.2-37.6)	27	19.7 (10.3-34.3)	46
Private for-profit outlet						
Health facility/pharmacy	18.4 (12.6-26.1)	407	25.0 (15.1-38.5)	112	22.5 (15.3-31.8)	519
Drug store	19.9 (15.1-25.8)	329	11.6 (6.9-18.9)	144	15 (11.1-19.9)	473
General retailer/itinerant	0.0	155	3.1 (1.0-9.0)	223	2.5 (0.8-7.3)	378
Total	15.1 (11.3-19.8)	891	10.7 (7.1-15.6)	479	12 (9.2-15.5)	1,370
Community health worker	-	0	-	0	-	0
Madagascar – Total	10.1 (7.1-14.3)	979	5.1 (3.6-7.1)	1,387	5.8 (4.3-7.6)	2,366
Public health facility	21.8 (13.1-34.1)	65	14.8 (10.9-19.7)	553	15.6 (11.9-20.1)	618
Private not-for-profit health facility	27.8 (15-45.7)	25	31.3 (5.9-76.9)	5	30 (10.7-60.5)	30
Private for-profit outlet						
Health facility/pharmacy	30.9 (22.5-40.7)	105	0.0	12	16.9 (8.6-30.3)	117
Drug store	41.4 (14.4-74.8)	28	8.3 (5.0-13.5)	347	11.8 (7.1-19.1)	375
General retailer/itinerant	0.2 (0.1-0.7)	741	0.7 (0.3-1.8)	404	0.7 (0.3-1.6)	1,145
Total	7.1 (4.5-11.0)	874	1.4 (0.8-2.2)	763	2.2 (1.5-3.3)	1,637
Community health worker	66.1 (48.2-80.4)	15	17.0 (7.0-36.0)	66	18.2 (7.8-36.8)	81
Niger – Total	14.7 (11.6-18.5)	1,014	11.4 (7.9-16.3)	468	13.3 (10.7-16.3)	1,482
Public health facility	25.6 (12-46.4)	43	24.9 (12.4-43.8)	51	25.0 (12.9-42.7)	94
Private not-for-profit health facility	41.0 (8.4-84.0)	6	6.9 (0.6-45.9)	3	8.5 (1.1-42.7)	9
Private for-profit outlet						
Health facility/pharmacy	16.7 (12.5-22.0)	94	13.6 (3.4-41.7)	31	14.1 (4.4-36.6)	125
Drug store	15.5 (11.9-20.0)	796	9.6 (6.3-14.2)	360	13.2 (10.3-16.8)	1,156
General retailer/itinerant	3.4 (0.7-14.1)	72	8.9 (2.2-29.4)	19	4.8 (1.7-13.0)	91
Total	14.6 (11.5-18.4)	962	9.9 (6.3-15.3)	410	12.8 (10.1-16.0)	1,372
Community health worker	33.3 (33.3-33.3)	3	0.0	4	1.3 (0.1-12.7)	7
Nigeria – Total	15.8 (12.2-20.1)	1,014	11.4 (7.9-16.3)	468	14.0 (11.2-17.4)	1,482
Public health facility	11.2 (3.2-32.4)	43	24.9 (12.4-43.8)	51	20.3 (10.8-34.9)	94
Private not-for-profit health facility	41.2 (6.0-88.6)	6	6.9 (0.6-45.9)	3	28.3 (4.9-75.2)	9
Private for-profit outlet						
Health facility/pharmacy	25.9 (11.6-48.3)	94	13.6 (3.4-41.7)	31	21.3 (11.0-37.2)	125
Drug store	15.5 (11.9-20.0)	796	9.6 (6.3-14.2)	360	13.2 (10.3-16.8)	1,156
General retailer/itinerant	3.4 (0.7-14.1)	72	8.9 (2.2-29.4)	19	4.8 (1.7-13.0)	91
Total	15.7 (12.4-19.7)	962	9.9 (6.3-15.3)	410	13.5 (10.7-16.9)	1,372
Community health worker	33.3 (33.3-33.3)	3	0.0	4	1.3 (0.1-12.7)	7
Tanzania - mainland – Total	16.4 (10.3-25)	583	18.8 (13.4-25.8)	191	17.9 (13.7-23.2)	774
Public health facility	11.7 (1.4-55.0)	6	17.4 (8.6-32.1)	48	17.2 (8.6-31.3)	54
Private not-for-profit health facility	29.7 (4.0-81.1)	4	0.0	2	15.8 (2.1-62.8)	6
Private for-profit outlet						
Health facility/pharmacy	17.0 (8.4-31.3)	313	76.1 (41.4-93.5)	16	32.6 (17.2-52.9)	329
Drug store	16.3 (9.3-26.9)	256	19.5 (12.9-28.4)	113	18.1 (13-24.6)	369
General retailer/itinerant	0.0	4	0.0	12	0.0	16
Total	16.2 (9.8-25.6)	573	19.6 (13.9-26.9)	141	18.1 (13.6-23.7)	714
Community health worker	-	0	-	0	-	0
Uganda – Total	17.3 (15-19.8)	1,402	14.9 (12.2-18.0)	1,715	15.4 (13.2-17.8)	3,117
Public health facility	10.7 (5.3-20.4)	144	12.7 (9.7-16.3)	532	12.4 (9.7-15.7)	676
Private not-for-profit health facility	4.5 (0.5-28.5)	12	12.0 (3.1-36.2)	27	11.2 (3.1-32.8)	39
Private for-profit outlet						
Health facility/pharmacy	16.8 (13.7-20.4)	807	23.0 (15.3-33.1)	386	20.3 (15.3-26.3)	1,193
Drug store	19.5 (15.5-24.3)	433	14.8 (11.7-18.4)	675	15.5 (12.8-18.6)	1,108
General retailer/itinerant	0.0	4	0.0	14	0.0	18
Total	17.9 (15.4-20.7)	1,244	16.2 (12.9-20.1)	1,075	16.6 (14-19.5)	2,319
Community health worker	0.0	2	8.5 (2.5-25.3)	81	8.5 (2.5-25.1)	83
Zanzibar – Total	33.3	222	45.8	120	37.7	342
Public health facility	35.4	48	39.5	76	37.9	124
Private not-for-profit health facility	0.0	1	100.0	1	50.0	2
Private for-profit outlet						
Health facility/pharmacy	43.9	82	75.0	16	49.0	98
Drug store	23.9	88	50.0	24	29.5	112
General retailer/itinerant	0.0	3	0	3	0.0	6
Total	32.9	173	55.8	43	37.5	216
Community health worker	-	0	-	0	-	0

CI = Confidence interval

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys

3   Results from Household Surveys

Household survey data were use to assess the evaluation question on ACT use.

Question 3: *Has the AMFm mechanism helped increase use of quality-assured ACTs, including among vulnerable groups, such as poor people, rural residents and children?*

3.1   Fever prevalence

Table 3.1.1 shows the percentage of children under five years with fever in the two weeks preceding the survey according to urban-rural residence and wealth. The prevalence of fever among young children varies widely among the countries, ranging from less than one child in 10 (9%) in Madagascar to more than four children in 10 (45%) in Uganda. It is important to note that fever can have many causes and it is highly seasonal, so comparisons among countries have to be interpreted with caution.

The prevalence of fever was slightly higher among children living in rural areas than in urban areas in Ghana, Kenya, Niger and Nigeria, but it is higher in urban areas in the remaining countries. The most pronounced urban-rural difference in fever prevalence among young children is observed in Tanzania mainland where 30% of children in urban areas and 21% of children in rural areas had fever in the two weeks preceding the survey. Fever prevalence is lowest among children in the highest wealth quintile in Ghana, Niger, Nigeria and Uganda, but contrary to expectations, it is highest in the highest wealth quintile in Kenya, Madagascar and Zanzibar. In Tanzania mainland, fever is more prevalent in the two highest wealth quintiles than in any of the three lowest wealth quintiles.

Table 3.1.1: Prevalence of fever among children under five years by selected background characteristics

Percentage of children under five years with fever in the 2 weeks preceding the survey, by urban-rural residence and wealth quintile, according to country

Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Ghana	19.9	2,731	GDHS 2008					
Residence								
Urban	19.0	1,039						
Rural	20.5	1,692						
Wealth quintiles								
Lowest	19.7	693						
Second	22.3	610						
Middle	22.0	507						
Fourth	19.6	528						
Highest	14.3	393						
Kenya – Total	27.3	2,814	KMIS 2010					
Residence								
Urban	26.4	397						
Rural	27.5	2,417						
Wealth quintiles								
Lowest	25.5	812						
Second	25.7	645						
Middle	25.2	520						
Fourth	31.1	471						
Highest	32.4	367						
Madagascar – Total	9.3	11,976	MDHS 2009					
Residence								
Urban	12.5	1,311						
Rural	8.9	10,665						
Wealth quintiles								
Lowest	9.1	3,065						
Second	9.3	2,664						
Middle	8.2	2,406						
Fourth	9.3	2,137						
Highest	11.3	1,705						
Niger – Total	26.8	8,727	NMICS 2006					
Residence								
Urban	23.4	1,383						
Rural	27.5	7,344						
Wealth quintiles								
Lowest	29.0	1,879						
Second	27.3	1,739						
Middle	27.7	1,658						
Fourth	27.3	1,797						
Highest	22.5	1,655						
Nigeria	15.9	24,975	NDHS 2008					
Residence								
Urban	12.8	7,690						
Rural	17.2	17,284						
Wealth quintiles								
Lowest	17.8	5,634						
Second	17.1	5,566						
Middle	16.0	4,787						
Fourth	14.9	4,533						
Highest	12.9	4,455						

Table 3.1.1: *Cont.*								
Country/background characteristics	**BASELINE**			**ENDLINE**			**PERCENTAGE POINT CHANGE**	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Tanzania – mainland – Total	23.1	7,461	TDHS 2010					
Residence								
Urban	30.1	1,463						
Rural	21.3	5,998						
Wealth quintiles								
Lowest	23.1	1,608						
Second	19.4	1,793						
Middle	21.2	1,679						
Fourth	28.6	1,382						
Highest	25.1	998						
Uganda – Total	44.7	3,727	UMIS 2009					
Residence								
Urban	47.8	489						
Rural	44.3	3,238						
Wealth quintiles								
Lowest	55.1	836						
Second	45.2	799						
Middle	44.0	767						
Fourth	40.0	687						
Highest	35.9	638						
Zanzibar – Total	19.1	206	TDHS 2010					
Residence								
Urban	21.6	71						
Rural	17.7	135						
Wealth quintiles								
Lowest	14.8	10						
Second	20.5	26						
Middle	17.9	30						
Fourth	16.2	62						
Highest	21.8	78						

Note: Relevant endline data were not available for any of the countries at the time of submission of this report on August 31, 2012.
N = Number of children under five years

3.2 *Antimalarial treatment among children with fever*

Table 3.2.1 shows the percentage of children with fever in the two weeks preceding the survey who received any antimalarial treatment by urban-rural residence and wealth quintile. Overall, Tanzania mainland and Uganda have the highest percentage of children who received any antimalarials, and the lowest percentages are reported in Zanzibar and Madagascar. By background characteristics, urban children are more likely to be treated with any antimalarial than rural children in Ghana, Kenya, Niger, Nigeria and Tanzania mainland. Regarding wealth quintiles, in Madagascar, Niger, Nigeria, Tanzania mainland and Uganda (in the ACTwatch survey), the percentage of children who received treatment with any antimalarial is highest among children in the highest wealth quintile. In Ghana, the percentage treated with any antimalarial increases steadily from the lowest to the fourth wealth quintile (from 28% to 64%) before decreasing to 42% in the highest wealth quintile. In Kenya, the percentage treated is lowest in the lowest wealth quintile, but there is no clear pattern of treatment of children with any antimalarial in the higher wealth quintiles.

Table 3.2.1: Any antimalarial treatment of fever among children under five years by selected background characteristics

Indicator 3.3: Percentage of children with fever in the 2 weeks preceding the survey who received any antimalarial treatment, by urban-rural residence and wealth quintile, according to country

Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	%	N	Source	%	N	Source	%	N
Ghana – Total	43.0	544	GDHS 2008					
Residence								
Urban	52.6	197						
Rural	37.5	347						
Wealth quintiles								
Lowest	27.9	136						
Second	38.9	136						
Middle	47.5	111						
Fourth	63.5	104						
Highest	42.4	56						
Kenya – Total	35.1	769	KMIS 2010					
Residence								
Urban	45.7	105						
Rural	33.4	664						
Wealth quintiles								
Lowest	20.3	207						
Second	41.1	166						
Middle	34.0	131						
Fourth	46.8	146						
Highest	39.0	119						
Madagascar- Source 1 - Total	19.7	1,116	MDHS 2009					
Residence								
Urban	14.9	164						
Rural	20.5	952						
Wealth quintiles								
Lowest	19.1	279						
Second	24.2	249						
Middle	22.9	198						
Fourth	14.7	198						
Highest	16.4	192						
Madagascar Source 1 - Total	47.2	2,120	ACTwatch 2009					
Residence								
Urban	44.0	1,061						
Rural	47.6	1,059						
Wealth quintiles								
Lowest	44.5	422						
Second	47.3	429						
Middle	49.2	426						
Fourth	49.6	427						
Highest	50.4	416						
Niger[1] –Total	33.0	2,343	NMICS 2006					
Residence								
Urban	45.1	324						
Rural	31.1	2,019						
Wealth quintiles								
Lowest	26.0	545						
Second	37.9	474						
Middle	30.2	460						
Fourth	32.4	491						
Highest	41.6	373						
Nigeria –Total	33.2	3,968	NDHS 2008					
Residence								
Urban	41.1	987						
Rural	30.5	2,981						
Wealth quintiles								
Lowest	21.9	1,001						
Second	26.4	953						
Middle	35.5	765						
Fourth	40.2	674						
Highest	52.7	575						

Table 3.2.1: *Cont.*

Indicator 3.3: Percentage of children with fever in the 2 weeks preceding the survey who received any antimalarial treatment, by urban-rural residence and wealth quintile, according to country

Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Tanzania – mainland - Total	60.1	1,715	TDHS 2010					
Residence								
Urban	68.3	441						
Rural	57.3	1,274						
Wealth quintiles								
Lowest	57.3	371						
Second	58.4	346						
Middle	57.5	355						
Fourth	59.8	394						
Highest	70.8	250						
Uganda - Source 1 - Total	59.6	1,667	UMIS 2009					
Residence								
Urban	52.7	234						
Rural	60.7	1,433						
Wealth quintiles								
Lowest	63.0	461						
Second	60.1	361						
Middle	54.5	338						
Fourth	57.2	277						
Highest	62.1	229						
Uganda - Source 2 - Total	51.2	1,752	ACTwatch 2009					
Residence								
Urban	na	na						
Rural	na	na						
Wealth quintiles								
Lowest	53.4	356						
Second	47.1	357						
Middle	46.2	343						
Fourth	53.2	360						
Highest	58.3	334						
Zanzibar – Total	16..9	39	TDHS 2010					
Residence								
Urban	*							
Rural	*							
Wealth quintiles								
Lowest	*							
Second	*							
Middle	*							
Fourth	*							
Highest	*							

Note: Relevant endline data were not available for any country at the time of submission of this report on August 31, 2012.
N= Number of children with fever in the 2 weeks preceding the survey, na = Not available, [1]ACT data not available for Niger, * Percentages not shown because the number of cases is too small to produce reliable results.

Artemisinin-based combination therapy (ACT) is the recommended first-line antimalarial drug for all the pilot countries. Table 3.2.2 shows the percentage of children with fever in the 2 weeks preceding the survey who received ACT treatment by urban-rural residence and wealth quintile. The percentage of children who were given ACTs for their fever varies across countries, ranging from only 1% in Madagascar to 38% in Tanzania mainland. In all countries except Kenya and Tanzania mainland, the percentage of children with fever who were given ACTs is higher among children in urban areas than in rural areas, with the largest difference observed in Ghana (13 percentage points). The percentage of children with fever who received ACTs generally increases with an increase in wealth quintiles except in Uganda and Tanzania mainland where sick children from the lowest wealth quintile have the highest percentage treated with ACTs.

Table 3.2.2: ACT treatment among children under five years with fever by selected background characteristics

Indicator 3.1: Percentage of children under five years with fever in the 2 weeks preceding the survey who received ACT treatment, by urban-rural residence and wealth quintile, according to country

Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Ghana – Total	21.5	544	GDHS 2008					
Residence								
Urban	29.9	197						
Rural	16.7	347						
Wealth quintiles								
Lowest	7.5	136						
Second	20.1	136						
Middle	26.6	111						
Fourth	33.6	104						
Highest	26.6	56						
Kenya- Total	18.0	769	KMIS 2010					
Residence								
Urban	15.8	105						
Rural	18.4	664						
Wealth quintiles								
Lowest	14.8	207						
Second	20.7	166						
Middle	14.4	131						
Fourth	27.4	146						
Highest	12.2	119						
Madagascar- Source 1- Total	1.0	1,116	MDHS 2009					
Residence								
Urban	1.8	164						
Rural	0.9	952						
Wealth quintiles								
Lowest	1.1	279						
Second	0.3	249						
Middle	1.6	198						
Fourth	0.3	198						
Highest	1.9	192						
Madagascar Source 1- Total	3.3	2,120	ACTwatch 2009					
Residence								
Urban	4.6	1061						
Rural	3.1	1059						
Wealth quintiles								
Lowest	0.9	422						
Second	3.2	429						
Middle	5.4	426						
Fourth	5.8	427						
Highest	4.4	416						
Total	3.3	2,120						
Niger[1]- Total	na	na	NMICS 2006					
Residence								
Urban	na	na						
Rural	na	na						
Wealth quintiles								
Lowest	na	na						
Second	na	na						
Middle	na	na						
Fourth	na	na						
Highest	na	na						
Nigeria- Total	2.4	3,968	NDHS 2008					
Residence								
Urban	4.3	987						
Rural	1.8	2981						
Wealth quintiles								
Lowest	1.3	1001						
Second	1.5	953						
Middle	1.9	765						
Fourth	2.4	674						
Highest	6.4	575						

Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Tanzania – mainland- Total	37.9	1,715	TDHS 2010					
Residence								
Urban	33.7	441						
Rural	39.4	1,274						
Wealth quintiles								
Lowest	44.6	371						
Second	37.5	346						
Middle	36.6	355						
Fourth	33.0	394						
Highest	38.4	250						
Uganda - Source 1- Total	23.3	1,667	UMIS 2009					
Residence								
Urban	26.4	234						
Rural	22.8	1433						
Wealth quintiles								
Lowest	24.4	461						
Second	23.1	361						
Middle	20.9	338						
Fourth	22.0	277						
Highest	26.5	229						
Uganda - Source 2- Total	20.8	1,752	ACTwatch 2009					
Residence								
Urban	na							
Rural	na							
Wealth quintiles								
Lowest	24.5	356						
Second	16.7	357						
Middle	15.8	343						
Fourth	20.8	360						
Highest	26.4	334						
Uganda – Zanzibar - Total	5.6	39	TDHS 2010					
Residence	*							
Urban								
Rural	*							
Wealth quintiles	*							
Lowest	*							
Second	*							
Middle	*							
Fourth	*							
Highest	*							

Note: Relevant endline data not available for any of the countries at the time of submission of this report on August 31, 2012.

N = Number of children under five years, na = Not available, [1]ACT data not available for Niger, * Percentages not shown because the number of cases is too small to produce reliable results.

Prompt treatment of fever is important, especially among young children. Table 3.2.3 shows the percentage of children under age five with fever in the two weeks preceding the survey who received ACT treatment the same day or the next day after the onset of fever by urban-rural residence and wealth quintile. In half of pilot countries, only a small percentage of children with fever (less than 5%) received prompt treatment with ACTs. The percentage is highest in Tanzania mainland (27%), followed by Uganda (14% in the 2009 MIS and 18% in the 2009 ACTwatch survey) and Ghana (12%). Prompt treatment with ACTs is higher in urban areas than in rural areas in every survey except for Tanzania mainland and Kenya, and it generally increases with an increase in wealth quintiles. For example, in Ghana, the percentage of young children with fever in the preceding two weeks who received ACT treatment increases from 3% among the poorest children to 20% among the wealthiest children.

Table 3.2.3: Prompt ACT treatment of fever among under five children by selected background characteristics
Indicator 3.2: Percentage of children with fever in the 2 weeks preceding the survey who received ACT treatment the same day/next day after fever onset, by urban-rural residence and wealth quintile, according to country

Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Ghana – Total	12.1	544	GDHS 2008					
Residence								
Urban	17.1	197						
Rural	9.3	347						
Wealth quintiles								
Lowest	2.9	136						
Second	12.2	136						
Middle	15.6	111						
Fourth	16.0	104						
Highest	19.9	56						
Kenya – Total	10.6	769	KMIS 2010					
Residence								
Urban	10.6	105						
Rural	10.6	664						
Wealth quintiles								
Lowest	7.3	207						
Second	13.6	166						
Middle	8.3	131						
Fourth	17.0	146						
Highest	7.0	119						
Madagascar- Source 1 - Total	0.4	1,116	MDHS 2009					
Residence								
Urban	1.8	164						
Rural	0.1	952						
Wealth quintiles								
Lowest	0.0	279						
Second	0.0	249						
Middle	0.0	198						
Fourth	0.3	198						
Highest	1.9	192						
Madagascar Source 1 - Total	3.1	2,120	ACTwatch 2009					
Residence								
Urban	3.8	1061						
Rural	3.0	1059						
Wealth quintiles								
Lowest	0.6	422						
Second	3.2	429						
Middle	5.3	426						
Fourth	5.5	427						
Highest	4.2	416						
Niger[1]- Total	na	na	NMICS 2006					
Residence	na	na	na					
Urban	na	na	na					
Rural	na	na	na					
Wealth quintiles	na	na	na					
Lowest	na	na	na					
Second	na	na	na					
Middle	na	na	na					
Fourth	na	na	na					
Highest	na	na	na					
Nigeria – Total	1.1	3,968	NDHS 2008					
Residence								
Urban	1.8	987						
Rural	0.9	2981						
Wealth quintiles								
Lowest	0.9	1001						
Second	0.5	953						
Middle	0.7	765						
Fourth	1.3	674						
Highest	2.7	575						

Table 3.2.3: *Cont.*

Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Tanzania – mainland - Total	26.7	1,715	TDHS 2010					
Residence								
Urban	22.5	441						
Rural	28.1	1,274						
Wealth quintiles								
Lowest	30.5	371						
Second	27.5	346						
Middle	27.6	355						
Fourth	22.2	394						
Highest	25.8	250						
Uganda - Source 1 - Total	13.7	1,667	UMIS 2009					
Residence								
Urban	20.1	234						
Rural	12.6	1,433						
Wealth quintiles								
Lowest	12.0	461						
Second	12.5	361						
Middle	13.6	338						
Fourth	14.0	277						
Highest	18.6	229						
Uganda - Source 2 - Total	17.6	1,752	ACTwatch 2009					
Residence								
Urban	na							
Rural	na							
Wealth quintiles								
Lowest	20.5	356						
Second	12.9	357						
Middle	13.9	343						
Fourth	18.1	360						
Highest	23.1	334						
Zanzibar – Total	4.0	39	TDHS 2010					
Residence								
Urban	*	*						
Rural	*	*						
Wealth quintiles								
Lowest	*	*						
Second	*	*						
Middle	*	*						
Fourth	*	*						
Highest	*							

Note: Relevant endline data not available for any country at the time of submission of this report on August 31, 2012

N= Number of children with fever in the 2 weeks preceding the survey, na = Not available; [1]ACT data not available for Niger, * Percentages not shown because the number of cases is too small to produce reliable results.

3.3 *Diagnostic testing*

Data on diagnostic testing were not available for Ghana, Niger, Nigeria and Madagascar because the selected surveys did not include questions on this aspect. It should be noted that the question is used as a proxy for malaria diagnostic testing; however, the formulation of the question is not specific to malaria, "*At any time during the illness, did (NAME) have blood taken from his/her finger or heel for testing?*" Overall, for all countries with data, malaria diagnostic testing was very low, ranging between 6% in Madagascar and 20% in Zanzibar. Diagnostic testing was more common in urban areas than in rural areas, with the largest difference in Tanzania mainland where the percentage was 4 times higher in urban than rural areas. For all countries, the percentage of diagnostic testing is lower among children in the lower wealth quintiles than in the highest quintiles (Table 3.3.1)

Table 3.3.1: Diagnostic testing among children under five years with fever by selected background characteristics

Percentage of children under five years with fever in the two weeks before the survey who had blood taken from a finger or heel for testing

Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Ghana – Total	na	na	GDHS 2008					
Residence								
Urban	na	na						
Rural	na	na						
Wealth quintiles	na	na						
Lowest	na	na						
Second	na	na						
Middle	na	na						
Fourth	na	na						
Highest	na	na						
Kenya – Total	11.8	769	KMIS 2010					
Residence								
Urban	18.8	105						
Rural	10.8	664						
Wealth quintiles								
Lowest	4.2	207						
Second	10.8	166						
Middle	11.2	131						
Fourth	15.7	146						
Highest	22.4	119						
Madagascar- Source 1 - Total	na	na	MDHS 2009					
Residence								
Urban	na	na						
Rural	na	na						
Wealth quintiles	na	na						
Lowest	na	na						
Second	na	na						
Middle	na	na						
Fourth	na	na						
Highest	na	na						
Madagascar Source 2 - Total	6.0	2,120	ACTwatch 2009					
Residence								
Urban	5.9	1,061						
Rural	6.0	1,059						
Wealth quintiles								
Lowest	3.7	422						
Second	6.7	429						
Middle	5.6	426						
Fourth	10.3	427						
Highest	10.8	416						
Niger[1] – Total	na	na	NMICS 2006					
Residence								
Urban	na	na						
Rural	na	na						
Wealth quintiles								
Lowest	na	na						
Second	na	na						
Middle	na	na						
Fourth	na	na						
Highest	na	na						
Nigeria- Source 1 - Total	na	na	NDHS2008					
Residence								
Urban	na	na						
Rural	na	na						
Wealth quintiles								
Lowest	na	na						
Second	na	na						
Middle	na	na						
Fourth	na	na						
Highest	na	na						
Nigeria- Source 2 - Total	5.6	3,274	ACT watch 2009					
Residence								
Urban	6.5	1,160						
Rural	5.0	2,114						
Wealth quintiles								
Lowest	3.8	625						
Second	4.8	624						
Middle	4.4	650						
Fourth	5.3	617						
Highest	9.1	621						

Table 3.3.1: *cont.*								
Country/background characteristics	**BASELINE**			**ENDLINE**			**PERCENTAGE POINT CHANGE**	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Tanzania – mainland - Total	16.1	1,715	TDHS 2010					
Residence								
Urban	36.3	441						
Rural	9.2	1,274						
Wealth quintiles								
Lowest	9.6	371						
Second	7.1	346						
Middle	11.2	355						
Fourth	20.8	394						
Highest	37.9	250						
Uganda - Source 1 - Total	17.1	1,667	UMIS 2009					
Residence								
Urban	26.6	234						
Rural	15.6	1,433						
Wealth quintiles								
Lowest	15.3	461						
Second	13.1	361						
Middle	14.3	338						
Fourth	19.8	277						
Highest	28.2	229						
Uganda - Source 2 - Total	11.1	1,752	ACTwatch 2009					
Residence								
Urban	na	na						
Rural	na	na						
Wealth quintiles								
Lowest	5.7	356						
Second	9.6	357						
Middle	10.0	343						
Fourth	10.7	360						
Highest	21.4	334						
Zanzibar – Total	20.2	39	TDHS 2010					
Residence								
Urban	*							
Rural	*							
Wealth quintiles								
Lowest	*							
Second	*							
Middle	*							
Fourth	*							
Highest	*							

Note: Relevant endline data not available for any of the countries at the time of submission of this report on August 31, 2012.
N = Number of children under five years, na =Not available, * Percentages not shown because the number of cases is too small to produce reliable results if broken down into residence and wealth quintiles

3.4 *Antimalarial treatment among children with fever from the poorest households*

Table 3.3.1 shows the percentage of children with fever in the 2 weeks preceding the survey in the poorest households (lowest two wealth quintiles) who received treatment for malaria. The percentage of children with fever who received treatment with any antimalarial (Indicator 3.6) varies substantially across countries, from 22% in Madagascar to 62% in Uganda. Tanzania mainland has the second highest percentage (58%), followed by Ghana (33%), Niger (32%) and Kenya (30%). The percentage of children who received ACTs (Indicator 3.4) is 41% in Tanzania mainland, 24% in Uganda, 17% in Kenya, 14% in Ghana, and only 1% in Madagascar and Nigeria. These percentages decrease considerably when examining prompt treatment with ACTs (Indicator 3.5).

Table 3.4.1: Treatment of fever among children under five years from the poorest households (lowest two wealth quintiles), by urban-rural residence								
Indicator 3.4: Percentage of children with fever in the 2 weeks preceding the survey in the poorest households (lowest two wealth quintiles) who received **ACT** treatment, according to country								
Indicator 3.5: Percentage of children with fever in the 2 weeks preceding the survey in the poorest households (lowest two wealth quintiles) who received **ACT** treatment the same/next day after the onset of fever, according to country								
Indicator 3.6: Percentage of children with fever in the 2 weeks preceding the survey in the poorest households (lowest two wealth quintiles) who received treatment with any antimalarials, according to country								
Country/background characteristics	BASELINE			ENDLINE			PERCENTAGE POINT CHANGE	
	Percentage	N	Source	Percentage	N	Source	Percentage	N
Ghana			GDHS 2008					
Any antimalarial treatment	33.4	272						
ACT treatment	13.9	272						
Prompt ACT treatment	7.4	272						
Kenya			KMIS 2010					
Any antimalarial treatment	29.6	473						
ACT treatment	17.4	473						
Prompt ACT treatment	10.1	473						
Madagascar			MDHS 2009					
Any antimalarial treatment	21.5	528						
ACT treatment	1.0	528						
Prompt ACT treatment	0.0	528						
Niger			NMICS 2006					
Any antimalarial treatment	31.5	1,019						
ACT treatment	Na	1,019						
Prompt ACT treatment	Na	1,019						
Nigeria			NDHS 2008					
Any antimalarial treatment	24.1	1,954						
ACT treatment	1.0	1,954						
Prompt ACT treatment	0.8	1,954						
Tanzania - mainland – *Source*			TDHS 2010					
Any antimalarial treatment	57.8	717						
ACT treatment	41.1	717						
Prompt ACT treatment	29.1	717						
Uganda			UMIS 2009					
Any antimalarial treatment	61.7	822						
ACT treatment	23.8	822						
Prompt ACT treatment	12.3	822						
Zanzibar			TDHS 2010					
Any antimalarial treatment	*	7						
ACT treatment	*	7						
Prompt ACT treatment	*	7						
Note: Relevant endline data not available for any country at the time of submission of this report on August 31, 2012. N= Number of children with fever in the 2 weeks preceding the survey na = Not available, * Percentage not shown because the number of cases is too small to produce reliable results								

4 Implementation process and context - Findings from the country case studies

4.1 Ghana

4.1.1 AMFm implementation process

4.1.1.1 Governance structure for AMFm

In 2010, an AMFm coordinating committee (AMFmCC) was established to plan, coordinate and oversee the implementation of activities in Ghana. The members are drawn from the Ministry of Health, Regulatory Agencies, multilateral and bilateral partners, the private sector, academic and research institutions, first line buyers (FLBs), professional associations, civil society organizations and the County Coordinating Mechanism (CCM) for Global Fund programs. The AMFmCC Secretariat is at the NMCP.

4.1.1.2 AMFm copaid ACT supply mechanism

Of the 32 FLBs registered with the Global Fund, 30 were from the private sector and one each from the public (MOH) and NGO sectors. All major players in the pharmaceutical sector who applied for registration with the Global Fund as FLBs were successfully registered, among them local manufacturers of ACTs. However, only 14 private sector FLBs and the MOH placed orders for copaid ACTs. The reasons given for private sector FLBs being unable to place orders with the pre-qualified manufacturers were that manufacturers preferred working with FLBs with whom they already had experience as local distribution agents and that they were not keen to change the memoranda of understanding they had with existing agents. As a result of the AMFm, FLBs scaled down significantly the import of non copaid ACTs while local manufacturers stopped or significantly scaled down production of ACTs, thus ensuring that copaid ACTs rapidly gained market share.

The first order of copaid ACTs arrived in August 2010. Between June 2010 and December 2011, about 20 million doses of copaid ACTs were delivered to both private and public sector FLBs, constituting 56% of orders approved by the Global Fund in the same period. The public sector did not place its first order for copaid ACTs until mid-2011 because the Central Medical Stores (CMS) still held significant quantities of non-copaid ACTs ordered in 2010. However, in the intervening period, the CMS experienced stockouts of non-copaid ACTs and authorized the Regional Medical Stores (RMS) and health facilities to obtain copaid ACTs directly from the private sector. The first public sector orders of 1.4 million copaid treatments arrived in November 2011. As of December 2011, the public sector accounted for less than 10% of the delivered quantities.

All malaria medicines, including copaid and non-copaid ACTs with the exception of quinine formulations imported as finished pharmaceutical products, are liable to various taxes and levies. These taxes are charged on the prevailing market value of the medicine plus the cost of shipping and insurance or cost-insurance-freight (CIF). The AMFmCC, through the MoH, has negotiated with the Ministry of Trade to allow the calculation of taxes for copaid ACTs to be based on the co-payment cost rather than their actual value through a waiver system. The waiver, known as the "destination inspection waiver" allows for calculation of taxes based on declared value rather than the value determined through an independent customs inspection. Since this waiver must be obtained for each shipment of copaid ACTs, the committee has also been able to get the support of both the MoH and the Ministry of Trade to fast track the preparation of waiver documents so that the documents are ready when the copaid ACTs arrive in the country to minimize time spent at the port of entry. With the waiver of the destination inspection, all the taxes levied on the copaid ACTs add up to 15% of the CIF value of each shipment. However, given that the insurance and freight costs are higher than the co-payment cost and are paid by the Global Fund, the tax paid on the copaid ACTs by the FLBs represents a significant mark-up cost. The MoH has made a request to the Ministry of Finance to allow the taxes to be based on the free on board (FOB) rather than the CIF value of the medicines. As of December 2011, no decision had been made on this request.

The AMFmCC also negotiated with the National Health Insurance Agency to reduce the reimbursement rate for malaria treatments from Gh₵ 4.00 (USD 2.57) to Gh₵ 1.50 (USD 0.96), thus encouraging private sector health care providers to stock copaid ACTs.

At the time of endline outlet survey data collection, there were reports of challenges related to the approvals for orders for copaid ACTs placed by FLBs, with the approved quantities falling short of the quantities ordered, long delivery lead times for ordered ACTs and consequent stockouts along the private sector distribution chain. As a consequence, some first line buyers reported considering restocking non-copaid ACTs to meet demand.

The transportation of medicines and other commodities to the northern, upper eastern and upper western regions is affected by poor road infrastructure, which increases transportation costs. FLBs transported copaid ACTs with other medical supplies to their regional depots countrywide ensuring that the medicines were available for purchase or further distribution within their retail networks in the regions. Medical supplies are transported in bulk at regular intervals, rather than in small quantities to the regional warehouses. Reports from monitoring activities carried out by the NMCP and the Pharmacy Council in the northern regions show that between April and July 2011 the proportion of pharmacies and licensed chemical shops stocking copaid ACTs increased by more than 40 percentage points, supporting the fact that FLBs were able to distribute copaid ACTs even in regions with the poorest transport infrastructure. In the public sector, the central

and regional medical stores have an insufficient fleet of vehicles to transport medicines to health facilities and as a result, health facilities often use their own means to collect required supplies from regional medical stores while the regional stores do the same to collect their stocks from the CMS. The CMS sells public sector copaid ACTs to the RMSs at Gh₵ 0.07-0.30 (USD 0.04-0.20), while the RMSs sell the copaid ACTs to public health facilities at Gh₵ 0.10-0.50 (USD 0.06-0.32). Public health facilities sell the copaid ACTs at Gh₵ 0.20-0.70 (USD 0.13-0.45) and claim this cost from the NHIS for patients covered under the insurance scheme and directly from patients who are not members. Prior to the delivery of public sector copaid ACTs, the CMS, RMS and public health facilities procured copaid ACTs directly from FLBs or private wholesalers at prices ranging from Gh₵ 0.70-1.20 (USD 0.45-0.77) while patients paid Gh₵ 1.50 (USD 0.96).

4.1.2 Implementation of AMFm supporting interventions

4.1.2.1 Communication

AMFm was launched in Accra on February 17, 2011, by the Honourable Minister for Health and was attended by local leaders and dignitaries, including the WHO country representative, the Director of AMFm at the Global Fund and representatives from the private sector, civil society and other partners in malaria control. The launch was preceded by a publicity week using both print and electronic media and community mobilization all targeted at the general public. The launch also marked the beginning of a yearlong media campaign raising awareness about AMFm and was followed by launches in five of the 10 regions. All launch activities were supported by the Global Fund AMFm grant.

An intensive awareness campaign using electronic and print media and supported by community-based mobilization activities was successfully implemented from mid-February 2011. Over 10,000 radio spots and 400 television commercials were aired in English and 7 local languages nationally. Three key messages were promoted: 1) ACTs are the only effective treatment for malaria, 2) the green leaf logo identifies subsidized ACTs and 3) ACTs with the green leaf are available, effective and affordable at Gh₵ 1.50 (USD 0.96).

4.1.2.2 Recommended retail price

The recommended retail price (RRP) of Gh₵ 1.50 (USD 0.94) for an adult dose was agreed on by all stakeholders and the AMFmCC. The price took into consideration taxes, logistics and overhead costs and supply chain mark-ups in the private sector. Although the price was not printed on the package, the RRP was widely publicized in media campaigns, and public awareness was generally high. In order to ensure adherence to the RRP, the Pharmaceutical Society of Ghana made appeals to all pharmacists to respect pricing and mark-ups for AMFm medicines in order to ensure that the pilot was successful.

It was reported that one downside of the communication campaign was that the advertised RRP became the minimum retail price for the ACTs, with those retailers who might have been selling them at a lower price raising the cost to match the RRP.

4.1.2.3 Training

Four thousand public health workers drawn from all regions were trained on malaria case management, including diagnosis, monitoring and reporting. All 1,400 targeted pharmacists and 500 private medical practitioners successfully completed a one-day training course linked to Continuing Professional Development (CPD) points conducted by their respective professional associations. Over 7,400 of the targeted 8,500 licensed chemical sellers (LCS) received three days' training on malaria case management and AMFm conducted by the Pharmacy Council. All training activities were scheduled for completion in the first quarter of 2012, but due to the long time it has taken to get training plans approved by the Global Fund, the activities will not be completed as scheduled. Regional regulatory officers from the Ghana Food and Drugs Board were also trained on malaria case management and on the conduct of routine monitoring of pharmaceutical services for dispensing practices and pricing.

4.1.2.4 Other AMFm supporting interventions

Two operational research projects were ongoing at the time of endline outlet survey data collection, but neither involved interventions likely to have influenced the Independent Evaluation indicators.

4.1.2.5 Pharmacovigilance

The Food and Drugs Board initiated cohort event monitoring of adverse events in four sentinel sites linked to regional and district health facilities in Ashanti and Western Regions of Ghana. The Board also conducted two rounds of post market surveillance of copaid and non-copaid ACTs at all levels of the supply chain from the port of entry to distribution to retail points in both the public and private sectors. Neither of these activities is likely to have influenced the AMFm outcomes.

4.1.3   Implementation of non-AMFm interventions

4.1.3.1 Home based care

Home Based Care (HBC) is a community-based intervention aimed at increasing access to prompt treatment for malaria with ACTs in areas where malaria burden is high and access to health facilities is low. Access to prompt treatment is limited in rural areas due to lack of physical access as more health facilities are located in urban areas and due to socioeconomic

factors which also affect the urban poor. The main target of HBC is children less than five years old who are at a high risk of malaria morbidity and mortality. Children with suspected malaria receive presumptive treatment with copaid amodiaquine-artesunate at the community level. HBC was initiated through a rolling campaign targeting 26 districts from May 2011. This activity increased the number of districts implementing HBC through support by Global Fund Round 8, UNICEF and other partners to 149.

4.1.3.2 Long-lasting insecticidal nets

The AMFm pilot was implemented concurrently with a national door-to-door distribution and hang-up campaign of long-lasting insecticidal nets (LLINs), and at the time of endline outlet survey data collection, 5 million (40%) of the targeted 12 million LLINs aimed at achieving universal coverage had been distributed and hung up for use. Used consistently, LLINs are associated with a reduction in both malaria transmission and malaria-related morbidity and mortality. However, the limited availability and use of diagnostics during the AMFm implementation period makes it unlikely that this increased coverage of LLINs will have had a major impact on the use of copaid ACTs.

4.1.4   Key events and context

There was catastrophic flooding in the Eastern Region in July 2011 and in Greater Accra in October 2011 to which the NMCP and National Disaster Management Committee responded with the distribution of LLINs to those lacking nets, as well as free RDTs and ACTs to emergency treatment centers and health facilities for prompt diagnosis and treatment of malaria. Data from the health information system for the period do not show any significant changes in malaria cases in the affected regions.

4.1.5   Conclusion

Table 4.1.1 summarizes of key factors likely to have supported or hindered achievement of AMFm goals in Ghana and Figure 4.1.1 presents a timeline of all key events related to AMFm implementation and context.

The AMFm pilot has been successfully implemented in Ghana with availability of copaid ACTs and adherence to the recommended retail price both reported to be widespread. The communications campaign successfully used electronic and print media, workshops and community mobilization activities to create awareness about copaid ACTs. Implementation of all supporting interventions planned was at an advanced stage, except for home based care and the operational research activities which had only been recently initiated. Over 12,000 health workers in both the public and private sectors, including licensed chemical sellers and some community health workers, had been trained with more scheduled for training in 2012. Sentinel

sites to strengthen pharmacovigilance and post-market surveillance were set up, and operational research aimed at improving the uptake of diagnosis-based treatment was initiated.

The expansion of home based care for suspected malaria to 26 districts was initiated in May 2011 and is expected to continue throughout the AMFm implementation period using the Global Fund Round 8 grant.

One of the obstacles to achieving a reduction in copaid ACT prices was the delay in delivery of adequate quantities of the medicines. The capping of quantities ordered and long lead times for delivery of copaid ACTs have resulted in stockouts along the private sector supply chain. As a result, non quality-assured ACTs may regain some market share as FLBs place orders to meet the demand unmet by AMFm copaid ACTs.

Table 4.1.1: Summary of key factors likely to have supported or hindered achievement of AMFm goals in Ghana	
Factors which are likely to have supported achievement of AMFm goals	**Factors which are likely to have hindered achievement of AMFm goals**
• Wide distribution network of public and especially private sector FLBs • Expansion of home based care • Declaration of a recommended retail price (RRP) • Monitoring visits by regulatory officers from the Pharmacy Council • Public awareness campaign • Cessation of manufacture of ACTs by 4 out of 5 local manufacturers • A decline in the importance of non-copaid ACTs in favor of copaid ACTs • Training of frontline health workers in both the public and private sectors	• Poor road infrastructure along distribution networks • Taxes and duties • Long lead times to delivery of ACTs • Capping of quantities ordered • Stockouts and re-introduction of non-quality assured ACTs • Preference for chloroquine and artemisinin monotherapies by some patients and clinicians

Figure 4.1.1:Timeline of key events related to AMFm implementation process and context in Ghana

Activity	2010							2011											
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	May	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AMFm grants and orders																			
AMFm grant signed	█																		
AMFmCC meetings	█	█	█	█	█	█			█			█			█			█	
First orders placed for copaid ACTs	█																		
Delivery of private sector copaid ACTs			█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Delivery of public sector copaid ACTs																		█	
AMFm supporting interventions																			
Public awareness - talk shows				█	█	█	█	█	█	█	█	█	█	█	█				
National Launch									█										
Regional Launches									█	█	█	█	█	█	█	█	█	█	█
Public awareness media campaign									█	█	█	█	█	█	█	█	█	█	█
Training of public sector health workers								█	█	█	█	█	█	█	█	█	█	█	█
Training of pharmacists			█	█	█														
Training of LCS and Medical Counter Assistants (MCA)				█	█	█	█	█	█	█	█								
Training of medical doctors								█	█	█	█	█	█	█	█	█	█		
Training of regulatory officers			█																
Training of community-based assistants												█							
Post market surveillance			█															█	
Private sector monitoring visits									█	█			█	█					
Expansion of home based care													█	█	█	█	█	█	█
Pharmacovigilance													█	█	█	█	█	█	█
Research activities																			
IE baseline outlet survey data collection			█																
IE endline outlet survey data collection																		█	█
IE Country case study																			█
Operational research (OR) ethics approvals												█							
OR community mobilization																		█	█

4.2   Kenya

4.2.1   AMFm implementation process

4.2.1.1 Governance structure for AMFm

There are five main governance structures - some old and some new - which are pertinent to the governance of AMFm in Kenya. These are:
1. the Kenya Country Mechanism (KCM) or National Oversight Committee (NOC), previously the Global Fund Country Coordinating Mechanism (CCM)
2. the Malaria Interagency Coordinating Committee (MICC)
3. the Global Fund Technical Working Group (TWG)
4. the AMFm TWG or Task Force
5. Stakeholder Forums

The latter two were established as a direct result of the need for planning and coordination around AMFm; the first three have been in existence for far longer. The KCM/NOC focuses on all Global Fund coordination issues, for instance the selection of principal recipients (PRs) and management of the process for the selection of sub-recipients (SRs) in coordination with the PRs and the programs.

The MICC is the highest decision making body for malaria in Kenya. It meets quarterly and receives updates on all areas of malaria control to facilitate key decisions for which the necessary technical discussions and deliberations have already taken place within the respective TWGs. The Global Fund TWG oversees and provides technical assistance in the implementation of Global Fund malaria-related activities.

The AMFm TWG was formed out of the initial group of stakeholders who took part in the AMFm proposal writing for Kenya with *ad hoc* representation from other stakeholders on a *need-to* basis. The core members are the Division of Malaria Control (DOMC) Case Management TWG, M&E TWG and Advocacy, Communication and Social Mobilization TWG; Clinton Health Access Initiative (CHAI); Pharmacy & Poisons Board (PPB) and PSI/Kenya.

The TWG spearheads the planning, coordination and monitoring of all AMFm-related activities and reports back to the Case Management TWG. The meetings are said to have been very useful in tracking progress, identifying constraints and responding flexibly to novel issues.

The main challenge of the AMFm TWG has been the slow progress of key AMFm activities such as private sector training courses and IEC/BCC activities which led to some fatigue on "discussing the same issues of delays over and over", leading to a slowing down of the dialogue. In the lead up to the grant signing, the TWG met weekly, then after grant signature monthly.

The Stakeholder Forums were seen as crucial for advocacy and sensitization for AMFm, especially with the private sector, and were included in the grant proposal as an avenue for engaging with stakeholders in much the same way as Global Fund grants have annual or semi-annual stakeholder workshops. There are three key phases to the Stakeholder Forums; the pre-grant phase, the early period of grant writing and post-grant signature. The pre-grant phase involved advocacy for AMFm both within and outside government. The grant-writing phase involved engaging with those who would be directly affected by AMFm professionally or economically, such as the Pharmaceutical Society of Kenya, large pharmaceutical distributors, local manufacturers and other health professionals. At least four stakeholder meetings were held in the run up to AMFm in 2009 and 2010.

The pre-grant Stakeholder Forums are viewed as largely successful in fulfilling their stated objectives. By the time the copaid medicines came to the country, AMFm was said to be well understood. Indeed, many expressed the opinion that "we would have been lost without the [stakeholder] forums". Some private sector stakeholders were very enthusiastic and even offered to help kick-start the IEC/BCC campaigns with their own funds given the delays in procuring IEC/BCC services.

A perceived challenge has been poor attendance at the forums, and getting the various players "to put all their cards on the table". There were initial misgivings about AMFm because of local manufacturers and importers fearing loss of business, and lack of understanding of the mechanism's objectives and operation. The latter has been overcome by and large, although the issue of how local manufacturers take part in such procurement processes still remains salient (ALMA et al. 2011).

4.2.1.2 AMFm copaid ACT supply mechanism

Public sector

The first line buyer (FLB) for the public sector was the Kenya Medical Supplies Agency (KEMSA). The initial determination of what quantities of AL to order was done by the DOMC and partners through a formal quantification workshop, but the quantities determined (31 million doses including a buffer stock of 13 million) had to be aligned with available resources (about USD 14 million), so only 16.6 million doses were tendered for. The tender process took from October 2010 to May 2011. Contracts were signed with Ajanta Limited for the two older age packs in April 2011 and with Novartis Pharma AG for Coartem Dispersible for the two pediatric age packs in May 2011. Both orders were split into two equal call-downs, with an initial call-down of 50% requested immediately, although in practice they were received in more batches - "in dribs and drabs." The first consignment arrived on June 27, 2011, and by December 2011, 8.5 million doses for the public sector had been delivered in Kenya, but Ajanta Limited had not delivered their full order by December 2011. These delays were perceived to be partly due to a global shortage of the artemesia active pharmaceutical ingredient (API). An additional emergency procurement was made through

the President's Malaria Initiative (PMI) for 4 million doses, of which 3 million arrived between July and December 2011. Public sector facility stockouts were not reported in 2011, except for a four-week period in July and August (DOMC et al. 2010, 2011a, 2011b).

It is acknowledged that despite the strides made by KEMSA in building up efficient procurement and supply management systems, government procurement processes for ACTs were still very long. It took nine months between the tender closure and the first consignment of the copaid ACTs being delivered in Kenya, which is fairly typical of medicine procurement processes. What was unusual was that six months after the first consignment of copaid ACTs was delivered, Ajanta Limited had not been paid for their consignment. Indeed by December 2011 no manufacturer had received the government share of the price of copaid ACTs delivered to the public sector. This appeared to reflect administrative bottlenecks in terms of invoicing and invoice processing involving the DOMC, KEMSA and the PR (Ministry of Finance). Novartis Pharma AG had to make special representations to their risk management section not to bar further orders to KEMSA, and KEMSA had to make representations to Ajanta not to stop further deliveries. The delay in payment may have further compounded public sector delivery delays due to a shortage of API.

Private sector

Seven private sector FLBs were registered and established relationships with manufacturers, three with Novartis Pharma AG, and the others with four other manufacturers. Six were reported to be active in ordering copaid ACTs with one having dropped out much earlier in the process. There were no major issues reported in the registration of FLBs, the determination of order quantities or customs clearance, although at first there was some confusion as to whether customs levies should be charged on the full or subsidized price of copaid ACTs. The DOMC and CHAI, through the relevant Stakeholder Forums and the AMFm TWG, were instrumental in clarifying the process and providing assistance.

The first private sector copaid ACTs were received in Kenya in August 2010. For the 18 month period from July 2010 (soon after grant signing) to December 2011, a total of 12.8 million treatment doses were received in Kenya by private sector FLBs. There was no discernible pattern in the total monthly receipts, except from April-August 2011 when the drug supply was on an upward trend, peaking in August 2011 and declining thereafter.

In sharp contrast to the issues identified above for the public sector, the speed and efficiency of the private sector "surprised everybody." The first consignment of copaid ACTs was in Kenya "before the ink dried on the AMFm grant signature." In fact, the speed of the private sector practically dictated the pace of some activities which were scheduled for much later, such as the national launch in August 2010, so that members of the public could tie the new copaid ACTs with the government's efforts at increasing access to quality-assured ACTs and to ensure that the recommended retail price (RRP) was adhered to.

Some FLBs that were new to the ACT market were very innovative and daring in their ordering and marketing, and quickly made substantial orders. However, orders from Novartis were slower to arrive, with the first consignment not being delivered until January 2011, for a number of reasons:

- Novartis had to register a new packaging for the private sector Coartem
- Novartis made a strategic decision to work with "very enthusiastic" FLBs rather than their traditional agents for premium Coartem, and the process of identifying and establishing these new partners took time
- Some traditional FLBs for Coartem were initially skeptical about AMFm and therefore very conservative in their ordering
- Novartis faced supply constraints due to the need to meet orders in other countries, meaning that delivery times were longer than expected

Several FLBs reported that from August 2011, the demand-shaping levers applied by the Global Fund to align orders more with the burden of disease led to a restriction in the number of packs for the two older age groups which could be ordered, and a slowing down in the order process.

Private sector FLBs reported that quantities imported soon disappeared off the shelves as there was a huge, unanticipated demand. Many ramped up their sales teams to increase sales in rural areas by hiring additional telemarketers and travelling regional representatives.

4.2.2 Implementation of AMFm supporting interventions

The first disbursement from the Global Fund to cover supporting interventions was for USD 7.4 million, which was received in August 2010. Requests to the Global Fund for further disbursements were made in December 2010 and July 2011, but these were both declined. The December 2010 request was declined primarily because there were still substantial funds remaining from the first disbursement, and the July 2011 request was declined primarily due to accounting issues. It is possible that the decline of further disbursement requests led to some slowing down of SI implementation in the latter half of 2011, although there were also other causes of SI delays, as described below.

4.2.2.1 Communication

The most important supporting intervention for AMFm—in scale, scope and financial expenditure—was the IEC/BCC campaign, which was allocated a total of USD 5,681,487 up to December 2011. The campaign was tendered in stages by KEMSA, with various components won by Access Leo Burnett, ReelForge, 29 radio stations, and 4 TV stations.

The main IEC/BCC activities that were planned were the following:

1. National launch

2. Developing and airing five radio messages
3. Developing and airing four TV messages
4. Developing, printing and disseminating 400,000 posters
5. Holding community meetings in 558 locations
6. Facilitating 186 road shows.

The messaging in the print, electronic and broadcast media was graduated, with earlier messages focusing on what AMFm is, including the price of the ACTm medicines and their superiority to other non-recommended medicines, and recognition of outlets where ACTm medicines were sold. Later messages focused on the need to get tested before treatment, the need to use ACTm when positive for malaria and the need to adhere to the full treatment dose even when symptoms of the illness subside. With time, prevention messages such as the use of long-lasting insecticide treated nets (LLINs) were also incorporated. The main target areas were Nyanza, Western and Coast provinces, although radio and TV spots had a national reach.

Stakeholders agreed that this was the biggest malaria IEC/BCC campaign they had ever seen, and that it was very successful in its stated objectives of:
  o demand creation for AMFm copaid ACTs
  o creating awareness about the RRP of Ksh 40 (USD 0.46)
  o the need for diagnostics before dispensing ACTs

On the other hand, the sheer scale of the IEC/BCC campaign—it accounted for more than 80% of the entire SI budget—led to risk aversion in procuring the services, leading to further delays in a system which was already fraught with procurement challenges. This was compounded by the fact that it was the first time KEMSA had procured IEC/BCC services as opposed to commodities and as a result there was "…a lot of back and forth; a lot of learning for all concerned."

The national launch was held on August 26, 2010, at a hotel in Nairobi, officiated by the Minister of Public Health and Sanitation, and was widely reported in the media. A newspaper supplement was distributed through the local daily papers in September 2011.

Other activities were substantially delayed by the procurement challenges. Due to the delays in IEC/BCC procurement, PSI/Kenya and CHAI co-funded a stop-gap measure between December 2010 and January 2011, involving "sold here" posters for retail outlets, and radio and TV spots.

Over 70% of the IEC/BCC budget was for radio messaging, which began in February 2011, with a total of 17,560 radio spots estimated to have been aired between March and December 2011. Posters were also printed, although there were some problems with their distribution. The road shows took place by December 2011, albeit with some logistic difficulties, but the community meetings had not yet begun.

4.2.2.2 Recommended retail price

The RRP of copaid ACTs as communicated to members of the public through the IEC/BCC messages was Ksh 40 (USD 0.46) for all pack sizes. The price was arrived at through the Stakeholder Forums with the private sector. FLBs were of the opinion that the RRP should not be displayed on the packaging to allow for free competition and hopefully further price reductions. The Pharmacy and Poisons Board (PPB) has no legal mandate to enforce prices for pharmaceuticals. The only enforcement strategy therefore is customer awareness and empowerment through public messages.

Between August and December 2010, initial media reports showed high prices of the copaid ACTs circulating in the market, reflecting limited supply at that time. However, once the full (Global Fund-funded) media campaign had kicked in, prices stabilized at or close to the RRP. It should be mentioned that the Pharmaceutical Society of Kenya (PSK) was very active in sensitizing members to keep the prices of copaid ACTs low in accordance with the RRP. In addition to emails sent to members in the last quarter of 2010, regional meetings were organized for further sensitization. Health Action International (HAI) price monitoring surveys (HAI/Africa 2011a, 2011b) indicated a median price of approximately Ksh 40 in private sector outlets. The DOMC's own inspection visit in Nyanza province involving 240 retail pharmacies in April 2011 showed a similar outcome.

The issue of "price stigma"—that the copaid medicines are viewed as poor quality or suspect because they are very inexpensive—has come up in previous assessments (Appleford 2011) and is one that is still of concern to the DOMC and stakeholders.

4.2.2.3 Training

Training, as with other SIs, was outsourced via an open national tender, won by four agencies: Sema, Lisa, MEDS Consultancy and Maseno University. The target was to train 5,890 private sector health workers, with 4,520 to be trained by mid-grant (July 31, 2011). However, training did not begin until October 2011, reflecting delays due to procurement challenges and the need to supply a revised training plan to the Global Fund. By December 2011, only 733 private sector health workers had been trained in Western and Nyanza provinces. The DOMC reckoned that doctors and pharmacists had been underrepresented because these were three-day residential training courses and perhaps the strategy of using their professional associations to reach out to them was not effective.

The private sector FLBs have also been instrumental in sensitizations/trainings. They have trained their own distributors and reached out to healthcare professionals through their regular meetings by sponsoring continuous education meetings or sponsoring the DOMC case management officers to give talks at annual professional gatherings such as those for clinical officers and pharmacists. It is estimated that approximately 1,000 healthcare professionals have been covered through such strategies between January and December 2011.

4.2.2.4 Pharmacovigilance

Pharmacovigilance (PV) and post-market surveillance activities under AMFm have benefited from ongoing work under other funding streams and technical assistance, notably from USAID through United States Pharmacopeia, Management Sciences for Health and WHO. For antimalarials and ACTs, quality has been the main focus of these PV and regulatory activities. Five sentinel sites (Nairobi, Mombasa, Kakamega, Eldoret and Kisumu) have been established and supplied with a mini-lab, which can perform qualitative and semi-quantitative tests (USP et al. 2007). To date, the DOMC has conducted two rounds of quality testing—the first in 2009 under USP funding and the second between January and February 2011 using AMFm SI funds. An inspection visit was also conducted in Nyanza province in April 2011 involving 240 chemists. A routine inspection by the PPB in mid-November 2011 also resulted in a crackdown on unlicensed outlets in that province while AMFm IE endline outlet survey data collection was ongoing. Only one PV supervisory visit has been conducted using AMFm resources, reflecting the delayed disbursement of funds.

ACTs are still prescription-only medicines (POM) in Kenya. However, in practical terms, the POM status of ACTs has not been an impediment to access to copaid ACTs because of the disconnect between *de jure* regulation and real-life medicine regulation in Kenya (Amin et al. 2007). Many POM medicines are available over-the-counter (OTC) and regulatory infringement such as the presence of unregistered pharmacies and even unregistered products has been documented.

4.2.2.5 Other AMFm supporting interventions

Two other supporting interventions planned under AMFm were improving ACT access through community health workers (CHWs) to help reach poor and vulnerable populations, and operational research.

The DOMC proposed to piggyback on Kenya's overall Community Strategy for health by improving access to ACTs through existing community health units in Western and Nyanza provinces, where the burden of malaria is highest. The strategy was to procure and distribute ACTs to CHWs, train 80 community health extension workers and 2,000 CHWs on malaria case management in the same provinces and strengthen supervision. Some 1.18 million copaid AL treatment doses were procured and distributed in Western and Nyanza between June and December 2011. The training and supervision activities had not taken place by December 2011, due to delays in procurement for training, the design and production of training materials.

No operational research planned under AMFm and funded by the Global Fund had taken place by December 2011.

4.2.3 Implementation of non-AMFm interventions

In addition to AMFm, two other key malaria interventions were implemented during 2011:

- Increased ACT and RDT availability in parts of North Eastern, Coast and Rift Valley Provinces following increased commodity supply to avert a predicted epidemic in the last quarter of 2011. In August 2011, the Kenya meteorological department issued a red alert of possible torrential rains in parts of Coast Province, North Eastern and Rift Valley for the period October-December 2011. In response, the DOMC anticipated a sharp increase in malaria cases and developed a response plan in collaboration with the UK Department for International Development, the US President's Malaria Initiative, Mentor Initiative and UNICEF. Activities took place between August and December 2011. Approximately 400,000 RDTs were sent to public facilities in the epidemic-prone areas identified. Also, the usual distribution cycle of antimalarials from KEMSA was hastened so that the areas did not run out of stock during the anticipated epidemic and surveillance and monitoring activities were enhanced. In addition, some 20,000 ampoules of artesunate injections were sent for severe cases. An IEC/BCC strategy was also drawn up for the emergency campaign involving demand creation for proper diagnosis and effective treatment of malaria. Advertisements were placed on radio, especially on vernacular stations in the affected areas. A number of radio talk shows and call-in sessions were also done. Affected districts were assisted in overall planning and coordination and given money in case the epidemic did happen. As it turned out, the anticipated very heavy rains did not come to pass. However, the response is likely to have increased QAACT and RDT availability in the public sector, as well as QAACT market share.

- Approximately 6 million LLINs were distributed. From March 2011, the DOMC undertook a rolling campaign aimed at distributing approximately 11 million LLINs in the whole of Western, Nyanza, and Coast Provinces and selected districts in Rift Valley and Central Provinces in line with the epidemiology of malaria in Kenya. The LLINs were procured by a combination of Global Fund, PMI, World Bank and World Vision funds, with the bulk of funding coming from the Global Fund Round 4 Phase 2 malaria grant. The objective of the campaign was to enable Kenya to attain universal coverage of nets, i.e., one net for every two persons at risk of malaria. By December 2011, approximately 6 million LLINs had been distributed to all targeted provinces except Coast. The impact on AMFm indicators is not clear, although it is likely to have reduced malaria incidence and therefore demand for ACTs.

Although Kenya's official policy is that all suspected cases of malaria should be subject to a blood test for confirmation, in practice, availability of diagnostic tests in the public and private sector has remained very limited. In addition to the RDTs distributed to the epidemic prone areas (see above), RDT have been rolled out to six districts participating in a pilot of SMS for life.

Finally, the international ban on artemisinin monotherapies in 2006 and subsequent reissuing of government circulars in 2006 and 2008 in Kenya which ban the sale, manufacturer and importation of artemisinin monotherapies have reduced the supply of monotherapies. The ban was reinforced by the AMFm FLB undertaking with the Global Fund not to sell these medicines, and this is likely to have provided a supportive environment for AMFm.

4.2.4 Key events and context

Two key contextual factors are the increase in domestic prices and the high levels of political support for AMFm.

The AMFm price indicator is likely to have been affected by the loss of value of the Kenya shilling against the main international currencies, high inflation and fuel shortages, which all led to price increases for essential commodities. The Kenya shilling had been stable against the United States dollar until February 2011 at around between Ksh 70 and 80 to the USD, when it started fluctuating, hitting rock bottom in October 2011, at 101.4 to the dollar, subsequently regaining its value from mid-October 2011 onwards after the Central Bank of Kenya intervened. Understandably the cost of fuel and transportation went up as well. Monthly inflation was estimated at 3.21% in October 2010; by September 2011, it was at 17.32%. Similarly, the cost of a liter of premium petrol went from Ksh 95.0 in October 2010 to 118.03 in August 2011 (Parliamentary Service Commission 2011). One might expect these price shocks to have a knock-on effect on ACT prices because of increased import costs and increased cost of inland transportation. However, this was believed to be unlikely to have been significant for copaid ACTs because of the low cost paid by FLBs and the margin available with the Ksh 40 RRP being sufficient to absorb some increases in distribution costs, especially for pediatric doses.

The fact that AMFm enjoyed high level political support from the Minister of Public Health and Sanitation has been instrumental in advocacy and pushing the process forward. The emphasis on the importance of reducing childhood mortality was therefore seen to override domestic concerns such as loss of market share by local manufacturers.

4.2.5 Conclusion

Table 4.2.1 summarizes of key factors likely to have supported or hindered achievement of AMFm goals in Kenya and Figure 4.2.1 presents a timeline of all key events related to AMFm implementation and context.

The key findings of the case study can be summarized as follows:

- There was enthusiastic uptake of the opportunity to order copaid ACTs by private sector FLBs, and no major issues in supply to the private sector were reported until the last quarter of 2011 when the application of demand shaping levers by the Global

Fund began to slow down and restrict some orders. However, given that downstream supply does not quickly dry up even with stockouts at the central level, this is unlikely to have substantially affected QAACT availability at the time of the endline outlet survey, though it may have affected availability during collection of the remote areas study data.

- By contrast, the public sector drug supply has faced significant delays due to procurement and delivery challenges.
- A large scale IEC/BCC campaign has been implemented that is perceived to have been successful in creating demand and raising awareness about the RRP. The campaign was delayed by several months, but stop-gap activities were put in place by other stakeholders in the mean time.
- Training activities for private sector health workers were also heavily delayed, meaning that only 733 had been trained by December 2011.
- A response to a predicted malaria epidemic in late 2011 may have served to increase QAACT availability and market share in some provinces.
- AMFm has received high-level political support, and private sector stakeholders have also been very supportive.

Table 4.2.1: Summary of key factors likely to have supported or hindered achievement of AMFm goals in Kenya	
Factors which are likely to have supported achievement of AMFm goals	**Factors which are likely to have hindered achievement of AMFm goals**
• Effective sensitization and mobilization of private sector FLBs • Fast pace of the private sector in terms of ordering, processing and distribution systems • Increased distribution of ACTs to epidemic areas as part of epidemic preparedness and response • RRP which was well publicized. Large-scale IEC/BCC campaign • Ban on monotherapies, and FLBs undertaking with the Global Fund not to sell artemisinin monotherapies • Lack of enforcement of POM status of ACTs	• Delays in public sector procurement process for ACTs • Delays in delivery of some public and private orders • Inadequate supplies in the private sector at first which may have pushed up prices • Delays in procurement of IEC/BCC and training interventions • Rationing of orders through demand levers may have affected QAACT availability in 2012

Figure 4.2.1: Timeline of key events related to AMFm implementation process and context in Kenya

Activity	2009	2010							2011											
	Jul	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AMFm grants and orders	█																			
Application to the Global Fund for AMFm	█																			
AMFm Grant signature		█																		
First disbursement request			█																	
First disbursement under AMFm grant				█																
Arrival of first consignment of copaid ACTs – Harleys Limited				█																
AMFm supporting interventions																				
AMFm National Launch				█																
IEC/BCC activities										█	█	█	█	█	█	█	█	█	█	█
Public sector tender award to Aianta and first Aianta calldown												█								
Inspection visit to 240 chemists in Nyanza												█								
Public sector tender award to Novartis and first Novartis calldown													█							
First consignment of public sector copaid ACTs delivered by Aianta														█						
End Global Fund Round 4 Phase II (host grant for AMFm)															█					
New Global Fund order management system begins to affect Kenya orders																	█			
Forecast of torrential rains in parts of Kenya																	█			
Second calldown of public sector ACTs																		█		
Lowest recorded value of the Kenya shilling to the dollar																		█		
Signing of Round 10 malaria grant																		█	█	
Training of 732 private health workers in Western and Nyanza Provinces																		█	█	
Crackdown on unregistered pharmacies in Nyanza province																			█	
Non AMFm interventions																				
LLIN campaign											█	█	█	█	█	█	█	█	█	█
Receipt of PMI emergency procurement of ACTs for public sector																			█	
Research activities																				
IE baseline outlet survey data collection						█	█	█												
IE endline outlet survey data collection																		█	█	█
IE country case study																			█	█

4.3   *Madagascar*

4.3.1   Description of the AMFm implementation process

4.3.1.1 Governance structure for AMFm

The Principal Recipient (PR) of the AMFm program is SALAMA, the public sector central medical stores in Madagascar. There are a number of sub-recipients (SRs), including Population Services International (PSI), which has been in charge of designing and disseminating advertising for the AMFm subsidized drugs, as well as SAF-FJKM, SALFA, and ASOS, three faith-based organizations in charge of training community health workers (CHWs) on AMFm and malaria case management. The Clinton Health Access Initiative (CHAI) has also been a key player in the establishment and development of the program, providing key technical and logistical support. Despite several attempts by the involved parties, a permanent AMFm steering committee in Madagascar has not been established. Madagascar's AMFm grant runs from May 1, 2010 through June 30, 2012.

4.3.1.2 AMFm copaid ACT supply mechanism

Initially, 12 private sector importers were approached by the Global Fund through point persons at CHAI and at the National Malaria Control Program (Programme National de Lutte contre le Paludisme, or PNLP), who set up group information sessions as well as one-to-one meetings with importers. Eight importers signed contracts to become first line buyers (FLBs), and they have proceeded to place orders. There was general consensus among those interviewed for this project that all of the country's main importers are involved in the project. The Unité de Gestion de Projet (UGP), the public sector procurement agency linked to the Ministry of Health, is also an FLB and has placed orders for copaid antimalarials. The first copaid medicines were delivered to private FLBs in October 2010 and to the public sector FLB, UGP, in February 2011. By December 2011, 1,688,178 doses of AMFm copaid artemisinin-based combination therapies (ACTs) had been delivered to Madagascar. Roughly 76% of the doses were artesunate-amodiaquine (ASAQ), the country's first-line treatment. The rest was artemether-lumefantrine (AL), the country's second-line treatment.

Issues related to clearing customs created initial tensions between first line buyers and the local authorities. There were month-long delays once the first set of shipments arrived in Madagascar. Officials at Ivato International Airport in Antananarivo were not familiar with the two invoice system used, which includes one invoice with the original unsubsidized price of the shipment and one with the actual amount paid by the FLB. Officials became suspicious upon seeing the discrepancy and consequently blocked the release of the shipments. SALAMA and the Ministry of Budget and Finance intervened to clear misunderstandings regarding the invoices, updated officials on the program, and streamlined the process of clearing customs.

Lead times between approval of an order by the Global Fund and delivery have varied since the start of the program, ranging from a couple of weeks to nearly six months. FLBs mostly agreed that lead times had been particularly long in the second half of 2011. These delays seemed to be a source of frustration and tension between the FLBs and the Global Fund.

4.3.2 Implementation of AMFm supporting interventions

4.3.2.1 Communication

An official launch held in Antananarivo in January 2011, helped to initially spread the word about the program, which in Madagascar is known as ACTm. Communication activities for different target audiences were designed and disseminated starting in April 2011. The advertising campaign, designed by PSI, emphasized three points: that AMFm-funded ACTs were effective, inexpensive and safe.

Approximately half of the country's estimated 3,000 private medical practitioners were given promotional materials with the ACTm logo—1,450 prescription pads, 1,450 informational leaflets on ACTs and AMFm and 1,450 pens. Promotional materials were also provided for roughly half of the businesses making up Madagascar's private supply chain, which is composed of 30 to 40 wholesalers, 200 pharmacies, and 2,000 drug stores. A total of 1,150 targeted informational leaflets and 1150 pens were distributed, as well as 100 large posters for retail outlets and 250 standing posters.

Community health workers (CHWs) were also targeted. Approximately 2,400 "flip books" of images, which are used as a teaching tool, were produced and distributed, along with 2,400 badges, 2,400 pens, 2,400 baseball caps, 2,400 t-shirts and 2,400 bags, all of which had the ACTm logo. The proportion of CHWs nationwide who were given promotional material is unclear. One respondent mentioned that between May 2010 and December 2011, the number of CHWs in the country increased from 9,000 to 17,000.

Communication activities for the general population were also designed and disseminated. A TV commercial, which included a song entitled '*ACTm, je t'aime*' (meaning 'ACTm, I love you'), was produced and broadcast once or twice a day on national television. Radio spots in eight different Malagasy dialects were also broadcast once or twice a day on national radio, and three to five times a day on regional radio, starting in April 2011. Emphasis was given to the radio campaign, given that access to television is relatively limited in Madagascar. However, the abovementioned TV and radio campaigns came to an end in May 2011. The Drug Agency of Madagascar (Direction d'Agence de Medicament de Madagascar, or DAMM), which is part of the Ministry of Health, banned the ACTm public campaign, citing a law that prohibits the advertising of prescription drugs to the general population, except in cases of national public health emergencies. Although representatives from CHAI and SALAMA tried to argue that malaria was a serious public health threat, the DAMM refused to reconsider its decision. Radio and television spots were cancelled and plans for a number of other promotion activities such as billboards were aborted.

As of December 2011, CHAI and SALAMA representatives planned to shift the campaign from marketing to education in order to meet the DAMM's guidelines that all advertising had to be non-medication specific. The effect of the advertising ban on ACT sales is still uncertain; the ban was implemented at the beginning of the dry season, making it unclear whether decreased sales of ACTs should be attributed to a seasonal drop in malaria incidence or to the interruption in advertising. It is important to note, however, that the DAMM's decision did affect the abovementioned promotional materials distributed to prescribers, private sector actors and CHWs.

Additionally, the main supplier of copaid ASAQ carried out its own promotional campaign across the country, conducting information sessions nationwide, which were attended by approximately 1,100 health practitioners and private sector actors. Participants in information sessions were sometimes given informational posters about the product being advertised as well.

4.3.2.2 Recommended retail price

There is no maximum or recommended retail price for copaid ACTs in Madagascar. The agreement between FLBs and the Global Fund states that FLBs would add a 'reasonable margin' in absolute terms to the products. During discussions leading to the signing of the contract with the Global Fund, FLBs agreed that a margin of 150 ariary (or USD 0.07) per dose would be added on average across the different products. Although FLBs are contractually required to maintain this 'reasonable margin', they are not obligated to maintain the particular 150 ariary margin. However, as of December 2011, all FLBs were still following the agreed upon 150 ariary margin.

At the retail level, pharmacies have an unofficial margin of 33% for all pharmaceutical products which, according to some respondents, is usually also respected. However, prices tend to be higher in drug stores in remote areas. As was frequently mentioned by respondents, transportation is an important cost at all levels of the supply chain. Given how remote and inaccessible some rural areas are, FLBs argued that having to pay for the cost of transportation, compounded by an already low profit margin, would result in a loss to the business. It was therefore agreed that the cost of transportation outside of Antananarivo would not be covered by the importers, which is not always the case with medications that have higher profit margins.

Although there are no taxes on any medications in Madagascar, importers do have to pay some fees at customs to cover storage, unloading and transit costs. Some of the fees are calculated according to weight and value of the shipment, while others are standard fees across all shipments. This arrangement makes it less profitable to import smaller quantities of drugs. The fees apply to all pharmaceutical products, including copaid medications.

4.3.2.3 Training

Training for medical practitioners on malaria case management, ACTs and pharmacovigilance has been carried out as planned by the National Malaria Control Programme (PNLP). About a third of the country's 3,000 medical doctors and 250 paramedics had been trained by December 2011. Some respondents considered the training of the rest of the country's medical practitioners to be a key element in increasing use of ACTs.

Training of community health workers on malaria case management and use of rapid diagnostic tests (RDTs) and ACTs was done in a cascade-style manner. A total of 88 trainers, 4 for each of Madagascar's 22 regions, were coached on how to train CHWs on malaria case management, diagnosis and treatment in June 2010. Consequently, between July 2010 and June 2011, 2,442 CHWs were trained nationwide by three FBOs, SAF-FJKM, SALFA, and ASOS. Although by and large the training seems to have been successful, there were reports that CHW activities had to be halted in the last few months of 2011 because funds destined for such activities, as well as for general population advertisement, had been frozen.

Additionally, the DAMM trained 44 laboratory technicians between May and June 2011 on ACT drug quality issues. The training was done in conjunction with the purchase of 22 new microscopes, one for each region. Furthermore, two medical doctors were trained between November and December 2011 by the Agence Française de Sécurité Sanitaire des Produits de Santé (French Agency for Sanitary Security of Health Products), on issues related to pharmacovigilance.

CHAI also conducted a pilot training program on medical promotion and its effect on sales of ACTs starting in the second half of 2011. Medical representatives informed medical professionals and retailers about the benefits of ACTs in 21 districts covering five regions (Boeny, Sava, Fenoarivo-Antsinana, Vatovavy-Fitovinany and Anosy) across the East and North-West of the country starting in September 2011. As of December 2011, medical representatives had held information sessions with 235 physicians and 234 retail outlets. An evaluation on the effect of the medical representative activities was scheduled to be carried out in March 2012 and August 2012.

Additionally, the University of Antananarivo and the PNLP conducted a pilot study to look at the use of RDTs among private non-for-profit health providers following training on the importance of diagnostics and their management. The training, which was given to 10 health centers in the coastal town of Toamasina, took place at the end of May 2011. Preliminary findings suggest that health providers improved their use of malaria diagnostics after the intervention.

4.3.2.4 Other AMFm supporting interventions

RDTs seem to be available in the public sector as well as via CHWs. However, they are very rarely found in the private sector, and they are mostly sold in a handful of pharmacies that target an expatriate and more affluent clientele.

Malaria prevention activities, financed by a number of international organizations, were carried out in the months following the start of the AMFm program in Madagascar. Between 2010 and 2011, the PNLP expanded its campaign of mosquito net distribution to include a further 20 districts, which represent roughly a sixth of the districts in the country. In November 2010, PSI, along with other several partners, such as the United States Agency for International Development (USAID) and the President's Malaria Initiative (PMI), among others, began a large-scale campaign financed by the Global Fund to distribute nearly 5 million long-lasting insecticide-treated mosquito nets. The campaign seems to have been carried out in 17-19 of the country's 22 regions. Additionally, in November 2010, Roll Back Malaria, a partnership of different national and international actors, expanded its indoor residual spraying (IRS) campaign to include the east coast of the country. These initiatives may have had an effect on malaria incidence and, consequently, on the demand for treatment.

Furthermore, the Global Fund, through its National Strategy Application (NSA), funded the training of 34,000 CHWs on integrated management of childhood illnesses (IMCI), including malaria, which is set to be complete by the end of 2012. Although it is unclear how many CHWs had already been trained by December 2011, the trainings that had already taken place by then could have had an effect on dissemination of information about malaria diagnosis and treatment by the time of the endline survey.

Population Services International (PSI) has also been involved in the sale and distribution of subsidized ACTs since 2008. Their product, ACTIpal® (artesunate-amodiaquine), is branded for use of children under the age five years, and it is distributed through both CHWs, and the private sector supply chain. There are two different age packs (2-11 months and 1-5 years). The original recommended retail price for both ACTipal products was 100 ariary (about USD 0.05), which was increased to 200 ariary for drug retailers in November 2010, while the RRP for CHWs remained at 100 ariary. PSI bought 300,000 doses of ACTIpal® in February 2010, 100,000 doses in September 2010 and 305,000 doses in August 2011. The presence of copaid ACTs in the market may have increased interest in, and use of, the product.

A ban on the importation and sale of chloroquine was set in motion around June 2011, which would have likely increased the market share of ACTs. However, the ban was recalled late in December 2011, after the legislation service of the Ministry of Health opposed it. A respondent mentioned that this was likely due to pressure from importers who still had large stocks of chloroquine to sell.

4.3.3 Key events and context

According to most respondents, Madagascar continues to suffer from the consequences of the coup d'état that took place in March 2009, when Andry Rajoelina ousted Marc Ravalomanana from power. Although the coup took place before the AMFm program started, most respondents agreed that the political and economic situation of the country has been steadily deteriorating since 2009, which may have had multiple effects on the program.

As a result of the coup, Madagascar was suspended from international trade organizations and key preferential trade agreements, such as the Southern Africa Development Community (SADC) and the Africa Growth Opportunity Act (AGOA). As key trading partners were lost, it seems that companies went out of business, unemployment rose and, consequently, the purchasing power of the population dropped.

Furthermore, it seems that government spending has decreased since the coup. According to some respondents, this is particularly visible in the closure of public health facilities across the country, as well as in the lack of upkeep in transportation and telecommunications infrastructure. A deterioration of the roads may have made transportation of goods more difficult and costly.

The political instability that followed the coup of 2009 may have also had some consequences on the program. A frequent turnover of Ministers of Health has meant that issues that require ministerial approval often take a long time to be approved, as the process has to be restarted every time a new minister takes office. Furthermore, some respondents mentioned that the uncertain political situation means that political actors often shy away from backing potentially controversial ideas, such as the ban on importation and sales of chloroquine.

4.3.4 Conclusion

Table 4.3.1 summarizes of key factors likely to have supported or hindered achievement of AMFm goals in Madagascar and Figure 4.3.1 presents a timeline of all key events related to AMFm implementation and context.

In general terms, the implementation of the AMFm program in Madagascar was mostly successful. Eight private sector FLBs and one public sector FLB signed contracts with the Global Fund and placed orders between the end of 2010 and 2011. Initial issues related to delays at customs have generally been resolved. However, the long lead times between the order approval at the Global Fund and the arrival of the order seem to be creating frustration among FLBs, as are the low profit margins that private FLBs are earning from the sale of the AMFm products.

The national communication campaign set off to a good start, with simple and regionally-targeted messages on both radio and television. However, the subsequent ban of

advertisements by the DAMM has possibly hindered the effort to inform the general population about the program. The precise effect on demand for ACTm products has yet to be determined. Between a third and half of medical practitioners and private sector actors have been given training or information about AMFm, as have over 2,400 CHWs.

The difficult political and economic situation that Madagascar is facing may have had an effect on the program, as it is likely that the population's purchasing power has declined. Furthermore, a decrease in government spending, which seems to have led to the closure of health facilities and to the lack of upkeep of transportation and telecommunications infrastructure, may be making access to health more difficult and expensive.

Table 4.3.1. Summary of key factors likely to have supported or hindered achievement of AMFm goals in Madagascar	
Factors which are likely to have supported achievement of AMFm goals	**Factors which are likely to have hindered achievement of AMFm goals**
- Increase in CHWs - Low markups agreed on by actors - Research project on medical representatives - Training of doctors and health practitioners in ACT use	- Delays in delivery from manufacturer - Fluctuating costs of transportation and inadequate road upkeep 2/3 of doctors not trained, continuation of prescription of other drugs - Ban on TV and radio advertising - Political and economic crisis leading to fall in purchasing power - Frozen funds for CHW activities - Decrease in number of public health facilities

Figure 4.3.1: Timeline of key events related to AMFm implementation process and context in Madagascar

Activity	2010										2011												2012	
	Early	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
CHAI/PNLP: Hold meetings with 12 potential first-line buyers	█																							
PSI: Purchase of 300,000 doses of ACTIpal®	█																							
Start of AMFm Phase 1		█	█																					
Baseline outlet survey – ACTwatch		█	█	█																				
PNLP: Training of trainers of health agents on malaria case management, ACTs and pharmacovigilance					█																			
SALFA, SAF-FJKM, ASOS: Training of CHWs						█	█	█	█	█	█	█	█	█	█	█	█	█	█					
PSI: Purchase of 100,000 doses of ACTIpal®							█																	
PNLP: Training of health agents on malaria case management, ACTs and pharmacovigilance							█	█	█	█	█	█	█	█	█	█	█							
First line buyers (private sector): Approval by Global Fund of private sector orders of copaid ACTs								█	█		█	█		█	█	█		█	█					
NSA: Training of 34,000 CHWs in IMCI										█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
PSI, USAID, PMI, UNICEF, Canadian Red Cross: Campaign to distribute 5 million nets									█															
Roll Back Malaria (multi-actor initiative): Expansion of indoor residual spraying (IRS) campaign to include Eastern region									█															
UGP: Approval by Global Fund of public sector orders of copaid ACTs											█			█										
First line buyers (private sector): Arrival of private sector orders of copaid ACTs											█		█	█		█	█		█	█	█	█		█
CHAI/SALAMA: National launch of AMFm program												█												
UGP: Arrival of public sector order of copaid ACTs												█										█		
SANOFI: Information sessions about ASAQ Winthrop												█	█											
CHAI/SALAMA: Radio and television campaign														█	█	█								
PSI/SALAMA: Distribution of IEC supports for health agents														█										
PSI/SALAMA: Distribution of IEC supports for CHWs														█										
PSI/SALAMA: Distribution of IEC supports for wholesalers, pharmacies and depots														█										
DAMM: Training on laboratories and minilabs														█	█									
DAMM: Ban on AMFm public advertising campaign														█										
MOH: Introduction of chloroquine ban															█									
PSI: Purchase of 305,000 doses of ACTIpal®																	█							
CHAI: MR training of health agents as part of pilot study																		█						
Endline outlet survey																				█	█	█		
MOH: Withdrawal of chloroquine ban																						█		
PNLP: Launch of indoor residual spraying (IRSA) campaign financed by Global Fund Round 7																						█		

4.4 *Niger*

4.4.1 AMFm implementation process

AMFm was launched in Niger in March 2011. Apart from the provision of ACTs, successful implementation of AMFm relies on a number of supporting interventions, including good governance; IEC/BCC; training of key actors; regulatory changes to facilitate purchase and distribution of ACTs; operational research to monitor the efficacy of ACTs; adverse drug events after introduction of copaid ACTs; activities to facilitate access to treatment among poor and vulnerable groups and increasing use of malaria diagnostic tests for the rational use of copaid ACTs.

4.4.1.1 Governance structure for AMFm

The Ministry of Health (MOH) created the AMFm steering committee (SC) in March 2010 to oversee AMFm implementation in Niger. The SC has 20 members, including representatives of MOH, technical and financial partners of MOH, the private sector and civil society. The SC played a major role in reaching an agreement on the pricing of copaid ACTs by leading the discussions and building a consensus among wholesalers and retailers from the public and private sectors. The SC successfully organized the launch of AMFm in March 2011, with the presence of the former Prime Minister. The SC established a communication group to oversee the AMFm communication strategy and carefully review communication and marketing material produced by the SR and Sub-Sub-Recipient (SSR) before public release. Problems experienced by the SC included difficulty in holding regular meetings and lack of financial resources to support SC activities.

4.4.1.2 AMFm copaid ACT supply mechanism

Registration as FLB

A total of seven organizations registered as first line buyers in Niger, of which five were private for-profit organizations, one UN agency and one public agency (*Office National des Produits Pharmaceutiques et Chimiques* (ONPPC)). Three private for-profit buyers had placed orders for copaid QAACTs by end of 2011 (Laborex, Ubipharm and Saphar). The Clinton Health Access Initiative (CHAI) technical assistant to the National Malaria Control Program (NMCP) provided advice and necessary forms for registration as a First Line Buyer (FLB). No difficulty was experienced during registration. Some local wholesalers were interested in registering but failed to get approval from headquarters or the main partner. Other wholesalers were cautious because of limited resources.

Ordering and delivery of AMFm copaid ACTS

The process of ordering copaid ACTs was explained to all registered FLBs by the CHAI technical assistant to the NMCP, who provided initial ordering forms, names and contact details

of manufacturers of QAACTs, types of antimalarials available from each manufacturer and the name of the contact person for placing orders. The decision regarding the choice of manufacturers was based on pre-existing business relationships between the FLB and the manufacturer, although some manufacturers made the first move to try to establish collaboration with FLBs by offering to supply copaid ACTs. Copaid ACTs were supplied by Novartis Pharmaceuticals (Coartem), Sanofi Aventis (Arsucam), Guilin Pharmaceutical (Arsumoon) and Ajanta Pharma Ltd. (Artefan).

FLBs from the private sector decided which of the first-line antimalarial drugs to buy and determined the number of treatment units and the types of package size (infant, child and adult packs) to order based on the company's previous ordering history and anticipated demand. The standard procedure is that the FLB should make a request for a quotation to the manufacturer (or quotations from multiple manufacturers, if required) before placing a formal order after completing, signing and then sending the necessary forms to the manufacturer. The manufacturer then submits the order to the Global Fund for approval before starting the manufacturing process. Some manufacturers request an upfront payment of the 5% due from the FLB. Finally, the manufacturer notifies the FLB when the medicines are ready for shipping.

In the public sector, the ONPPC is responsible for ordering copaid ACTs. ONPPC has some financial and administrative autonomy; however, as a publicly-funded pharmaceutical company they still have to comply with a number of administrative and financial regulations and to participate in the implementation of the country's health development plan. For instance, the board of management has to approve the activity plan and has to authorize any transaction involving large amounts of money. Apart from that, the procedures for ordering and delivery of copaid ACTs are similar to those in the private sector. The number of treatment units is determined by public health service needs, and the budget is allocated by the government for purchasing these medicines. The NMCP provides advice on malaria-related matters.

The United Nations Development Program (UNDP) ordered copaid ACTs through their procurement support office in Denmark, which prepared a proposal for bids and sent invitations to all pre-qualified manufacturers of QAACTs. Norvatis was the only manufacturer to respond and therefore was chosen to supply AL to the UNDP office in Niger. These copaid ACTs were donated to the NMCP and distributed through the ONPPC. The number of treatment units and the types of package size of purchased drugs were determined by the NMCP.

Overall, ordering of copaid ACTs was straightforward. The main problem was the long delays in manufacturing. For instance, because of the high demand for Coartem, Novartis failed to supply Coartem to Saphar and Laborex. These FLBs turned to Ajanta Pharma Ltd. to supply Artefan after advice from the AMFm SC. The first order was placed on August 16, 2010; however, the first copaid ACTs arrived in the country six months later (on February 3, 2011).

Clearing of AMFm copaid ACTs through customs

On average, assuming that the required documents are available, it takes 48 hours to clear copaid ACTs and other medicines through customs. One of the important documents required is a clearance authorization issued by the Director of Pharmacy, Laboratory and Traditional Medicine at MOH. Medicines, including copaid ACTs, are free from value added tax (VAT), but are subject to a 4% import tax. For the specific case of copaid ACTs, this tax applies to only the fraction of the medicine value paid by the FLB (5%) and not to the real value that includes the 95% of the cost paid by the Global Fund. Medicines and other products imported by international organizations and NGOs are exempted from tax. The decision to apply tax to 5% of the market value of copaid ACTs was a key factor in keeping the cost of copaid ACTs as low as the cost of non-artemisinin therapies when they reach the end user. However, whether all customs personnel are aware that this new regulation for copaid ACTs applies only to the amount paid by the FLB is questionable. One FLB reported being requested to pay tax on the market value of the copaid ACTs by a newly appointed Chief Customs Officer.

Distribution of AMFm copaid ACTs

Distribution of copaid ACTs relies on two distribution systems: the public and the private system. In the public sector, ONPPC is the official supplier of medicines to public health facilities, and it has a special unit (*Unité de Gestion Spécifique*) for the management of purchased commodities. The public distribution system uses a well-established network of four regional warehouses and 44 *phamarcies populaires* across the country. *Pharmacies populaires* supply copaid ACTs to health districts, *Centres de santé intégré* and *cases de santé*. To ensure that copaid ACTs are accessible to the majority of the population, the public drug distribution network was extended to registered rural drug depots, and efforts were made to strengthen the distribution system by authorizing the private sector to supply public facilities with copaid ACTs when ONPPC cannot meet the demand for copaid ACTs.

The FLBs from the private sector have their own distribution network for medicines (including copaid ACTs), which is largely focused on private pharmacies in Niamey and to some extent other main cities in the country. Laborex has established three regional distribution points and Saphar uses a private transport system to supply medicines to cities other than Niamey. Occasionally, the public and private FLBs of copaid ACTs supply NGOs.

As noted above, difficulties in the distribution of copaid ACTs were observed at the very beginning of AMFm implementation because Novartis failed to supply FLBs from the private sector (Saphar and Laborex) with Coartem. Lack of an effective transportation system to deliver medicines (including copaid ACTs) to areas outside Niamey is considered a major constraint by FLBs from the private sector, who are inadequately equipped to distribute medicine across the country.

4.4.2 Implementation of AMFm supporting interventions

4.4.2.1 Communication

National launch of AMFm

After some delay due to late arrival of copaid ACTs in the country, a national launch of AMFm was organized on March 23, 2011. The guest of honor at the ceremony was the former Prime Minister. The ceremony was widely broadcast on national radio and television. The speeches focused on explaining what the program involves and the cost, quality and accessibility of the medicines. A speech from the Director of the Global Fund was also read at the ceremony. Financial resources for the AMFm launch activities were provided by the country's AMFm grant. Key informants were unanimous in the feeling that the launch was a great success not only because of the attendance by high ranking officials, but also because of widespread communications to the population about the launch.

IEC/BCC activities

Catholic Relief Services (CRS) was the sub-recipient for information, education and communication (IEC) and behavior change communication (BCC) activities and has longstanding experience in IEC/BCC, with a large network of communication specialists across the country. Planned IEC/BBC activities included interpersonal communication targeted at mothers and guardians of children to sensitize them about the accessibility of ACTs and the role of these medicines for malaria treatment, together with mass communication, social mobilization and advocacy using a variety of communication channels (radio, TV, mobile TV, and religious and community leaders). Organizations specializing in community sensitization and mobilization, such as *Organisation National des Educateurs Novateurs* (ONEN), Regi-PUB and Animas-Sutura, were subcontracted to develop AMFm communication materials, which were reviewed by the SC communication committee before submission to the SC for approval and release to the public. The types of communication materials developed include leaflets, large billboards for posting on main roads, and TV spots showing AMFm medicine and the distinctive AMFm logo on the packaging. IEC/BCC activities started in January 2011. Audio messages were also broadcast by national and private radio stations, which were considered more efficient for reaching the largest fraction of the population. It is estimated that only about 30% of activities were implemented as a result of several factors, including delays in receiving funds, delays in the selection of communication companies to develop communication materials and suspension of disbursement of the AMFm supporting intervention grant in the second half of 2011. One major communication problem experienced during IEC/BCC activities was that the first TV spot on copaid ACTs was focused on Coartem with no mention of other brand names of copaid ACTs. This led the population to ask for Coartem only for treatment of malaria in the early stages of AMFm implementation, dismissing ASAQ and other brand names of AL, and it raised complaints from representatives of other manufacturers of copaid ACTs. This communication error was rapidly fixed after instructions were issued by the SC.

4.4.2.2 Recommended retail price

The SC led discussions on the pricing of copaid AMFm drugs. Many meetings were held among the SC, FLBs, registered pharmacies, civil society, representatives of MOH and the Ministry of Finance (MOF), and technical and financial partners of the MOH before an agreement was reached on the pricing of copaid ACTs. The MOH issued a decree on October 28, 2010, fixing the retail price to the public at 200 FCFA (USD 0.40) for a child's treatment course and 350 FCFA (USD 0.69) for an adult dose throughout the country. This decree also fixed the margin between the retail price and the purchase price divided by the retail price at 35% for FLBs and 65% for registered private retailers. FLBs are entitled to only 25% of the profit margin when they supply copaid ACTs to drug depots. Agreeing upon retail prices for copaid ACTs before the launch of AMFm was a major achievement, considering that retail prices of 800-1,000 CFA (USD 1.58-1.98) had been proposed in the application to the Global Fund, and the private sector was looking forward to implementing these prices. The role of CHAI in the process of negotiating the price for copaid ACTs in Niger was widely acknowledged. A senior pharmacist was hired, after a long delay, to support enforcement of agreed retail prices of copaid ACTs. The report of an inspection carried out by the pharmacist indicated that overall recommended prices were respected, except in a very few cases where retail prices of 1000 CFA (USD 1.98) or more were observed. Supervision visits in private pharmacies and public health facilities by the SC reported similar findings. The availability of rapid diagnosis tests (RDT) for malaria to promote rational use of copaid ACTs in the public sector was very limited.

4.4.2.3 Training

One of the training activities was a three-day training workshop organized by the PR for sub and sub-sub recipients of AMFm. The workshop focused on the Global Fund financial and programmatic procedures, and on management of the supply chain. A joint workshop by the principal recipient (PR) and the NMCP (sub-recipients-SR) in October, 2010, trained 25 trainers in the public sector to in turn train 750 health personnel from the public sector in seven of the eight regions in December 2010.The training was focused on explaining what AMFm was about, how to identify copaid ACTs, malaria diagnosis, malaria case management and the correct dosage of copaid ACTs. Two staff members of the *Laboratoire National de Santé Publique et d'Expertise* (LANSPEX), the national public health laboratory, were trained in drug quality control using high-performance liquid chromatography (HPLC) in 2011 in Morocco and Algeria.

Other training activities could not be implemented as planned, mainly because of financial problems due to the suspension by the Global Fund of disbursement of funds from the AMFm supporting intervention grant. This includes the training of 316 and 105 health personnel from the private sector in 2010 and 2011, respectively, the training of 22 managers of *Pharmacies Populaires* and the training of 25 trainers and 750 and 75 health personnel in the public sector and the private sector, respectively. Similarly, training of community health workers on malaria

case management, training of pharmacists and drug vendors on dispensing medicines and counseling patients, training on business opportunities with AMFm, training of health personnel on interpersonal communication and training of FLBs to promote safe and effective use of ACTs did not take place as planned.

4.4.2.4 Other AMFm supporting interventions

Regulatory interventions

The following regulatory changes were made to support AMFm implementation, some of which have already been described above:

- A decree fixing the cost of copaid ACTs to the public was issued by MOH. The regulation, which was issued before the start of AMFm, fixed the wholesale and retail profit margin for medicines in general, including ACTs.
- The 4% import tax on medicines was to be applied only to the 5% of the value of copaid ACTs incurred by the FLB.
- The drug distribution network was expanded to include existing village drug depots which can now be supplied with copaid ACTs by ONPPC or the private sector.
- Licenses to sell medicine were made available at the departmental or regional level rather than at the Directorate of Pharmacy, Laboratory and Traditional Medicine within MOH as per the previous regulation.
- To minimize risk of stockouts, MOH instructed the ONPPC to supply the private sector with copaid ACTs and instructed FLBs from the private sector to supply public health facilities whenever necessary.
- A regulation under AMFm allowed advertisements and messages on copaid ACTs in the media for IEC/BBC activities.

Pharmacovigilance

Strengthening the pharmacovigilance system was a key component of AMFm supporting interventions in Niger. However, at the end of December 2011, the focal point for pharmacovigilance had not been recruited and trained. Since the launch of AMFm, the only activities that were carried out were the revision and printing of the form for recording adverse events and the design of pharmacovigilance forms for use at the community level to collect and report cases of adverse drug effects. However, printed forms could not be distributed to health facilities and pharmacies in the public and private sector because of a lack of financial resources. Therefore, the pharmacovigilance data collection system had not been established and no data had been collected, analyzed or reported for monitoring adverse events related to copaid ACTs. Sensitization of personnel dispensing medicines on adverse events also had not taken place.

Reaching the poor and other vulnerable groups

IEC/BCC activities were deployed using strategies aimed at reaching the whole population, including communities living in remote rural areas. More than 100 AMFm messages broadcast on community radios and community meetings were organized to convey keys messages on copaid ACTs. It is important to stress that malaria treatment was free at public health facilities for vulnerable groups such as children under five and pregnant women before AMFm. This policy was maintained and the drug distribution network was expanded to include existing drug depots in rural areas to reduce physical barriers to malaria treatment by bringing ACTs closer to home.

Research

In vivo efficacy studies of ACTs were planned in 2010 (baseline) and 2011 (at the end of AMFm phase 1) in three sentinel sites as part of the AMFm supporting interventions to be undertaken in collaboration with the *Centre de Recherches Médicales et Sanitaires* (CERMES - a medical research institution), the NMCP and Niamey Hospital. *In vitro* sensitivity tests of *P. falciparum* to artemisinin and its derivates and partner drugs, and determination of molecular markers of resistance to artemisinin or derivates and amodiaquine had also been planned for monitoring drug resistance. A trial of *in vivo* efficacy of AL and artesunate-amodiaquine (ASAQ) was conducted in 2010 in 79 children in Gaya. *In vivo* results are available but *in vitro* assays and studies of genetic mutations associated with resistance to AL and ASAQ were not completed due to the suspension of SI disbursement. No drug efficacy monitoring activity was carried out in 2011 as a supporting intervention to AMFm.

A study of the impact of using mobile phone technology and stock management tools at the *Centre de Santé Intégré* (CSI) on the quality of data and availability of copaid ACTs was started in 2011 as a joint collaboration between the NMCP, the Department of Statistics and Epidemic Surveillance, a telephone operator in Niger, CERMES and the Department of Nutrition. A computer program was developed, stock management tools and mobile phones connected to a fleet were distributed in intervention CSIs in Maradi and Tahoua, and a group of control CSIs was enrolled. Personnel were trained in completing data collection tools and in using a mobile phone to send data; however, data collection has not been completed and activities were stopped due to the suspension of SI disbursement.

Regarding studies of traceability of copaid ACTs and assessment of drug vendors' knowledge about copaid ACTs, only the activity of marking samples of copaid ACTs was undertaken, but field evaluation could not be undertaken because of financial problems. Research on expanded use of RDTs in the public sector and initiation of RDT use in the private sector also failed to materialize.

4.4.3 Key events and context

AMFm implementation in Niger has received strong political support from local authorities. No changes other than those mentioned earlier were made to the drug regulatory system.

In addition to 795,990 doses of AL (Coartem) acquired by UNDP during the Global Fund's Round 7 activities, MOH received 319,000 doses of dihydroarteminsin piperaquine (DHA-PPQ, Duo-Cotexin®) and 181,000 doses of ASAQ from the Chinese in September-November, 2011.

The proportion of the national budget allocated to MOH increased to 9.5% in 2011 from 7.8% in 2010. The budget allocated to the NMCP was higher in 2011 than in previous years. The annual GDP growth in Niger was estimated at around 2.3% in 2011, and the inflation rate was estimated at 3.8%, suggesting that no major negative factors affected the economy in 2011. However, it should be noted that rainfall in 2011 was erratic and unevenly distributed, causing droughts and flooding, and it is forecast that 38% of the population will face food shortages by the first half of 2012.

One major event in 2011 was an investigation by the Global Fund's Office of the Inspector General independent of the AMFm but which contributed to limited implementation of AMFm supporting interventions. Fewer LLINs were distributed or sold in Niger in 2011 than in 2009 and 2010.

4.4.4 Conclusion

Table 4.4.1 summarizes of key factors likely to have supported or hindered achievement of AMFm goals in Niger and Figure 4.4.1 presents a timeline of all key events related to AMFm implementation and context.

AMFm implementation in Niger benefited from strong political support as illustrated by the participation of high level officials at the launch ceremony. The launch of AMFm was widely communicated in the country as a result of well-planned media coverage and effective decision making. A steering committee comprising various partners of MOH was set up by national authorities to oversee the implementation of AMFm. The SC played a significant role in resolving bottlenecks faced at various stages of AMFm implementation in the context of a lack of financial resources.

The public and private sectors have played a key role in the distribution of copaid ACTs across the country; however, logistical problems faced by the private sector need to be addressed to strengthen the distribution system. Long delays in the acquisition of copaid ACTs have been experienced by FLBs. In spite of these unexpectedly long delays in delivering copaid ACTs, the

distribution system worked quite well to sustain the provision of the medicines throughout the high malaria transmission season, when antimalarial treatment is most needed.

Slight alterations were made to the existing regulatory framework for medicines to support AMFm implementation by authorizing advertisements on drugs to be broadcast in the media, to fix standard prices for copaid ACTs and to expand the drug distribution network to ensure that copaid ACTs are financially accessible and as close to the population as possible.

The suspension of disbursement by the Global Fund in the second half of 2011 caused a slowdown in the implementation of AMFm supporting interventions such as IEC/BCC, training, pharmaco-vigilance and research activities.

Based on available information, no social, political or economic factors were reported to have significantly interfered with the implementation of AMFm in 2011. However, the donation of ACTs outside of the AMFm context, the cumulative effect of ITNs acquired in the last three years and rainfall patterns in 2011 may need consideration when interpreting the impact of AMFm.

Table 4.4.1: Summary of key factors likely to have supported or hindered achievement of AMFm goals in Niger	
Factors which are likely to have supported achievement of AMFm goals	Factors which are likely to have hindered achievement of AMFm goals
- Strong support from local authorities - Establishment of the AMFm steering committee - Effective technical assistance from CHAI - Smooth process for registration of FLBs and ordering - National launch and the presence of highranking officials - Effective public awareness campaign - Agreement to sell copaid ACTs at a cost as low as the cost of monotherapies - Allowing some profit margin on copaid ACTs - Use of the distinctive AMFm logo on copaid ACTs - Availability of a well-established drug distribution network in the public sector to boost coverage - Expansion of the public sector drug distribution network to rural depots - Delivery of licenses to sell medicines at the departmental and regional level - Agreement to impose tax on the fraction of the medicine value paid by the FLB only and not on the real value of the medicine - Non issuance of clearance authorization for monotherapies	- Long delays in manufacturing and delivering copaid ACTs to FLBs - Limited number of manufacturers of QAACTs - Suspension of disbursement of SI grant - Lack of financial resources to implement important supporting interventions - Lack of financial resources to support AMFm SC - Lack of RDT tests to promote rational use of copaid ACTs - Delayed start of inspection activities - Marketing focused on Coartem during early stage of IEC activities - Partial implementation of training activities in the public sector and lack of training in the private sector; in particular, the planned strategy for extending ACTs to the community level was interrupted - Lack of data on acceptability and compliance with treatment - Inadequate estimation of the country needs for copaid ACTs - Very low levels of orders of copaid drugs by private sector buyers due to limited communication and training activities - Private sector inadequately equipped to supply copaid ACTs to remote areas

Figure 4.4.1: Timeline of key events related to AMFm implementation process and context in Niger

Activity	2010										2011											
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AMFm grants and orders																						
AMFm Grant signing			■																			
Establishment of the Steering Committee	■																					
Ordering of drugs (*First order placed on August 16, 2010*)						■	■				■	■		■			■	■	■	■		
Delivery of copaid ACTs in the country (*First copaid ACTs arrived in the country on February 3, 2011*)												■	■	■	■	■	■		■			■
AMFm supporting interventions																						
Pricing of copaid ACTs agreed								■														
Training of public health personnel									■													
IEC/BCC activities											■	■	■	■	■	■						
Official launch of AMFm												■										
Distribution of copaid ACTs														■	■	■	■	■	■	■	■	■
Expansion of drug distribution network																	■					
Appointment of an inspector																			■			
Inspection on pricing of copaid ACTs																					■	
Supervision visits in private pharmacies and public health facilities by the SC.															■		■					
Research activities																						
Baseline IE outlet survey data collection						■	■	■														
Endline IE outlet survey data collection																				■	■	■
Drug efficacy studies								■														
IE Country case study																						■

4.5 Nigeria

4.5.1 AMFm intervention process

4.5.1.1 Governance structure for AMFm

The main governance structure established for AMFm in Nigeria is the AMFm Task Force. The activities of the Task Force are operationalized through the administrative functions of the AMFm Secretariat. The AMFm Task Force was set up by the Country Coordinating Mechanism (CCM) and has 15 members from the public sector, the private sector, national and international non-governmental organizations, and the United Nations. The Task Force was originally chaired by the Clinton Health Access Initiative (CHAI) and was later chaired by the National Malaria Control Programme (NMCP). The AMFm Secretariat is the desk office for the hands-on administration of AMFm. Presently, the AMFm focal persons from the two Principal Recipients are jointly administering the Secretariat, which is domiciled within the NMCP, with technical assistance from CHAI.

4.5.1.2 AMFm copaid ACT supply mechanism

The increasing availability of ACTs in the national supply chain in the public and private sector in Nigeria was facilitated by the rapid expansion of the number of importers of quality-assured ACTs. Timely advocacy surrounding the launching of AMFm has helped to secure buy-in and mobilization of the private sector for AMFm (especially among local manufacturers) and has helped to reduce resistance from importers and manufacturers. Following the development of criteria and structures for the engagement of AMFm First Line Buyers (FLBs), Nigeria registered 54 FLBs (one in the public sector, two in the private not-for-profit sector, and 51 in the private-for-profit sector), of whom 28 had placed orders at the time the case study was being conducted. The participation of a large number of FLBs in Nigeria has resulted in a sizeable importation drive, such that Nigeria accounts for about 40% of global copaid ACTs delivered. Six pre-qualified international manufacturers have supplied copaid ACTs to Nigeria, since Nigeria does not have any domestic manufacturers that are pre-qualified. Despite the substantial participation of the private sector, the non-qualification of domestic manufacturers for AMFm, which was the fulcrum for concerted agitation against AMFm at its onset, makes it difficult to guarantee their sustained acquiescence.

Ordering and delivery of AMFm copaid ACTs

The National Malaria Control Programme places orders through the Voluntary Pooled Procurement (VPP) system, whereas the private sector Sub-Recipient (SFH) and FLBs place individual orders directly with the manufacturers. Through the end of December 2011, a total of 80 million treatments had been ordered in Nigeria, out of which about 59 million had been delivered.

A key challenge for product ordering in the public sector was the late approval of Procurement Supply Management (PSM) plans, arising from unfulfilled Condition Precedent

(CP) requirements, as well as training delays in rolling out the Logistics Management Information System (LMIS). The termination of the Global Fund Round 8 malaria grant to the Yakubu Gowon Centre (YGC) and the subsequent delay of the release of funds contributed to a delay in the procurement of ACTs, which had an adverse effect on the supply of copaid ACTs to the public sector. The challenges in the private sector have mainly been linked to delays in the approval of orders. The long lead times and uncertain processes for final approval of copaid ACT orders have led to a sluggish national ACT supply chain and back orders, creating difficulties for achieving increases in the availability and market share of copaid ACTs. This problem was sometimes aggravated by the skewed distribution of the limited available stock to the major urban hubs, contributing to sub-optimal access to ACTs in rural areas.

Clearing customs of AMFm Phase 1 copaid ACTs
Clearing of goods through customs for all players (the NMCP, private not-for-profit (SFH), and private FLBs) was facilitated through waivers from the Federal Ministry of Finance and the National Agency for Food and Drug Administration and Control (NAFDAC). While the clearing of copaid ACTs for public-sector consignees has always been expedited, the private-for-profit sector FLBs have sometimes experienced bottlenecks in the custom clearing process at the ports. Some FLBs have had to pay demurrage costs, with a few opting to pay tax on the subsidized import price to avoid the eventuality of demurrage. Demurrage payments and unexpected/unofficial clearing costs have resulted in some affected importers increasing the price of copaid ACTs to cut their losses, which makes it more difficult to achieve the goal of affordability.

Distribution of AMFm Phase 1 copaid ACTs
The distribution mechanism for copaid ACTs varies by the type of outlet. In the public sector, the manufacturer delivers copaid ACTs directly to the State Stores (through the 3rd Party Logistics Providers) for further distribution to the health facilities by the Sub-Recipients (SRs) to the NMCP. Proprietary Patent Medicine Vendors (PPMVs) are the cornerstone of the private sector distribution system through the private sector SR (SFH). From SFH warehouses, copaid ACTs are distributed to wholesalers or SRs, who deliver the drugs to the facilities. In the private for-profit sector, distribution of copaid ACTs by private sector first line buyers is based on existing distribution networks and mechanisms since this was a condition of registration as an importer (First Line Buyer). Copaid ACTs are distributed through wholesalers/distributors who sell to pharmacists, PPMVs and finally consumers, as well as through medical representatives, who sell copaid ACTs directly, along with their normal consignments sold to hospitals, pharmacists and PPMVs. However, the tardy and inadequate supply of copaid ACT orders has led to complications down the supply chain, whereby distribution and availability become inadequate and retail costs are sometimes subject to increase by the retailers, with possible decreased affordability.

4.5.2 Implementation of AMFm supporting intervention

4.5.2.1 Communication

The AMFm Task Force has spearheaded the buy-in and mobilization of the private sector for participation in AMFm, as well as clarifying implementation modalities. The strong support of the AMFm Task Force and the AMFm Secretariat has sustained public and private sector interest, while strong advocacy and interventions in the public and private sectors have created an enabling environment for the FLBs and have been an asset to build on for sustained imports of ACTs into the country. The AMFm Secretariat has organized stakeholders' meetings with the public and private sectors, and has maintained a functional interface with AMFm stakeholders, particularly with First Line Buyers. The Clinton Health Access Initiative has supported AMFm with technical expertise, starting even before the grant signing.

There was a successful national launch of AMFm on March 31, 2011, which sensitized the public and private sectors alike to AMFm. However, the country has not yet carried out any subnational launches, although sectoral launches have been organized for the public sector, professional associations and faith-based organizations.

The official rollout of major IEC (information, education and communication) and BCC (behavior change communication) activities was delayed until June 2011. However, some key IEC/BCC activities were started in both the public and private sectors. These activities included advocacy visits to policymakers at the State and Local Government Area (LGA) levels, community dramas, roadshows, television advertisements, radio jingles, the erection of billboards and other activities. The roadshows, especially by the key AMFm implementers (the PRs, along with their SRs), have likely contributed to increased use of copaid ACTs through key messages that emphasize the use of quality ACTs for malaria treatment. The mobilization of the community has promoted the community uptake of copaid ACTs, as well as their proper use and price, thus creating a demand for ACTs and likely increasing their market share. Contributions by development partners working in the field of malaria have helped to promote a unitary message against monotherapy use, which could have led to an increase in the use of copaid ACTs and their market share. However, delays in rolling out the BCC supporting intervention may have limited the demand for copaid ACTs and might also have contributed to sustained high prices, particularly in the private sector.

4.5.2.2 Recommended Retail Price

Pricing of AMFm ACTs has been regulated by a participatory process to set the recommended maximum national retail prices and to create a good environment for lowering the price of ACTs. The setting up of a national pricing structure for the recommended maximum retail prices was seen as key to achieving a steep decrease in the price of ACTs across all sectors and levels of care (even for ACTs that are not copaid), as well as increased use of ACTs. The participatory and methodical setting of prices for each level of the distribution chain has contributed to the increased affordability of ACTs. The recommended retail price was initially 75 nairas (USD 0.44) and then raised to 100 nairas (USD 0.59) and

was not shown on the drug packaging at the time of the case study. Price enforcement plans are in motion, and consultations are ongoing with regulatory bodies in Nigeria such as the Consumer Protection Council (CPC) and the Pharmacists Council of Nigeria (PCN). However, there have been some pockets of resistance to the approved price, leading to some measure of non-compliance. In addition, the frequent stockouts of some weight bands of ACTs sometimes results in the sale of multiple packs of a smaller weight band in lieu of the unavailable drugs for the correct weight band.

Furthermore, the decreasing motivation of PPMVs and other retailers to stock and sell copaid ACTs because of the low price margin coupled with the low volume of stock available for sale may have presented a challenge to achieving increases in the market share, affordability and use. The preference for operators of high-end facilities not to stock copaid ACTs because of the low approved price in relation to the high overheads may have led to limited availability of copaid ACTs in those facilities and a concomitant higher market share of non-subsidized ACTs and monotherapies.

4.5.2.3 Training

Diverse training activities have been held in both the public and private sectors across various cadres and levels of health staff to improve the knowledge of providers and to ensure the correct use of the medicines and commodities distributed. The rollout of the LMIS system has commenced, but the Health Facility (HF) training did not start as planned, except in the seven World Bank supported states. The training plan for health facilities was designed as On the Job Training (OJT), but it was discovered that OJT would take considerably more time and expense than originally planned. John Snow, Inc. (JSI) and the Support to Nigeria Malaria Programme (SuNMaP) subsequently trained in 7 states each. Without the training in all states, the LMIS system cannot be fully rolled out.

4.5.2.4 Other AMFm supporting interventions

Regulatory interventions

NAFDAC has demonstrated its regulatory readiness for AMFm by granting over-the-counter (OTC) status to ACTs, which enabled increased availability of ACTs, and by providing multiple waivers for AMFm, including the liberalization of the 1:1 import franchise policy and reductions in the cost of analysis of AMFm products. The 1:1 policy had stipulated that only the company that registers a medicine has the permission to import it to the country (that is, One Procuct – One Company). The liberalization of the policy permitted other FLBs to import the medicine. These regulatory actions may have helped promote availability, market share and affordability of copaid ACTs through the combined import volume of about 28 importing FLBs and a reduction in clearing costs. However, the impact of the OTC status of copaid ACTs has been limited by gaps in the supply of orders. Prior to AMFm, NAFDAC had reclassified chloroquine as a treatment for conditions other than malaria. The reclassification of chloroquine could have provided the supply sector with the leeway to continuously manufacture and import chloroquine, thus contributing to maintaining a high

level of stock of chloroquine in circulation and possibly leading to a limited market share for copaid ACTs.

Malaria diagnosis

In 2011, the malaria treatment guidelines were revised to stipulate that malaria should be diagnosed with a laboratory test or with a rapid diagnostic test (RDT) before providing antimalarial treatment for persons of all ages, including children. A pilot program to introduce RDTs has commenced in 12 states—six in the north (implemented by the NMCP) and six in the south (implemented by SFH). Activities to train primary health workers and private health providers on the use of RDTs and to increase the supply of RDTs (although limited in scope and quantity) should lead to greater rational use of ACTs.

Pharmacovigilance

Pharmacovigilance training and sensitization has commenced, with an explicit structure set for national cross-sectoral interventions, as the feedback system is being strengthened for reporting and processing Adverse Drug Reactions (ADRs). Capacity building for pharmacovigilance and the development of Cohort Event Monitoring (CEM) aimed to give health care providers the necessary tools to advance the use of ACTs, thus potentially increasing confidence in their rational use and minimizing the possibility of widespread disenchantment with ACTs in the event of suspected adverse reactions. However, the system for collecting pharmacovigilance feedback (through ADR forms) is still developing, so the maximum benefits have yet to be realized.

Research

The AMFm program, within the context of malaria control programming, and in consonance with other RBM stakeholders, is keeping pace with relevant research of a wide scope as well as focused Operational Research (OR). However, there is a need for research projects to be more widely disseminated and archived, especially as research activities related to the objectives of AMFm are ongoing in the public and private sector and across different line agencies and development partners.

Interventions focused on poor and vulnerable populations

There is a renewed drive to train Role Model Care Givers (RMCG) on the management of malaria (including using RDTs for malaria diagnosis and dispensing ACTs) for poor and vulnerable populations (children under five years and pregnant women). This strategy is aimed at increasing access to ACTs, the use of ACTs, and ACT affordability in settings where RMCGs are operating. However, the supply gap of ACTs has prevented the full potential of this program from having the expected impact. Interventions from partners such as the World Bank, community directed distribution by PPMVs, and community directed information by organizations such as NIFAA are jumpstarting ACT access for poor and vulnerable populations.

Monitoring and evaluation

The monitoring of public and private sector implementation by the AMFm PRs and SRs is ongoing and covering key areas. However, information obtained on implementation has not yet been optimally coordinated between the public and private sectors into one national system.

4.5.2.5 Implementation of non-AMFm supporting interventions

Various malaria control interventions have been carried out in Nigeria from October 2010 to December 2011. The Nigerian government, through allocations to the health sector from the Millennium Development Goals Fund provided nets for five states at a cost of $46.7 million and RDTs worth $1.9 million. Interventions carried out with funds from the Global Fund and other malaria control partners include the procurement and distribution of ACTs on the Rd 8 GF grant in both the public and private sector, as well as by the World Bank, USAID, UNICEF, SuNMaP, and other partners. These interventions include the procurement and distribution of RDTs, long lasting insecticidal nets (LLINs), indoor residual spraying, and larviciding in two states (Lagos and Rivers), as well as ongoing BCC activities in both the public and private sectors.

Others interventions include training and implementation of Home Management of Malaria (HMM), general health system strengthening (including that of the laboratory services for diagnosis) and the training of lower health care cadres in the use of rapid diagnostic test kits.

ACTs have been included in the Essential Medicine List (5th Revision, 2010), while chloroquine tablets, syrups and injections have been expunged, providing a basis for providers to use and claim ACTs for primary care and mopping up chloroquine formulations from health facilities.

4.5.3   Key events and context

There are promising developments in the health care delivery system, such as the Midwives Service Scheme, the National Strategic Development Health Plan, and the Community Insurance thrust of the National Health Insurance. However, the impact of these programs on health care, and how they have influenced ACT availability, access and use, are yet to be evaluated.

The termination of the Yakubu Gowon Centre (YGC) grant in October 2011, preceded by months of non-disbursement, is a major contextual influence in the availability, access, and use of ACTs in the public sector. There have been specific strikes in the health sector, which could decrease the use of ACTs because of the likely resort to self medication with any medicine, including monotherapies. The increased threat to national security caused by activities of Boko Haram could have indirect effects on the transporting and availability of copaid ACTs to those areas affected, particularly rural areas, resulting in general hitches in program implementation.

4.5.4 Conclusion

Table 4.5.1 summarizes of key factors likely to have supported or hindered achievement of AMFm goals in Nigeria and Figure 4.5.1 presents a timeline of all key events related to AMFm implementation and context.

The signing of the AMFm grant agreement with the Global Fund and the commencement of its implementation has heralded new hope for Nigeria's populace, whose national malaria burden contributes a large proportion of the global burden of malaria. The commitment to the AMFm project has been demonstrated by the achievements made ahead of the signing of the grant agreement, such as major regulatory changes and advocacy aimed at critical public and private sector stakeholders. The implementation timeline (from inception in October 2010 to the present) demonstrates notable achievements as well as substantial program and contextual challenges.

The reactions to AMFm have evolved from initial skepticism, through cautious embrace, to vigorous involvement by the private sector in particular. There has been participation from a diverse group of stakeholders in the public and private sectors, as well as development partners, civil society and faith-based organizations. Communities have also felt the impact of BCC activities to support the greater use of ACTs, albeit to a limited extent. Despite the less than adequate delivery and distribution of ACTs as per orders made, key informants observe that AMFm has triggered a substantial decrease in prices, with attendant gains in affordability, market share, and use, as the supply of copaid ACTs has increased.

An added benefit of the AMFm program is that the National Malaria Control Programme and development partners in Nigeria have expanded the original scope of their malaria interventions through savings made on ACT purchases through AMFm, and they have been able to add opportunities across all tiers of health care through the supporting interventions, which include capacity development, BCC, malaria diagnosis and pharmacovigilance.

Table 4.5.1: Summary of key factors likely to have supported or hindered achievement of AMFm goals in Nigeria	
Factors likely to have supported achievement of AMFm goals	**Factors likely to have hindered achievement of AMFm goals**
• Procurement of ACTs with Global Fund Round 8, AMFm, World Bank, and DFID/SuNMaP Funds • Liberalization of 1:1 Marketing Franchise Policy: there are now 54 FLBs on AMFm • National AMFm pricing structure • Reduction of costs of NAFDAC analysis • Waiver of ports' duties • Facilitation of clearing customs by AMFm • AMFm Launch - national and sectoral • Effects of NAFDAC regulation of ACTs as OTC • PPMVs well sensitized • Procurement of ACTs by funding streams • IEC/BCC on the ACT policy and AMFm • *"WHO Bans Monotherapies"* media parley • Wide distribution networks for ACTs • Inclusion of ACTs in 2010 EDL (Health Facilities and National Health Insurance Scheme) • Buy-in of health professionals into AMFm • Training of health care providers across cadres and sectors • Sensitization/training of CSOs and FBOs • BCC activities by PRs, public and private sectors • BCC activities by CSOs, FBOs • Media report on ban on monotherapies and on inclusion of ACTs in 2010 EDL 5th version • Home Management of Malaria activities • Implementation of the National Strategic Health Development Plan (NSHDP) • Introduction of Social Health Insurance Programs (SHIP)	• Termination of Global Fund Round 8 grant to YGC • Delayed approval of ACT orders to FLBs • Inadequate supply of ACTs • Unstable supply of ACTs • Demurrages with customs clearing • High transport costs to rural areas • High overheads in urban/ secondary care settings • MOU on price ONLY with FLBs • Inadequate ACT supply pipelines • Inadequate distribution of ACTs to rural areas • Re-indication of chloroquine • Interrupted ACT supplies nationally • Availability of chloroquine in market • Late/inadequate rollout of BCC • Occasional strikes by health workers

Figure 4.5.1: Timeline of key events related to the AMFm implementation process and context in Nigeria

Activity	2009 Aug	Sep	2010 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2011 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2012 Jan
Baseline outlet survey – ACTwatch	█	█																							
CHAI: Radio hypes on AMFm			█	█																					
NAFDAC: Approval to bring in Coartem under AMFm for 2 Principal Recipients: SFH/YGC			█																						
NMCP: No Objection Letter obtained for AMFm FLBs								█																	
AMFm Grant signed										█															
GF funds accessed										█															
FMoH: Inclusion of ACTs on the EDL										█															
FMoH: Exclusion of chloroquine from EDL										█															
Acquisition of an all duty/taxes waiver from FMoF											█	█	█	█	█	█									
Media launch of AMFm												█													
Development and airing of PV jingles targeting public												█													
CHAI: Soft launch/media parley/mass media campaign/National Tease Campaign												█	█	█	█										
SFH: Malaria case mgt training for PPMVs/senior HCP-private for profit/CSOs-private for profit/quant/forecasting training for PPMVs/TOT workshop on PV for doctors/pharm/record keeping (M&E) for PPMVs												█	█	█	█	█									
Ongoing Task Force meetings with FLBs													█	█			█	█	█	█	█	█	█		
SFH: Review of training manual and raining content / training of senior HCP on PV ADRs/reporting														█	█										
AMFm national launch															█										
NMCP: Advocacy to policymakers at state/LGAS, community opinion//traditional/religious leaders																	█	█	█	█	█	█			
NMCP: TV Advertisements/radio jingles/spots/community drama/roadshows - North and South Nigeria																	█	█	█	█	█	█			
National sensitization meeting with women groups																	█								
AMFm Secretariat: advocacy to FMoF/agencies on custom clearance																	█								
Meeting with FLBs on PSM reporting tool																		█	█						
NMCP: Training on malaria management for senior HCP																	█								
NMCP: Malaria quant/forecasting for states																		█							
SFH: Development and printing of training manual, training on PV for Community Health Extension Workers and Community Health Officers, training on PV for doctors, pharmacists, nurses, lab techs																		█							

Figure 4.5.1: Timeline of key events related to the AMFm implementation process and context in Nigeria

Activity	2009		2010										2011												2012
	Aug	Sep	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
NMCP: RDTs store assessment in 6 states/repairs																		■							
SFH: BCC rolled out																		■							
NMCP: Training of PHC H/HWs on RDTs refresher training for HW on RDTs																			■	■					
AMFm public sector sensitization																				■					
NAFDAC: Capacity building on research																				■					
AMFm Presentations at ACPN conference																				■					
NMCP: Distribution of RDTs to HFs -Kaduna/Nasarawa																				■					
Pharmacovigilance: Development and printing of posters, fliers/handbills on ADRs																				■					
Pharmacovigilance: Distribution of posters, fliers/ handbills on ADRs																				■	■	■	■	■	
NMCP: Malaria case management. Training for senior HCP																				■	■	■	■		
NMCP: Lab diagnosis/RDTs-CNOs, lab techs CHEWS																				■	■	■	■		
NMCP: Supervision/retrieval of RDT data from HFs																				■	■	■	■		
NAFDAC: PV: Development, printing of CEM materials/refresher training for 13 institutions																					■		■		
AMFm Presentations at NMA conference																					■				
NMCP: Erection of billboards																					■	■	■	■	
NAFDAC: Training of NAFDAC - minilab test kits																					■				
PV: Development of PV pins and distribution																					■				
NMCP: Training of CSOs on case management																					■	■	■		
Endline IE outlet survey data collection																					■				
SFH: TOT on PV for HCs - public and private																					■				
AMFm Secretariat: Pricing consultations with CPC and PCN																					■				
SFH: Review/finalization of PPMV manual with PCN																					■				
NMCP: National refresher TOT for RMCGs																					■				
Pharmacovigilance: Development/printing of Cohort Event (CEM) program materials for 18 institutions																					■				
PV-Development and airing of PV jingles - general public																							■	■	■
Advocacy to the Hon. Minister of Health and DG NAFDAC to postpone/waive the policy on Text Message Authentification System																								■	■

4.6   Tanzania - Mainland

4.6.1   AMFm implementation process

4.6.1.1 Governance structures for AMFm

There are a number of key bodies involved in governance of AMFm-related grants. The Principal Recipient (PR) is the Ministry of Finance and Economic Affairs (MOFEA), and the Local Fund Agent is PricewaterhouseCoopers (PwC). The lead sub-recipient is the National Malaria Control Programme (NMCP), which channels money to the other sub-recipients (SR) who are responsible for the AMFm supporting interventions: Health Focus (communications), Tanscott (private sector monitoring and evaluation), Tanzania Food and Drug Authority (TFDA) (private sector training), Medical Stores Department (MSD) (public sector procurement), and Tanzania National Malaria Movement (TANAM) (community mobilization).

AMFm is mainly managed through the ACT Technical Working Group (TWG) based in the NMCP's Case Management Cell. Membership comprises NMCP, TFDA, MSD, Johns Hopkins University (JHU), Population Services International (PSI), the US President's Malaria Initiative (PMI) and the Clinton Health Access Initiative (CHAI). Some aspects of AMFm are also covered by other TWGs under the NMCP: the Behaviour Change Communication (BCC) TWG which meets monthly, and the monitoring and evaluation (M&E) TWG which meets quarterly.

Tanzania's AMFm grant was approved in November 2009, and in August 2010, the PR signed an amendment to the Round 7 host grant to include implementation of AMFm Phase 1.

4.6.1.2 AMFm copaid drug supply mechanism

Private sector
As of December 2011, there were 10 private sector first line buyers (FLBs) registered in Tanzania mainland, and five had formed relationships with manufacturers and placed orders.

The copaid drug supply system to the private sector has functioned relatively smoothly in Tanzania mainland. The five FLB that have established relationships with manufacturers did so without any major challenges with registration or ordering, with facilitation provided by both CHAI and the NMCP. A total of 8,122,020 copaid ACT doses had been received by the end of 2011 (around one dose for every 5-6 people). Copaid drug orders were dominated by AL, the first line drug in mainland Tanzania, with ASAQ accounting for only 7% of deliveries by the end of December 2011.

No orders were reported to have been cancelled or cut. However, orders were slow to start (with only 1,250,050 doses received by the end of March 2011), as initially FLBs were unfamiliar with the order process and found it difficult to predict demand. There were some

delays in deliveries (with a mean of 88 days from approval, although the time from ordering to delivery may be substantially longer). Initially this was partly felt to reflect the Global Fund's quality control process which required samples from all orders to be tested in a lab in Vietnam, leading to delays in shipment of orders of up to 4 weeks, and some stockouts for FLBs in Tanzania mainland. From July 2011, it was agreed that drugs could be shipped before quality approval was obtained, leading to a significant improvement in order times. Other reasons for order delays were reported to be lack of stock at the manufacturer level, and possibly use of the Global Fund's "demand shaping levers" in the last quarter of 2011, as the relevant Global Fund body meets only once a month.

No major problems or delays were reported with clearing customs for private sector drugs, which took a matter of days. Private sector FLBs reported high demand for the copaid drugs which tended to sell quickly. FLBs were actively promoting copaid drugs through their own marketing and distribution activities, for example through printing their own promotional materials and contacting potential customers. Despite not expecting large profits from copaid drugs, FLBs were said to be willing to participate due to the benefits of establishing new markets and business relationships, and a desire to work in a socially responsible way.

It appears that the relatively smooth ordering and distribution process in the private sector will have made an important contribution in increasing availability and therefore market share and use of ACTs. In March 2011, only 12% of private outlets were stocking copaid drugs (Tanscott Associates (T) Ltd., 2011a), but by August/September 2011 several studies indicated that availability in private retail outlets was clearly over 50% and likely over 70% (Tanscott Associates (T) Ltd., 2011b; Health Action International, 2011; Cohen et al., 2011). However, had FLBs submitted larger orders, it seems likely that they would have been able to increase their sales even further, as there was clearly some unmet demand, indicated by one FLB rationing supplies by restricting them to more malaria prone areas of the country, and others reporting stockouts. In addition, the limited number of FLB-manufacturer relationships established for AMFm may have restricted total orders which might have increased if manufacturers had formed more multi-FLB relationships. Some FLBs were clearly disappointed that they had not been able to form relationships with manufacturers. Some FLBs indicated that there was still a market for premium ACTs which were not copaid, even when they were up to 20 times the price of copaid ACT, because the former is perceived to be of superior quality (Clinton Health Access Initiative, 2011).

Public sector
For the public sector, the Medical Stores Department (MSD) was registered as an FLB (no not-for-profit FLBs were registered in Tanzania mainland).

The supply mechanism in the public sector was much more problematic than in the private sector. By the end of December 2011, only 4.9 million doses of public sector copaid drugs had arrived in Tanzania mainland, with deliveries in July and September 2011 (one dose for every 9-10 people). This is estimated to be equivalent to only 2-4 months' worth of supplies for the public sector. This was supplemented by an additional 6.5 million doses procured by

PMI, delivered in three tranches in March, July and November 2011. However, this still comprised only around 5-8 months' worth of supplies in total which, given the low stocks in the system at the start of AMFm, has been highly inadequate.

There were several reasons for the delayed public sector procurement of copaid drugs:
- Initial misunderstandings about the AMFm ordering system (e.g., the order was originally tendered on the basis of manufacturer rather than copaid prices)
- concerns about how the Tanzania Food and Drug Authority (TFDA) service fees for drug clearance, storage and distribution would be covered
- delays in delivery due to limited manufacturer capacity (e.g., PMI orders were said to have been delayed by 2-3 months because of lack of capacity at Novartis)
- the time taken for reorganization of Global Fund grants – the first disbursement from the grant hosting AMFm was in December 2010, but it was then decided that all malaria grants from the Global Fund should be consolidated into one funding stream termed "Single Stream Funding" (SSF). This process took some time, requiring merging of budgets, work plans and indicators, with the SSF grant finally signed in May 2011 and the first disbursement in June 2011.
- irregularities in accounting for previous procurements which delayed the approval process of new orders once SSF had been signed.

As a result, no public sector orders were approved between May 2011 and February 2012. The consequences have been severe, combined with some in-county distribution challenges, leading to very high stockout levels in public health facilities, described as "very, very bad." However, the stockouts do not appear to be that dissimilar from stockout levels seen in previous years when similar procurement challenges have been experienced. In May and August 2011, over one-fifth and over one-quarter of public facilities, respectively, had no AL packs at all, and stockout levels for individual pack sizes ranged from 29% to 63% (USAID | DELIVER PROJECT, 2011a and b). The average duration of individual AL pack stockouts was between 17 and 22 days in May 2011 and between 24 and 30 days in August 2011. This is likely to have substantially boosted demand for private sector copaid ACTs and therefore, probably private sector QAACT availability and market share, while decreasing availability and market share of QAACTs in the public sector. The overall effect on QAACT use is likely to have been negative.

4.6.2 Implementation of AMFm supporting interventions

The main AMFm supporting interventions implemented in mainland Tanzania have been related to communications, the recommended retail price (RRP) and training of staff from Accredited Drug Dispensing Outlets (ADDO).

4.6.2.1 Communication

Communications activities have been implemented by Health Focus, involving a soft launch with a press conference on January 25, 2011, a national launch on April 29, 2011, TV and

radio spots, marketing materials and community-based activities. Implementation of the mass media and marketing components began after the national launch, which was well timed with the increase in availability of copaid products in country. It was reported that before the launch, one private sector FLB was receiving orders for about 2,000 ACT doses per month, but that after the launch 200,000 doses were ordered in two days. By December 2011, about 105,000 marketing materials had been produced, including flipcharts for training, stickers, leaflets, posters for shops, large posters, t-shirts, calendars, caps, *kangas* (printed cloth used for clothing) and bags. By the same date, 12,700 radio and TV spots had been aired on national and local stations, and 48 advertisements had been placed in newspapers.

Community-level communications activities were delayed by about three months due to the delay in the second disbursement of AMFm funds until August 2011, which was related to the reorganization of Global Fund grants under SSF. They involve mobile video units (MVUs), road shows, clinic shows and school activities, implemented through community change agents (CCAs) and local community-based organizations (CBOs). CCAs are a type of community health worker with basic education, who undertake health promotion for a range of health problems through activities such as school campaigns, cultural shows, group discussions, clinic shows and house visits, and receive an allowance of TSh 10,000 (USD 6.00) per month. Due to budget limitations, community-level activities were restricted to two districts in each of 12 selected regions, with only 12 CCAs per district.

Although some stakeholders felt that the campaign could have been improved, the national launch and TV and radio spots were generally perceived to have been important in raising awareness about the copaid products, the green leaf logo and the RRP, and in stimulating demand for the drugs. The green leaf logo was reported to be well understood and to be an effective way of promoting the copaid drugs, and the logo was valued by the FLBs as a way to signal the quality of the products. These activities are likely to have had a substantial positive impact on QAACT availability and affordability, and probably on market share and use.

However, the impact of the community activities was likely to have been more mixed. While some community activities such as MVUs were felt to have been very well attended, the overall impact was likely to have been limited at the time of the endline OS data collection, given that the activities only began in September 2011, and that they were only taking place in 24 out of 121 districts, with only 12 CCAs per district. Health Focus estimated that they had reached 441,080 people at the community level, which would represent only around 1% of the total population. Some stakeholders argued that opportunities had been missed to "piggy back" on existing malaria promotion through CCAs under the COMMIT/RCC programs (see below).

A national survey conducted for monitoring and evaluation of the communications activities in December 2011 found that 88% of respondents had heard of "price subsidized ACTs that are available in the private sector,", with radio being the key source of awareness (74%),

followed by TV (27%) and health facility staff (24%). Only 1% had heard of the program through community dialogue (Synovate Ltd., 2012).

A separate award to TANAM to conduct awareness activities was delayed due to Global Fund disbursement delays, so these activities had not begun by the end of the outlet survey endline data collection.

4.6.2.2 Recommended retail price

An RRP was set at TSh 1,000 (USD 0.62) for an adult dose of copaid ACT. The RRP was promoted widely on the TV and radio spots. It was not printed on drug packaging and to start with was not on the marketing materials. This appeared to have reflected concerns from some stakeholders that printing the RRP would make it difficult to change later on, and might prevent retailers from selling at a price below the RRP. However, from July-August 2011, the RRP was added to marketing materials, partly due to pressure from the Minister of Health.

This adult RRP was generally perceived to be appropriate and well promoted. Several research studies indicated that by mid to late 2011 median prices were not far above the RRP (between TSh 1,000 and 1,500). However, there was a lack of clarity on whether there was an RRP for smaller packs, and these were much less promoted, with concerns that as a result prices charged for these packs were not far below those for adults. It is therefore likely that the RRP had a positive impact on affordability, market share and use for adults, but that this effect may have been diminished to some degree for younger age groups.

4.6.2.3 Training

The main supporting intervention for training under AMFm was the rollout of the ADDO program to additional regions. ADDOs are Accredited Drug Dispensing Outlets, which are created by providing additional training and support to drug stores, previously known as Duka la Dawa Baridi (DLDB). ADDO dispensers undergo a 35-day training program and are allowed to sell a limited range of prescriptions only medicines (POM), including ACTs. In contrast, DLDBs were officially allowed to stock Over-the-Counter (OTC) medicines only, although many do stock POM products. Once a region has undergone ADDO conversion, no DLDB should continue to operate there.

Prior to AMFm, the ADDO program had been rolled out in eight regions. With AMFm funding, the rollout in six additional regions was completed January-March 2011, and an additional region had begun a rollout with USAID funding to CHAI in December 2011. Some regions which already had ADDOs had also organized some "local" ADDO trainings, funded by the trainees. However, the completion of the remaining regions had not taken place by the end of 2011 because of delays in disbursement of Global Fund funds. This partly reflected the process of harmonization of funding under SSF. In addition, the SSF included a condition withholding all training funds until a revised training plan was approved and this was not achieved until early 2012.

A one-day re-training program covering malaria (and IMCI and family planning) was implemented in Lindi and Mtwara regions in August-September 2011 with USAID funding. This involved development of new ADDO training materials which will also be used in future 35-day training courses. The re-training program is likely to have raised awareness of AMFm, but plans to cover a further six regions were delayed beyond the end of 2011 due to contractual issues.

One might expect that as DLDBs were not allowed to stock the POM ACTs, distribution of copaid drugs would be restricted in regions without ADDO rollout. However, it is well known that DLDBs frequently stock a wide range of POM antimalarials, and respondents generally agreed that no authorities were actively preventing DLDBs from stocking copaid drugs, because it was accepted that there was a need for ACT coverage to increase. Therefore, the impact of the delays in ADDO rollout on AMFm indicators is unclear. There may also have been erosion of the quality differences between ADDOs and DLDBs due to poor ADDO regulation and supervision, turnover of ADDO staff and increasing use of people with lower level qualifications as ADDO dispensers. However, one might expect untrained DLDBs to be less aware of the importance of stocking ACTs, and all ADDO and DLDB staff that had not received the re-training may be less aware of the RRP and meaning of the logo. In sum, the ADDO training may have had a small positive impact on QAACT availability and affordability, but the impact on market share and use is likely to have been limited due to the delays in training and the context within which DLDBs without ADDO training were stocking POM medicines.

Separate AMFm training/sensitization was planned for private health facility staff, but this has not taken place due to a misallocation of the funds.

4.6.2.4 Other AMFm supporting interventions

Other AMFm supporting interventions concerned pharmacovigilance (PV) and M&E. Some small scale PV activities had taken place, but these seem unlikely to have affected the key AMFm outcomes. M&E activities were contracted to Tanscott Associates. Delays in finalizing their methodology and in disbursement of funds meant that very limited data were available by the time of the endline outlet survey, so they are unlikely to have fed into implementation plans. However, it is possible that both a national census of private outlets in early 2011 and subsequent data collection in private outlets in 43 districts in August-November 2011 may have served to raise awareness about AMFm and the RRP in the outlets visited, and therefore to have increased QAACT availability and affordability. A similar impact may have occurred due to other research studies, such as the Tanzania Remote Distribution Incentive Program (TZ-RDIP) project, in Lindi, Mtwara and Rukwa, which involved repeated retail audits in ADDOs, and possibly the baseline IE Outlet Survey itself.

4.6.2.5 Implementation of non-AMFm interventions

The USD 1.3 million so far disbursed for AMFm communications was vastly over-shadowed by the USD 25 million awarded for malaria communications activities over the previous five years under the Community and Malaria Initiative in Tanzania (COMMIT) project funded by USAID/PMI and the Rolling Continuation Channel (RCC) funded by the Global Fund. Johns Hopkins University is the prime recipient for COMMIT, with a sub-contract to PSI, and PSI receives the RCC funds through the NMCP. COMMIT/RCC communications cover malaria treatment and prevention using mass media and community activities. The programs use a common platform at the community level, and both use the same umbrella slogan "malaria *haikubaliki*" (malaria is unacceptable). They work in a total of 18 regions, covering over 2,000 CCAs (compared with less than 300 CCAs involved in Health Focus AMFm activities). One must therefore be cautious in attributing general improvements in malaria-related knowledge to the Health Focus campaign, which was conducted against the background of these much broader promotion activities. However, the COMMIT/RCC communications deliberately did not promote the green leaf logo (reflecting USAID requirements), so any awareness of the logo, where copaid drugs were available, and the RRP can broadly be attributed to the AMFm-specific communications. A wide range of other partners are also involved in malaria-related communication activities although on a smaller scale.

Other important malaria control interventions rolled out during this period were rapid diagnostic tests (RDTs), distribution of long-lasting insecticidal nets (LLINs) and indoor residual spraying (IRS) in limited areas.

In the interval between the baseline and endline outlet surveys, RDTs were rolled out in public health facilities in six additional regions, making a total of 11. One might expect this to decrease ACT use in these regions and potentially increase use of health facilities, but in practice the impact is likely to have been muted due to high levels of RDT stockouts and frequent dispensing of ACTs to RDT negative patients. The RDT rollout in the remaining 10 regions was expected to be completed by the end of 2011, using Global Fund money, but funding had been delayed due to the process around the SSF, and the withholding of all training funds after the SSF was approved, as the RDT rollout involves health worker training.

Tanzania has had a long-standing voucher program to increase access to treated nets, with the distribution of LLINs beginning in 2009. It became accepted that this alone would be insufficient to achieve the target levels of ITN coverage, leading to the development of two mass campaigns—the Catch Up Mass Campaign aimed at children under five years in 2009 and the Universal Coverage Campaign (UCC). The UCC was rolled out nationwide between October 2010 and October 2011, with distribution of over 18 milllion nets leading to a huge increase in LLIN coverage between the baseline and endline IE outlet surveys. In addition, by 2010/11 over 6 million people in 18 rural districts of the Lake Zone were covered by IRS for mosquitoes. While data are not available on impact, it is likely that these interventions have

led to a decrease in malaria prevalence, although the impact on AMFm indicators is unclear. It is possible that fevers on average will present as less severe as fewer will be due to malaria, which might lead to less use of antimalarials in general, but it is not clear that this would reduce the market share of ACTs. Other malaria control interventions include larviciding and prevention of malaria in pregnancy, but large-scale changes in their implementation did not take place during AMFm Phase 1.

A ban on artemisinin monotherapies (AMTs) has been in place since 2008 in Tanzania mainland and is likely to have provided a supporting environment for AMFm. Moreover, a move to restrict availability of non-artemisinin therapies (nATs) by refusing any new product registrations, and beginning the process of banning imports may have had a positive influence on the QAACT market share, although this is likely to have been limited by continued high nAT availability on the market.

Finally, a number of innovations have been introduced to improve monitoring and distribution of antimalarial stocks for public health facilities, including SMS for Life, the Integrated Logistics System (ILS) gateway, direct drug delivery to health facilities and upgrades of MSD zonal stores. However, it does not appear that these would have had a major impact on public sector drug supplies by the time of the endline data collection.

4.6.3 Key event and context

The only key contextual factor raised by stakeholders was the rapid depreciation of the Tanzanian Shilling during the past two years, from TSh 1,319 to the USD in January 2011 to TSh 1,749 in November 2011, before recovering to TSh 1,572 by the end of December 2011. The depreciation will have increased the price of imports and may to some small degree have offset the impact of the ACT subsidy. However, given the magnitude of the subsidy and the relatively good performance described above on RRP adherence, it is likely that the impact of the depreciation on AMFm indicators was quite small.

4.6.4 Conclusion

Table 4.6.1 summarizes key factors likely to have facilitated or hindered achievement of AMFm goals and Figure 4.6.1 presents a timeline of all key events related to AMFm implementation and context.

In sum, implementation of AMFm in the private for profit sector in Tanzania mainland proceeded relatively well. The process of registering FLBs and placing and receiving orders went smoothly, and demand and sales were reported to be high, with FLBs undertaking their own promotional activities. The national communication campaign was reported to be effective in raising awareness on AMFm, in the context of other larger on-going malaria treatment communication campaigns. The green leaf logo was reported to be an effective communications tool, and the RRP was well publicized, at least for adults, with reasonable adherence. However, the RRP for smaller pack sizes suffered from a lack of clarity which may have led to higher prices for these packs. While ADDO rollout was delayed, this was

unlikely to have substantially constrained availability of copaid drugs, as no authorities prevented other drug shops from stocking them.

However, the picture in the public sector was much more problematic due to major delays in public sector procurement of copaid drugs, which contributed to severe stockouts of ACTs in public health facilities.

Table 4.6.1: Summary of key factors likely to have supported or hindered achievement of AMFm goals in Tanzania mainland	
Factors which are likely to have supported achievement of AMFm goals	**Factors which are likely to have hindered achievement of AMFm goals**
• Smooth process for registration of FLBs and ordering copaid drugs in the private sector • Promotional activities by FLBs • National launch and AMFm mass media communication campaign • Setting of RRP allowing adequate profit margin for providers • Inclusion of RRP on marketing materials • Use of green leaf logo • ADDO re-training (only 2 regions) • M&E data collection may have raised awareness in interviewed outlets • COMMIT/RCC communication activities promoting ACTs • Tolerance by regulatory authorities of DLDBs stocking copaid drugs • Ban on AMTs and moves to reduce availability of nATs	• Underestimation of demand by private sector FLBs and delays in orders of copaid drugs • Major public sector procurement problems leading to public sector stockouts of QAACTs • Delays in and small scale of community-level AMFm communication campaign • Delays in second funding disbursement for training activities, especially ADDO re-training focusing on malaria • Limited number of FLB-manufacturer relationships established • Lack of RRP on drug packaging • Lack of clear RRP for non-adult pack sizes • Delay in including RRP on marketing materials • Lack of promotion of green leaf logo during COMMIT/RCC communication activities

Figure 4.6.1: Timeline of key events related to AMFm implementation process and context in Tanzania mainland

Activity	2010					2011											
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AMFm grants and orders																	
AMFm grant amendment signed	■																
Private sector orders of copaid ACTs approved by Global Fund	■		■	■	■	■	■	■	■	■			■		■		
Private sector copaid ACTs delivered to Tanzania – mainland			■			■	■	■			■	■	■	■	■	■	
Public sector orders of copaid ACTs approved by Global Fund									■								
Public sector copaid ACTs delivered to Tanzania – mainland												■		■			
AMFm supporting interventions																	
Soft launch of AMFm						■											
National launch of AMFm									■								
AMFm mass media campaign and distribution of marketing materials											■	■	■	■	■	■	■
RRP added to AMFm marketing materials												■					
AMFm community-level communication activities in 24 districts[1]														■	■	■	■
ADDO training in 7 new regions						■	■	■									■
ADDO re-training on malaria in Lindi and Mtwara regions													■	■			
Sensitization of health professionals on pharmacovigilance in selected areas of 6 regions							■	■	■								
Introduction of adverse drug reaction (ADR) reporting cards for patients															■		
Tanscott national census of private outlets						■	■	■									
Tanscott M&E data collection in 43 districts													■	■	■	■	■
Non-AMFm interventions																	
COMMIT/RCC malaria communications activities in 18 regions	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
JHU-Voices malaria communications at CECAFA cup																■	
Rollout of RDTs to public facilities in additional 6 regions				■	■	■	■	■									
Universal Coverage ITN campaign (UCC)			■	■	■	■	■	■	■	■	■	■					
Research activities																	
Baseline IE outlet survey data collection		■	■	■													
Endline IE outlet survey data collection															■	■	■
HAI price tracking surveys											■		■	■	■	■	
RDIP household and outlet data collection in 3 regions							■	■	■	■	■	■	■	■			
CHAI mystery shopper survey in DSM															■	■	

[1] Some limited community level activities began from May 2011, but most did not begin until September 2011.

4.7   Uganda

4.7.1   AMFm implementation process

4.7.1.1 Amending the AMFm host grant

Uganda's application to participate in AMFm was approved by the Global Fund Board in November 2009. However, Uganda was the last of the participating countries to sign the grant amendment necessary to commence AMFm. An amendment to the Round 4, Phase II malaria grant was finally signed on the February 10, 2011, the Global Fund's final deadline for AMFm grant amendments, after protracted negotiations between the Government of Uganda (GoU) and the Global Fund.

The primary impasse during the negotiations leading up to the grant amendment was the GoU's concern over the potential impact that AMFm-subsidized antimalarials could have on the domestic pharmaceutical industry (Nanyunja et al. 2011). In particular, there were fears that inexpensive ACTs imported through AMFm would harm the financial sustainability of the Kampala-based manufacturer Quality Chemicals Industries Limited (QCIL), if the latter was not eligible to supply ACTs under AMFm. QCIL was established in 2005 to create domestic capacity to produce high-quality antiretroviral drugs and ACTs. It is a partnership between a Ugandan pharmaceutical importer and distributor (Quality Chemicals Limited), an Indian pharmaceutical manufacturer (Cipla Limited) and the Government of Uganda. QCIL is regarded by the GoU as a strategic investment.

At the time the Global Fund Board approved Uganda's application to AMFm, QCIL was not eligible to supply ACTs under AMFm. In order to receive a copayment under AMFm, a manufacturer must meet the requirements of the Global Fund's Quality Assurance Policy, among other obligations. QCIL's manufacturing plant received Good Manufacturing Practices certification in 2008, and eventually became WHO pre-qualified to manufacture artemether-lumefantrine (AL) under license from Cipla Limited in December 2010.

Once QCIL became pre-qualified to produce AL, negotiations between the GoU and the Global Fund advanced. This permitted Uganda to participate in AMFm. QCIL requested to sign an AMFm Master Supply Agreement in May, 2011, which was signed in late 2011, but no AMFm orders were made for QCIL-manufactured products before the end of 2011.

4.7.1.2 Governance structures

The Principal Recipient for all Global Fund grants in Uganda, including the AMFm host grant, is the Ministry of Finance, Planning and Economic Development. The Sub-Recipient for malaria grants is the National Malaria Control Programme (NMCP).

Other key bodies involved in the governance of the AMFm host grant include:
- The Global Fund Focal Coordinating Office (FCO)
- The Country Coordinating Mechanism (CCM)
- The Local Fund Agent (LFA)
- The AMFm Task Force

The FCO is situated in the MoH Planning Department. It coordinates the implementation of Global Fund grants in all three disease areas. It is responsible for coordinating grant applications, selecting suppliers (known as sub-sub recipients (SSRs)) and submitting program updates and progress reports. The FCO also acts as the Secretariat for the CCM.

PricewaterhouseCoopers is the LFA in Uganda. The LFA's role is to provide oversight and advisory services to the Global Fund secretariat. In the context of AMFm, the LFA is responsible for assessing the capacity of the PR to undertake the AMFm supporting interventions,; reviewing grant amendment documentation, such as progress updates and disbursement requests; and conducting spot-checks of FLBs to ensure that they are complying with the conditions of participation set out in the first line buyer undertaking agreements (The Global Fund, 2011b).

The AMFm Task Force was established to provide oversight and advice to the NMCP on AMFm implementation. It is a multi-sectoral body comprised of representatives of government agencies (MoH and National Drug Authority (NDA)), implementing partners, civil society organizations, public, private for-profit and private not-for-profit antimalarial procurers, the LFA, UN agencies and organizations providing advisory and technical assistance (e.g., PMI and CHAI). The specific roles of the Task Force are to share information on AMFm activities and implementation challenges, advise the NMCP on programmatic decisions and provide oversight on establishing a Recommended Retail Price (RRP) for AMFm copaid ACTs, and to support quantification and forecasting (NMCP 2011b). The Task Force also has a Manufacturer and First-Line Buyer Working Group and an Advocacy and Social Marketing Working Group.

Between February and October 2011, the Task Force met 13 times and the Manufacturer and First-Line Buyer Working Group met 9 times (NMCP 2011a). Key informants indicated that they generally found the meetings to be a useful forum for sharing information. Several respondents mentioned that they appreciated the opportunity to interact with the private sector first line buyers. Some respondents indicated that, while they had initially found the Task Force and Working Group meetings to be useful, the meetings had "lost momentum" as a result of delays in receiving orders and in implementing supporting interventions. Indeed, the Chair of the Manufacturer and First-Line Buyer Working Group noted in the minutes for a meeting in mid-2011 that attendance was dwindling.

4.7.1.3 AMFm copaid drug supply mechanism

Public sector

Prior to AMFm, ACTs were procured for the public sector using GoU funds and funding from the Global Fund. During 2009 and 2010, the GoU purchased approximately 8 million treatment courses from QCIL. By mid-2010 the stocks available in the National Medical Stores (NMS) were well below the recommended minimum stock levels, as a result of bottlenecks in procurement through the Global Fund grants (PMI 2010; SURE 2010). The situation improved in the latter half of the year. Ajanta Pharma signed a contract in April 2010 to supply ACTs with funds from the Round 4, Phase II malaria grant. The first tranche of ACTs, totaling 9.4 million treatment courses, was delivered by Ajanta to the NMS and Joint Medical Stores over May-October 2010. In addition, QCIL delivered a consignment of ACTs to the NMS in December 2010 and January 2011. Nevertheless, the December 2010 stock status report shows that the NMS was out of stock of the infant age-band of AL, in spite of the deliveries received from Ajanta in October 2010 (SURE 2010).

There was a gap in placing orders for ACTs in the public sector in early 2011. Following the pre-qualification of QCIL in December 2010, it was expected that Uganda would soon join AMFm. Orders for the public sector were put on hold to take advantage of the cost savings that would arise from the AMFm co-payment. The contract from the Round 4, Phase II malaria grant with Ajanta Pharma for a second tranche of ACTs was eventually cancelled.

Although the amendment to the AMFm host grant was signed on February 10, 2011, the first order was not approved until June 14, 2011. Two explanations for the delay were offered by key informants. First, key informants indicated that there were minor delays as a result of discussions between the NMS, the NMCP and Securing Ugandans' Rights to Essential Medicines (SURE) regarding the appropriate composition of the order. In January 2011, the NMS indicated to the Health Policy Advisory Committee of the MoH that, rather than distribute all four age-bands of AL, it intended to distribute the 24-tablet packages only. They proposed that health workers could cut or divide the 24-tablet packages to the appropriate size, given a patient's weight. This would save space in the NMS warehouses, and simplify logistics. In contrast, the national quantification prepared by SURE calculated treatment needs in terms of the four age-bands, and the NMCP asserted that it was necessary to have all age-bands available in health facilities to ensure appropriate case management. An agreement was reached that the NMS would continue to distribute all age-bands of AL.

Second, key informants indicated that there was a further delay in the approval of the first order resulting from confusion over who would supply ACTs to the public sector. The Ministry of Health initially intended to order nearly 20 million doses of AL from Cipla Limited using QCIL as the first line buyer. It was envisioned that this order would cover the public sector's needs for a period of two years. In the meantime, DFID initiated an emergency procurement of ACTs through AMFm with Crown Agents Uganda as the first line

buyer in response to looming stockouts at the NMS that were expected in May-June 2011. This created concern over the financial implications for QCIL and possible excess stocks in the public sector. An agreement was reached that DFID would make a one-off emergency procurement of pediatric formulations of AL to prevent a gap in stock, and QCIL would supply the remaining stock either as a first line buyer receiving orders from Cipla or a manufacturer.

Key informants reported no further difficulties related to the approval or placing orders of AMFm copaid ACTs for the public sector.

In total, 20.7 million treatment courses of AMFm copaid ACTs were approved and delivered for Uganda's public sector in 2011. The first order of copaid ACTs for the public sector was delivered in July 2011. Eighty percent of the total treatment courses delivered in 2011 had arrived in Uganda by September 1, 2011. The October 1, 2011 Stock Status Report indicated that, based on average monthly consumption, the stock levels of the three pediatric package sizes would last more than 8 months, and stocks of the adult-sized package would last more than three months (SURE 2011). The high volume of ACTs that arrived at the NMS in July and August 2011 for the public sector took up significant space in the NMS warehouses. Receipt of other drug orders had to be rescheduled to accommodate the AMFm ACTs.

Once received by the NMS, copaid ACTs were warehoused and distributed according to standard procedures. Hospitals and Health Center Level IVs place orders according to their needs, while Health Center Level IIs and Health Center Level IIIs receive a standard kit of medicines and other health commodities, including ACTs, approximately every two months. No challenges specific to the public sector distribution of AMFm copaid ACTs were cited by key informants. However, several respondents mentioned the inherent difficulties of determining the appropriate kit contents and quantities in push distribution systems.

Private not-for-profit sector
The Joint Medical Stores (JMS) is the primary procurement body for the private not-for-profit sector, particularly faith-based health facilities. Prior to AMFm, the JMS received stocks from two main sources: donors (such as PMI and the Global Fund) and stocks purchased with JMS funds directly from manufacturers. Stocks received from funders are provided free of charge to private not-for-profit health facilities, whereas stocks purchased with JMS funds are sold at an 18% markup. While donated stocks are reserved for private not-for-profit providers, all registered outlets may purchase the medicines bought with JMS resources. All stocks are stored centrally in warehouses in Kampala. Clients must arrange pick-up or delivery, as the JMS does not distribute products.

Similar to the public sector, stocks of AL were very low at the JMS in the first half of 2010. By the end of June, 2010, the JMS was completely out of stock of three of the four age-bands of AL, and only had 17 packages of the18-tablet package size in stock (SURE 2011). The JMS received part of the Global Fund Round 4, Phase II order that was delivered by Ajanta in the third quarter of 2011, which improved the level of stock. In April and May 2011, 2.1

million treatments of AL procured by PMI were delivered to the JMS, and 1.5 million treatments of AL procured by DFID were delivered in August and September 2011.

As of January 2012, there were three registered first line buyers from Uganda's not-for-profit sector. By the end of 2011, two of the private not-for-profit first line buyers had placed a total of four orders for AMFm copaid ACTs. The first orders for the private not-for-profit outlets arrived in Uganda in July 2011. A total of 1.1 million treatments were ordered and 0.6 million treatments were delivered by the end of 2011.

The JMS sold AMFm copaid ACTs with a markup of 18%. The JMS selling price for a 24-tablet package of copaid AL was reportedly USD 0.24.[15] The JMS manages their stock based on the principal of First In, First Out. They lowered the price of their existing stocks of AL to the same prices as the AMFm copaid ACTs to ensure that they could exhaust their stocks of antimalarials that were previously purchased at a higher price. Antimalarials donated to the JMS at no cost were still provided to private not-for-profit facilities free of charge.

The process of placing and receiving orders for the private not-for-profit sector was described as straightforward. Both first line buyers had a pre-existing relationship with Cipla, which facilitated orders. The second order placed by the JMS was delayed by 134 days from the date that the order was approved by the Global Fund to the date of delivery to the first port of entry. However, the JMS was notified by the manufacturer in advance that the order would likely be delayed. In spite of the delay receiving the second order, the JMS was reported to have good stock levels in the last quarter of 2011 due to stocks remaining from orders recieved in mid-2011 from PMI and DFID (SURE 2012).

Private for-profit sector
By January 2012, nine private for-profit first line buyers had registered to participate in AMFm, with four first line buyers placing orders from four manufacturers by the end of 2011. In total, 15 orders for a total of 7.9 million treatment courses were approved in 2011, and 6.9 million treatment courses were delivered by the end of the year.

No major issues related to registering as first line buyers or placing orders were reported. The first line buyers that had placed orders had pre-existing relationships with the manufacturer from which they ordered copaid ACTs. As of December 2011, there was a 1:1 relationship between first line buyers and manufacturers. In some cases, the first line buyer was the Local Technical Representative (LTR) for the manufacturer's AMFm ACTs. This likely facilitated orders, because according to national regulations the LTR is required to approve all orders. Nevertheless, in the cases where the first line buyer was not the LTR for the AMFm copaid product that they ordered, interviewed first line buyers explained that the LTR always approved the order quickly. Some first line buyers expressed dissatisfaction that, as a result of the 1:1 relationship, they were unable to purchase stocks of copaid ACTs from the

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[15] The exchange rate used was the average interbank exchange rate for 2011 Ugandan Shilling 2,337 to the USD.

manufacturer of their choice. They suggested that this reduced competition among first line buyers, and might also reduce availability.

Ordered copaid ACTs cleared Ugandan customs smoothly. The National Drug Authority (NDA) was briefed on AMFm in advance. There was some initial confusion on whether the 2% clearance fee would be charged on the full value or the subsidized value of drugs imported through AMFm. This appears to have been resolved prior to any AMFm copaid ACTs arriving in Uganda. AMFm copaid ACTs cleared customs in 1-2 days.

Challenges related to receiving orders were noted. Some first line buyers reported that their orders were delayed or cut. Many first line buyers thought that Uganda was at a disadvantage compared with other countries, as a result of joining AMFm late. They felt that the participating manufacturers were already overloaded with orders by the time Ugandan first line buyers were permitted to place orders. As a result of delays in receiving orders, some first line buyers indicated that they experienced stockouts of all or some age-bands in between orders

With regards to distribution, AMFm copaid ACTs were distributed through the first line buyers' normal distribution chain. Some first line buyers noted that initially the uptake of copaid ACTs was very slow, due to existing stocks of ACTs in the supply chain. This backlog took 1-3 months to clear, after which demand for the copaid ACTs increased. The first line buyers were unanimous that sales volumes had the potential to increase dramatically. In particular, all respondents thought that a national-scale communications campaign would likely lower prices and increase demand for AMFm copaid products. Other first line buyers thought that there was scope to increase orders through direct distribution (sometime referred to as van-selling). The First-Line Buyers Working Group sought permission from the NDA to permit direct-distribution of AMFm copaid ACTs. At the time of the interviews, the NDA had not yet decided whether they would permit this.

4.7.2   Implementation of AMFm Supporting Interventions

The amendment to the AMFm host grant included a budget of USD 28.6 million for supporting interventions. Major planned activities included USD 16.8 million for the procurement and scale-up of RDTs in the public sector in 22 districts; USD 4.3 million for provider training, supervision and monitoring; and USD 3.1 million for public awareness and communications activities. However, implementation of the AMFm supporting interventions had not yet started by the end of data collection for the endline Outlet Survey. Although interim supporting interventions were initiated, key informants were unanimous that these stop-gap activities were inadequate.

The AMFm supporting interventions were stalled as a result of delays disbursing the first tranche of funds for supporting intervention activities. The Round 4, Phase II grant, which hosts AMFm, has had performance problems in the past. In 2009, the performance of the

grant was rated as a C, the lowest possible rating. The performance rating has since improved. Nevertheless, special conditions were specified in the grant amendment letter, as a result of these performance issues. The PR was required to fulfill reporting requirements before funds were disbursed. The Progress Update and Disbursement Request was submitted to the Global Fund on June 27, 2011, and the first disbursement for USD 5.6 million was disbursed to the Ministry of Finance, Planning and Economic Development in November 2011. Prior to the arrival of the disbursement, considerable effort was made to initiate the process to select the SSRs that would deliver services, like information, education and communication (IEC) and training activities, but no funds had been spent by the end of 2011.

4.7.2.1 National Launch

A national launch was held on April 29, 2011 in Buliisa District, as part of World Malaria Day celebrations. The vice president officiated at the ceremonies. The event was well-attended and garnered some coverage in national and regional newspapers and television programs.

Key informants had mixed views on the impact of the national launch. Some respondents expressed concern that the national launch was held too early, as only small quantities of copaid ACTs had arrived in Uganda. Others remarked that Buliisa District was too remote for the launch, and that the launch would have received better coverage if it were held in Kampala or another large town. Many suggested that the media coverage of the launch was overshadowed by violent demonstrations that took place in Kampala on that same day.

4.7.2.2 Communications activities

All respondents were unanimous in their concern that the absence of scaled AMFm communication activities was hindering the project's implementation. At the time of the case study interviews, all respondents felt that public awareness about AMFm was very low. Most key informants speculated that the prices of AMFm copaid ACTs were likely to be higher than target levels in most private-for-profit outlets. In the absence of marketing, low prices were likely to be perceived as a signal of low quality. Key informants thought that shopkeepers would keep the price of AMFm copaid ACTs at similar levels as other ACTs to avoid perceptions that they are selling low-quality products.

A small-scale marketing campaign, referred to as AMFm pre-disbursement marketing was instigated as a stop-gap measure while waiting for Global Fund monies designated for IEC/BCC purposes. Support was raised from multiple partners. MMV donated USD 80,000 to fund radio spots, CHAI contributed USD 15,000 for the design and translation of marketing materials, while PACE produced the ratio spots, the Malaria Consortium contributed to the graphic design and World Vision played a role in dissemination. Another USD 6,800 was contributed by CHAI, Surgipharm, QCL and Philips Pharma to print point-of-sale materials, although no materials were printed by the end of 2011. Over a three month period, 9,000 radio spots advertised that the AMFm copaid antimalarials were rolled out.

Uganda's experience with the Consortium for ACT Private Sector Subsidy (CAPSS) project, which distributed subsidized ACTs bearing a green-leaf logo in drug shops, facilitated the pre-disbursement marketing activities. Materials produced for CAPSS were updated with ease.

In addition, some implementing partners used existing platforms to publicize AMFm. For example, Malaria and Childhood Illness NGO Secretariat (MACIS) used their bi-annual newsletter to disseminate information about AMFm.

The participating first line buyers were also actively promoting copaid ACTs. Some interviewed first line buyers either printed their own point-of-sale materials, or used posters or other promotional items provided by the manufacturer.

Nevertheless, most respondents felt that the scale of the pre-disbursement marketing activities was too small to have a significant impact on awareness of AMFm.

Recommended retail prices

RRPs were set by the AMFm Task Force, in consultation with the Manufacturers and First-Line Buyers Working Group. RRPs were established for each age-band of AL and artesunate-amodiaquine (Table 4.7.1). The price was set to factor in costs and "reasonable" markups for importers, wholesalers and retailers. The RRPs in nearby countries, namely Kenya and Tanzania, were taken into consideration when setting the RRP for Uganda.

Table 4.7.1 Recommended retail prices for AMFm copaid ACTs in 2010 US dollars					
Artemether + Lumefantrine			*Artesunate + Amodiaquine*		
Pack size	RRP (Ush)	RRP (USD)	Pack size	RRP (Ush)	RRP (USD)
6x1	300	0.12	25/67.5mg 3x1	200	0.08
6x2	600	0.23	50/135mg 3x1	400	0.16
6x3	900	0.35	100/270mg 3x1	600	0.23
6x4	1200	0.47	100/270mg 3x2	800	0.31

While the RRPs were generally perceived to be appropriate, most respondents thought awareness of the recommendations was poor. Prices were printed on some point-of-sale and other promotional materials, but not on medicine packaging. Adherence to the recommended prices was thought to be low among retailers and wholesalers. Many first line buyers

expressed frustration over the lack of adherence to recommended prices, as they believe that high prices were limiting uptake of copaid ACTs.

Other supporting interventions
No other AMFm supporting interventions took place prior to the end of endline data Outlet Survey data collection.

4.7.2.3 Implementation of other interventions with potential implications for AMFm outcomes

The kit-based drug supply system
The introduction of the kit-based supply system in mid-2011 is widely believed to have improved the availability of essential medicines in Level II and Level III Health Centers. Under the kit-based system, each Level II and Level III Health Center receives a standard kit of drugs and commodities. Facilities are supposed to receive the kits bimonthly, the composition of which is determined by the facility type. Previously Hospitals and Health Centers at all levels ordered essential medicines from a budget line at the NMS. An assessment of the kit-based system conducted six months after national implementation found that the number of days out of stock of five tracer medicines decreased by 30% in Health Center IIs and 74% in Health Center IIIs (MOH, 2011a).

Recent refinements to the kit-based system might have further improved availability in public health facilities. The standard kit is revised every six months. Health facilities are now also able to adjust the quantities of drugs they receive by writing to the District Health Officer, copying the NMS. This allows the kit to be customized to the needs of the health facility, and could help prevent stockouts of ACTs in health facilities with large catchment populations or high burden of malaria. In April 2011, the NMS introduced last-mile delivery to Level II Health Centers and Level III Health Centers. Many stakeholders believe that this will improve delivery schedules and prevent bottlenecks in the distribution system.

Integrated Community Case Management (ICCM)
Since 2010, ICCM has used voluntary Village Health Teams (VHTs) to provide care for children under five years for malaria, diarrhea, pneumonia and neonatal care. VHTs receive training and are supplied with ACTs and other health commodities. VHTs have been trained and are currently receiving supplies in 24 of 112 districts. VHTs receive standard supply kits through a push system supported by the district health officer.

Implementation of RDTs in the public and private not-for-profit sector
Workers in public health facilities in 21 districts were trained on the effective use of RDTs in malaria case management in December 2010 and January 2011. Stocks of RDTs for these 21 districts were planned to be procured as part of the AMFm supporting interventions. As this procurement had not taken place by the end of 2011, the RDT training was unlikely to have decreased ACT use in the participating districts.

PMI has supported the procurement of RDTs for private not-for profit health facilities. These are distributed through the Joint Medical Stores.

Consortium for ACT Private Sector Subsidy (CAPSS)
In 2008-2010, the CAPSS project, led by the Ministry of Health Uganda and Medicines for Malaria Venture (MMV), piloted the distribution of subsidized ACTs through the private sector in four districts (Budaka, Pallisa, Kaliro and Kamuli). The pilot distributed 1.1 million doses of subsidized ACTs, which continued to be supplied until 2011 as a bridge until the AMFm copaid drugs arrived in Uganda. The ACT distributed through CAPSS was Coartem (AL) repackaged with a green leaf logo that was the prototype for the AMFm logo. The CAPSS project used RRPs, which ranged from 200-800 Ush. The RRPs were communicated in the mass-marketing campaign that accompanied the project, and they were printed on the packages. It is likely that stock of the CAPSS-subsidized ACTs remained in the market at the time of the baseline and possibly the endline outlet surveys in Uganda. Uganda's participation in CAPSS was thought to have contributed to the country's preparedness for AMFm.

In late 2011, MMV launched CAPSS Plus, which introduced RDTs and respiratory timers into private drug shops in the four intervention districts. Both CAPSS and CAPSS Plus included a strong training component.

Other important interventions
Other important malaria control interventions that rolled out during this period were the mass distribution of 7.3 million Long Lasting Insecticidal Nets (LLINs) targeted to pregnant women and children under five years in March-June 2010 and the long-standing PMI-supported Indoor Residual Spraying program in 10 districts.

In addition, ACTs were granted over-the-counter (OTC) status by the Committee of National Formularies. This permits registered drug shops and VHTs to sell and distribute ACTs. At the time of the key informant interviews, a statutory instrument granting ACTs OTC status was still required. In the interim, the NDA provided a formal letter to the MOH granting permission for the ACTs to be distributed as OTC products. The budget for the AMFm supporting interventions included provisions to support the implementation of this regulatory change, but no funds had been spent by the end of 2011.

4.7.3   Key events and context

The main contextual factor raised by key informants was the rapid depreciation of the Ugandan Shilling against the US dollar. On January 1, 2009, 1 US dollar was worth 1,944 Ugandan Shillings, but by October 2011, this had depreciated to 2,830 Ush per USD. The exchange rate recovered slightly by the end of the year. Respondents thought that the currency fluctuations were contributing to inflation, which affected the purchasing power of Ugandan households. Stakeholders thought that this could reduce the demand for all

antimalarials in the private sector.

4.7.4 Conclusion

Table 4.7.2 summarizes key factors likely to have facilitated or hindered achievement of AMFm goals and Figure 4.7.1 presents a timeline of all key events related to AMFm implementation and context.

In spite of Uganda's late start in participating in AMFm, significant quantities of copaid ACTs had arrived in Uganda by the end of 2011. A total of 28,226,700 treatment courses were delivered over 8 months in 2011. The vast majority of copaid ACTs delivered were destined for the public sector (73.4%), while 24.5% were for the private-for-profit sector and 2.1% were for the private-not-for profit sector. Implementation of AMFm was hindered by the delayed start of the supporting interventions. Public awareness of AMFm was thought to be low, as was adherence to the RRP. Implementation of the supporting interventions, particularly national-scale communications activities, would have likely increased demand for AMFm copaid ACTs.

Table 4.7.2: Summary of key factors likely to have supported or hindered achievement of AMFm goals in Uganda)	
Factors which are likely to have supported achievement of AMFm goals	**Factors which are likely to have hindered achievement of AMFm goals**
• Smooth process for registration of FLBs and ordering copaid ACTs in the private sector • Promotional activities by FLBs • Inclusion of RRP on marketing materials • Use of green leaf logo • Improvement of logistics in the public sector pharmaceutical distribution chain • Preparedness for a private sector ACT subsidy as a result of the CAPSS pilot • FLB commitment to honoring recommended prices	• Late start • No supporting interventions implemented by end of 2011 • Lack of RRP on drug packaging • Limited number of FLB-manufacturer relationships established

Figure 4.7.1: **Timeline of key events related to AMFm implementation process and context Uganda**

Activity	2010							2011											
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AMFm grants and orders																			
AMFm grant amendment signed									■										
Private for-profit sector orders of copaid ACTs approved by Global Fund										■	■	■		■		■		■	
Private for-profit sector copaid ACTs delivered to Uganda											■		■		■		■	■	
Public sector orders of copaid ACTs approved by Global Fund											■	■							
Public sector copaid ACTs delivered to Uganda																			■
Private not-for-profit sector orders approved by Global Fund										■			■				■		
Private not-for-profit copaid ACTs delivered to Uganda													■		■		■		■
Other ACT procurements for the public sector																			
9.4 million treatments of AL delivered from Ajanta Pharma		■	■	■	■														
3.3 million treatments of AL delivered from QCIL							■	■											
Other ACT procurement for the private not-for-profit sector																			
PMI funded delivery to JMS											■	■							
DFID funded delivery to JMS														■	■				
AMFm supporting interventions																			
PUDR for supporting interventions submitted													■						
Disbursement received by Ministry of Finance																		■	
National Launch											■								
Pre-disbursement marketing activities: radio spots														■	■				
Pre-disbursement marketing activities: point-of-sale materials															■	■	■		
Non-AMFm interventions																			
Introduction of the kit-based supply system	■																		
Introduction of last-mile delivery											■								
Training of public sector health workers on RDTs in 21 districts						■	■												
Delivery of RDTs purchased by PMI for PNFP facilities											■								
Mass distribution of LLINs	■	■																	
CAPSS[16]																			
CAPSS Plus																■	■	■	■
Research Activities																			
Baseline IE outlet survey data collection						■	■												
Endline IE outlet survey data collection																		■	■
HAI price tracking surveys													■		■	■	■	■	

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[16] Although CAPSS officially ended in June 2010, MMV continued to supply subsidised ACTs to the intervention districts until the arrival of AMFm drugs.

4.8   *Zanzibar*

4.8.1   AMFm implementation process

Zanzibar's AMFm application was approved in November 2009. In November 2010, the Government of Zanzibar signed a two-year grant with the Global Fund to implement AMFm Phase 1. In 2010, the Principal Recipient (PR), the Ministry of Health and Social Welfare (MoHSW), signed an amendment to the host Global Fund Round 8 grant of Euro 426,968 to implement Phase 1 of AMFm. The country officially launched AMFm on June 23, 2011, with a national-level marketing campaign for copaid ACTs.

4.8.1.1 Governance structure for AMFm in Zanzibar

The AMFm governance structure in Zanzibar was established to advise the Zanzibar National Malaria Control Program (ZMCP) during AMFm implementation. The AMFm governance structure is made up of an AMFm Coordination Body and Task Force Team that include representatives from government, the private sector, implementation partners, civil society and donors. The Coordination Body meets quarterly while the Task Force Team can meet at any time, if required. The most recent meeting before the beginning of the country case study was held on September 29, 2011. In addition, a Marketing Working Group that includes implementation partners and the ZMCP was established to support behavior change communication and social marketing activities under AMFm. One of its first major tasks was the marketing campaign that started in June 2011 with the official launch event. The governance structure has been very active and instrumental in the smooth implementation of the AMFm program in Zanzibar.

Selection and registration of first line buyers

In the public sector, the Ministry of Health (through the ZMCP) is the FLB responsible for forecasting, quantification and procurement of all drugs, including copaid ACTs. The Central Medical Store (CMS) is responsible for storage and distribution of all drugs, including the copaid ACTs.

In the private sector, the selection process was very transparent. The Pharmaceutical Association in the private sector was informed about the project and asked to select only one first line buyer (FLB) given the small size of the population and the low level of malaria prevalence (<1%). Given the perceived small profit margin, not many wholesalers were interested. They unanimously decided to nominate Izmir Pharmacy, because the owner was the only business owner with background training in pharmacy. The decision of the association was then communicated to the AMFm Coordination Body and Task Force, which communicated the name

to the Global Fund for approval. After approval, the Global Fund sent the terms of the agreement to the FLB for signature in April 2010.

According to key informants, the registration process of the FLB was smooth. It involved filling out a number of forms and getting approval from the Global Fund. The private sector was engaged from the beginning when the proposal for AMFm was being prepared.

Ordering and delivery of AMFm copaid ACTs

- **Public sector**

The public sector procurement process in Zanzibar is based on Voluntary Pool Procurement, which requires the Global Fund to facilitate the whole process of the procurement. Medicines are procured by the Global Fund after receiving and approving a request, and the medicines are then sent to the country. Sanofi-Aventis and Novartis (manufacturers) are the main suppliers for Zanzibar. The public sector placed an order for 91,075 treatment doses (2,450 of 25/67.5 mg for infants, 43,350 of 50/135 mg for children and 45,275 of 100/270 mg for adults), which were delivered on September 29, 2011. The interval between the request date and the delivery date was 60 days.

The quantification of ACTs in the public sector is done using the Zanzibar Integrated Logistics System (ZILS), which is a form that collects stock and sales information from health facilities across Zanzibar. This tool helps in understanding the trends in distribution and provides better quantification of supply needs. Other factors such as climate, seasons and locations are all taken into account in the quantification.

- **Private sector**

The private sector uses a different procurement system. The FLB places the order with required quantities directly with the suppliers, who request approval from the Global Fund. When the order is approved by the Global Fund, the FLB is asked to pay its share of the co-payment. The shipment process only starts after the FLB has paid its share.

Izmir Pharmacy received the first consignment of copaid ACTs on April 21, 2011, totaling 110,000 ASAQ FDC treatment doses from Sanofi-Aventis. On April 29, 2011, an additional order for 40,000 ASAQ doses was received. At the time of the country case study (November 2011), a total of 200,000 doses of copaid ACTs had been ordered and of these, 150,000 had been delivered (15,000 of 25 mg/67.5 mg, 15,000 of 50 mg/135 mg and 120,000 of 100 mg/270 mg). Izmir signed an agreement with Novartis to begin procuring AL (the second alternative for first-line treatment for uncomplicated malaria in Zanzibar) with the plan to purchase 150,000 doses per year. Under this agreement, an order for 50,000 AL doses was placed in June 2011, but the

order was rejected by the Global Fund with the justification that this quantity was not needed due to the low incidence of malaria in Zanzibar.

In the private sector, there is no clear framework for quantifying need for copaid ACTs. The FLB determines order quantities based on previous experience with sales of antimalarials and the projected demand for these commodities along their distribution networks.

Customs clearance of AMFm copaid ACTs

When consignments arrive at the customs office, the ZFDB performs drug quality tests on a sample of the copaid ACTs to ensure that the quality of the drug is in compliance with the requirements of Zanzibar. The test process is simple and takes two days on average to obtain the full results. No quality issues were reported; hence, both the private and public sectors were able to clear the copaid ACTs in 2-3 days after arrival of the drugs.

There are no taxes imposed on all medicines, including AMFm products, in Zanzibar. However, there are charges for storage, documentation and clearance. These charges depend on the size of the cargo. Storage charges of USD 20 start after seven days if the goods have not yet cleared. The average cost for documentation, releasing, handing and destuffing (unloading containers) is about USD 150. Other costs, such as costs for transportation and porters, are negotiable depending on the size of the cargo.

Distribution of AMFm copaid ACTs

The distribution process is different for the public and private sectors. In the private sector, the distribution is more demand oriented. Once the FLB has received and cleared the orders, the drugs are immediately sent to distribution points/stores for other wholesalers or retailers to purchase the drugs. The FLB has a list of 300 wholesalers and 450 retailers who are immediately (the same or next day) informed about the arrival of the copaid ACTs and the price.

In the public sector, there is a progressive shift from a push to pull system which is being tested in 19 health facilities. At the time of the study, the distribution was based on the push system. The CMS is responsible for the distribution. Quarterly, CMS delivers all allocated commodities (including copaid ACTs) to each district and then directly to the facilities. It takes a maximum of one week for drugs to reach the various health facilities. The longest time is in some districts where the health facilities are scattered. To ensure proper distribution of the malaria commodities, the ZMCP contributes to the CMS 6% of the total cost of the stored commodities for storage, distribution and monitoring costs.

In the public sector, stockouts of ACTs were experienced in a few facilities (no exact number was provided) for two months (August-September 2011). This was due to non-availability of

ACTs at the CMS because of a delay in procurement. Although the CMS distributes commodities quarterly, CMS can immediately make a special delivery if a stockout is reported. Because of the small size of Zanzibar, requests are delivered without delay.

The proper distribution of drugs in Zanzibar has been affected by challenges in record keeping. In the public sector, there are gaps in data reported on the prescription and dispensing of medicine, and this problem is worse in the private sector. This situation makes it difficult to have proper quantification of copaid ACTs needed.

There are some remote areas that are difficult to reach, especially during the rainy season. Out of the 149 health facilities, 24 are considered to be in hard-to-reach areas. However, using alternative means of transport such as small boats and motorbikes, these areas are supplied with commodities, including copaid ACTs.

4.8.2 Implementation of AMFm supporting interventions

4.8.2.1 Communication

AMFm launch

The official launch of AMFm took place on June 23, 2011. The launch activities included a guest of honor speech by the Minister of Health, a meeting with pharmaceutical wholesalers and retailer and distribution partners, and activities that involved district and community members.

IEC/BCC activities

A public awareness campaign using electronic and print media and supported by community-based mobilization activities has been successfully implemented. The campaign's key messages were on the availability and affordability of ACTs as the most effective treatment for malaria. A key supporting intervention in Zanzibar was the national IEC/BCC and social marketing campaign.

After the launch, marketing campaigns to create awareness on the availability and price of copaid ACTs among the community and health workers through media (i.e., live programs and radio and TV advertisements) commenced in the second week of July 2011. These activities were ongoing at the time of the country case study in November 2011. Community meetings at the *shehia* level (the lowest level of the government administrative structure) were conducted in all 10 districts of Zanzibar from August-September 2011 to create further awareness. A second phase of the post-launch marketing campaign was planned to start in December 2011 with a focus on diagnostics and the rational use of medicines, price monitoring (among private sector pharmaceutical dealers) and increasing accessibility to remote areas.

A budget was put in place for IEC/BCC activities in three phases. The first phase was for all marketing materials to make the public more aware of the program. The second phase had just started at the time of the country case study in November 2011. The second phase focused on affordability, high quality and correcting the belief that cheap drugs are associated with low/poor quality (price stigma). The third phase, which was in the planning stage at the time of the country case study, will focus on the need for diagnosis before treatment with ACTs.

4.8.2.2 Recommended retail price

In the public sector, copaid ACTs are provided for free to patients, while in the private sector the recommended prices for a treatment are 1,000 TSH for an adult dose and 800 TSH for a child's dose. An assessment performed using mystery shoppers in August 2011 revealed that the recommended prices are being followed. Out of the 39 outlets with copaid ACTs in stock at the time of the survey, only one shop/outlet exceeded the recommended price. In two districts, the price of copaids ACT was the same for all the dosages.

The prices were considered reasonable and affordable for most, and no issue was observed in the application of the recommended prices. However, some retailers from the private sector would have preferred a higher resale price for higher profit margins.

4.8.2.3 Training

At the time of this country case study in November 2011, key informants reported some training activities planned for the near future; one of them was the training of health care workers on product distribution and storage, supported by the Global Fund.

In the private sector, it was reported that about 75 health providers were trained on drugs and adverse effects. The training was divided into three groups of 25 participants each in October and November 2011.

In addition, training for pharmacists on monitoring and evaluation was ongoing at the time of this study. Out of the 20 pharmacies in Zanzibar, 13 were reported to be represented. The training focuses on the tracking tools that will be used and monthly reporting. The ZMCP also plans to start training pharmacists and other health care workers on diagnosis and selling based on the prescriptions. One of the challenges reported was the lack of funding to do more extensive training, especially because it was not included in the initial budget.

4.8.2.4 Other AMFm supporting interventions

Regulatory interventions

Despite the official ban on oral artemisinin monotherapies, the drugs still exists in Zanzibar. Key informants blame their presence on suppliers from mainland Tanzania. To enforce the ban, the ZFDB has performed regular inspections of private drug outlets. Illegal (banned) drugs found in stock are confiscated and the owner of the outlet is given a warning. The outlet can be closed if the offense is repeated. However, no important violations regarding antimalarials were reported during the period of the evaluation.

Some regulatory activities were implemented within the framework of AMFm. The AMFm Coordination Body and Task Force worked with the ZFDB to impose new by-laws banning the importation of artemisinin monotherapies. All the pharmaceutical importers, distributors and retailers were notified by ZFDB about the new by-laws in June 2011. Two months later, in August, a mystery shopper exercise was conducted and results indicated that a few outlets were still stocking artemisinin monotherapies. The ZFDB is working to ensure that stock available on the shelves is phased out gradually since no further importation will be allowed. ZFDB and ZMCP are working together to monitor the price and accessibility of copaid ACTs in the private sector with regular inspections.

Each quarter, ZMCP and ZFDB team up to sample around 10 formal outlets per district, consisting of a mix of pharmacies, Over-The-Counter (OTCs) shops and private clinics on Unguja and Pemba Islands to assess the availability of ACTm (copaid ACTs), the availability of non-ACT antimalarials and prices of copaid ACTs. According to the August 2011 report, overall availability of any antimalarials was 75% and availability of ACTm drugs was 61%. Out of the 100 outlets sampled, 39 outlets had subsidized ACTs with the ACTm logo. The availability of copaid ACTs varied across districts, from 9% in Micheweni to 87% in Zanzibar urban district.

Malaria diagnosis

The malaria diagnosis policy recommends parasitological confirmation of malaria before treatment. To ensure that the recommendation is followed by health workers, the ZMCP performs Rapid Diagnosis Test (RDT) supervision at the district level monthly. The main aim of the district visit is to reinforce good and timely collection of data, and best practices in laboratory activities and performance and in storage and record keeping. A team of laboratory supervisors from 10 districts in Zanzibar supervise the health facilities within their respective districts. During supervision, monthly data on RDT diagnosis are collected. Some of the challenges encountered are due to delayed distribution of RDTs by CMS and the lack of trained laboratory staff on RDT quality control, which contributes to low testing rates in most of the public health facilities.

One of the challenges reported is that it is hard to get clear and accurate statistics on testing from all health facilities. There are instances reported of patients with a negative malaria test still being given ACTs and getting better. This situation could promote misuse of ACTs.

Pharmacovigilance

Awareness is being created through training of medical and paramedical officers on how to report adverse drug reactions (ADR) to the relevant authority. Yellow health cards were distributed throughout public and private health facilities in urban, city urban, peri-urban and critical areas for recording and reporting ADRs. In the private sector, 75 health providers were trained on where to report and what to report in three groups of 25 participants in October and November 2011.

The ZFDB and ZMCP also provided pharmacovigilance training for public health workers in Unguja and Pemba in February 2011. This knowledge helped the workers in different health facilities to recognize and report ADR.

The Pharmacovigilance Unit (PV-Unit) conducts supervision and monitoring after training. A team of supervisors visits public health facilities and collects all ADR forms in order to review the accuracy of reported cases. Supervisors conduct on the job training for health workers on how to identify ADRs and correctly complete the forms. Health care workers are reminded to report all suspected cases in a timely manner.

There are challenges in enforcing the established regulations. Assessments need to be set up to monitor these procedures. It is planned that once the funds are available, such studies and assessments will be done. Inspections are currently underway.

Research

No major research was conducted independently during the evaluation period. However, the ZMCP and the ZFDB performed ongoing activities to monitor availability, stockouts, prices and the quality of ACTs. These monitoring activities provided valuable information for the AMFm program. For example, the mystery shopper exercise conducted during the same period demonstrated that all the outlets were in compliance with the recommended price for copaid ACTs.

Other operational research studies on the introduction of RDTs and Knowledge, Aptitude and Practice were in the planning phase at the time of the country case study.

4.8.3 Key events and context

There were no key events that are likely to have affected AMFm implementation reported at the time of this evaluation. The presidential election took place in October 2011, but it did not affect the implementation of AMFm according to key informants. No abnormal rainfall was reported during the evaluation period.

Regarding other malaria control interventions, the Global Fund and USAID are supporting the scaling up of malaria diagnosis through the procurement and distribution of RDTs and strengthening the quality of microscopy services. Since 2009, 8 million RDTs and 110 microscopes have been procured and distributed, supported by relevant training of health workers. However, the quantities of RDTs procured over the period were insufficient to ensure full coverage of public sector health facilities.

4.8.4 Conclusion

Table 4.8.1 summarizes key factors likely to have facilitated or hindered achievement of AMFm goals in Zanzibar and Figure 4.8.1 presents a timeline of all key events related to AMFm implementation and context.

Overall, the implementation of AMFm in Zanzibar has gone well, with smooth registration and drug ordering and distribution processes. The AMFm Coordination Body and the Task Force Team put in place are functional and very active in pushing AMFm-related activities and resolving bottlenecks. The supporting interventions were also fairly well implemented, with island-wide public awareness activities starting with the official launch of AMFm, which involved all the key stakeholders, followed by continuous sensitization on ACTs through various media. Regulatory enforcement activities have been implemented and the ZFDB, in collaboration with the ZMCP, is monitoring them. Some training activities were implemented, but some were delayed and scheduled to take place in December 2011. There were no key events that may have affected the AMFm implementation reported at the time of this evaluation. No abnormal rainfall was reported during the evaluation period.

Table 4.8.1: Summary of key factors likely to have supported or hindered achievement of AMFm goals in Zanzibar

Factors which are likely to have supported achievement of AMFm goals	Factors which are likely to have hindered achievement of AMFm goals
• Only one first line buyer • Creation of the AMFm Coordination Body and Task Force Team, which were functional and included all sectors • Private sector engagement activities • Smooth registration process for FLBs • Public awareness campaign starting with the official AMFm launch, involving all key stakeholders • Smooth customs clearance of copaid ACTs with the cost waived • Continuous public awareness about copaids ACTs • Continuous monitoring of availability, price and quality of copaid ACT by ZMCP and ZFDB • Ban on AMTs and enforcement of the ban bylaw • Enforcement and support for diagnostic tests • Good distribution mechanism in the private and public sectors • Small size of Zanzibar and its population	• No proper quantification of ACTs in the public and private sectors • Push system for the distribution of copaid ACTs in the public sector • Delays in most of the training planned by the ZFDB due to a lack of funding • No interaction between FLBs in Zanzibar and Tanzania mainland • Low prevalence of malaria in Zanzibar so that the private sector may not have a business incentive for stocking copaid ACTs because of low demand • Concern about the profit margin from the private sector

Figure 4.8.1: Timeline of key events related to AMFm implementation process and context in Zanzibar

Activity	2009 Nov	2010 Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	2011 May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AMFm grants and orders																						
AMFm application approved	X																					
AMFm grant signed									X													
FLB agreement signed with Global Fund		X																				
Private sector placed order for copaid ACTs												X										
Delivery of private sector copaid ACTs*														X								
Public sector placed order for copaid ACTs																	X					
Delivery of public sector copaid ACTs																			X			
Distribution of copaid ACTs – private															X	X	X	X	X	X	X	X
Distribution of copaid ACTs – public																				X	X	X
AMFm supporting interventions																						
AMFm coordinating committee meetings												X				X			X			X
Ban notification on monotherapies																X						
National launch																X						
Monitoring of RDT use																	X	X	X			
Regional district meetings																		X				
Public awareness media campaign															X	X	X	X	X	X	X	X
Training public sector health workers																			X	X		
Training pharmacists																						X
Non-AMFm interventions																						
Free distribution campaign for LLINs (to start in December 2011)																						X
Research Activities																						
Baseline IE outlet survey data collection							X	X														
Endline IE outlet survey data collection																				X	X	
IE country case study																					X	
Mystery Shopper Exercise																	X					

* The first drugs arrived in Zanzibar on April 21, 2011

5 Results from the remote area study

It should be noted that, although the estimates for remote areas are presented in the tables side by side with the ones for non-remote areas, the main purpose is not to compare the two types of location, especially since there are no benchmarks for comparing these areas. Ideally, as implied in the TERG recommendation, we would have preferred to have baseline data to allow the estimation of changes in remote areas over time. However, the remote area studies were added to the Independent Evaluation several months after the baseline outlet surveys had been completed and the AMFm intervention had started. Using the definition of remote areas, we did not find a sufficient number of remote area clusters in the baseline data to calculate reliable baseline estimates. This situation limits our ability to assess changes between baseline and endline in the remote areas. Therefore, the description of the results is focused on the remote areas, but with reference to baseline data from rural areas when applicable. This is not to say that rural areas are equivalent to remote areas; however, we can safely assume that the estimates of availability in remote areas at baseline are likely to have been no higher than (and probably lower than) the estimates for all rural areas combined.

5.1 Description of the sample

Table 5.1.1 presents the breakdown of the sample by outlets enumerated and outlets with antimalarials in stock at the time of the survey in remote areas, and Table 5.1.2 presents the distribution of the outlets by the outcome of the interview. In Ghana, interviews were conducted in all 164 outlets that met the screening criteria, and 91% of those outlets were reported to have antimalarials in stock. An additional 9% had antimalarials in stock at some time in the past three months even though they were not in stock at the time of the survey. In Kenya, a much larger number of outlets was enumerated overall (4,244) because in contrast to the case of Ghana, a broader grouping of outlets was classified as having the potential to sell antimalarials and thus was included in the census. For example, general retailers were systematically enumerated in Kenya but not Ghana. Of the 3,241 outlets screened in Kenya, only 14% (468) met the screening criteria and had interviews conducted. Eighty-five percent of the outlets in which interviews were conducted reported that they had antimalarials in stock at the time of the survey.

Table 5.1.3 presents the distribution of the outlets enumerated by type of outlet. In both Ghana and Kenya, the majority of the outlets enumerated were from the private for-profit sector—67% (148 out of 221) in Ghana and 90% (3,836 out of 4,244) in Kenya. Community health workers were the second most common type of outlet in both countries, although there were almost as many public health facilities as community health workers in Ghana. Private not-for-profit outlets were nearly nonexistent in remote areas in Ghana (4), and there were very few in Kenya (19).

Table 5.1.4 presents the distribution of outlets with antimalarials in stock at the time of the survey. Of the 149 outlets with antimalarials in Ghana, almost two-thirds (97) were private for-

profit outlets and about one-sixth (26) were public health facilities. A similar pattern was observed in Kenya, where private for-profit sector outlets represented 83% (328) of all outlets with antimalarials, followed by public health facilities. In contrast to Ghana, where 22 community health workers (CHW) had antimalarials in stock, in Kenya only 1 CHW reported having antimalarials in stock.

Table 5.1.1: Number of remote area outlets enumerated and number stocking antimalarials at the time of the survey, according to country, 2011-2012

Country/Period of data collection	# of outlets enumerated*	# of outlets screened	# of outlets which met screening criteria	# of outlets in which interviews were conducted	# of outlets stocking antimalarials at the time of the survey visit	# of outlets without antimalarials in stock at the time of the survey visit but that had antimalarials in stock sometime in the 3 months preceding the survey
Ghana – Total	221	194	164	164	149	15
Remote areas in endline survey*	60	47	35	35	32	3
Remote areas in additional survey**	161	147	129	129	117	12
Kenya- Total	4,244	3,241	468	468	396	72
Remote areas in endline survey*	1,196	888	150	150	125	25
Remote areas in additional survey**	3,048	2,353	318	318	271	47
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011						
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012						
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys						

Table 5.1.2 Number of outlets in remote areas at endline by final interview status, according to country, 2011-2012

	Number of outlets		
Country/Final interview status	Remote areas in endline survey*	Remote areas in additional survey**	Total
Ghana			
Number of outlets:			
Outlets not screened	13	14	27
Outlets did not meet screening criteria	12	18	30
Outlets met screening criteria, but not interviewed	0	0	0
Completed interviews	35	129	164
Partially completed interviews	0	0	0
Response rate (%)			
Percentage of outlets enumerated that were screened	78.3	91.3	87.8
Percentage of outlets meeting screening criteria that were interviewed*	100.0	100.0	100.0
Kenya			
Number of outlets:			
Outlet not screened	308	695	1,003
Outlet did not meet screening criteria	738	2,035	2,773
Outlet met screening criteria, but not interviewed	0	0	0
Completed interview	148	316	464
Partially completed interview	2	2	4
Response rate (%)			
Percentage of outlets enumerated that were screened**	74.2	77.2	76.4
Percentage of outlets meeting screening criteria that were interviewed*	100.0	100.0	100.0
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011			
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012			
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys			

Table 5.1.3: Number of outlets enumerated by type of outlet in remote areas at endline, according to country, 2011-2012

Country/Type of outlet	Number of outlets		
	Remote areas in endline survey*	Remote areas in additional survey**	Total
Ghana			
Public health facility	8	25	33
Private not-for-profit health facility	3	1	4
Private for-profit outlet	49	99	148
Community health worker	0	36	36
Total	60	161	221
Kenya			
Public health facility	21	40	61
Private not-for-profit health facility	4	15	19
Private for-profit outlet	1,145	2,691	3,836
Community health worker	26	302	328
Total	1,196	3,048	4,244
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011			
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012			
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys			

Table 5.1.4: Number of outlets with antimalarials in stock by type of outlet in the remote areas at endline, according to country, 2011-2012

Country/Type of outlet	Number of outlets		
	Remote areas in endline survey*	Remote areas in additional survey**	Total
Ghana – Total	32	117	149
Public health facility	5	21	26
Private not-for-profit health facility	3	1	4
Private for-profit outlet	24	73	97
Community health worker	0	22	22
Kenya – Total	125	271	396
Public health facility	17	35	52
Private not-for-profit health facility	3	12	15
Private for-profit outlet	105	223	328
Community health worker	0	1	1
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011			
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012			
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys			

5.2 Availability of quality-assured ACTs in remote areas

Table 5.2.1 presents the availability of antimalarials in remote areas and non-remote areas. The availability of antimalarials (all outlets combined) in remote areas was very high at endline in Ghana (97%) and low in Kenya (11%) reflecting different enumeration processes. In Kenya, all general stores with the potential to stock antimalarials were enumerated, whereas in Ghana, only those outlets believed to stock antimalarials were enumerated. In both countries, public health facilities and private not-for-profit outlets had high availability of antimalarials. In Ghana, 100% of the public health facilities and private not-for-profit outlets stocked antimalarials, while in Kenya the availability was 91% and 100%, respectively. Only a few of the private for-profit outlets (10%) and CHW (less than 1%) stocked antimalarials in Kenya. In contrast, the availability of antimalarials in the limited number of these types of outlets enumerated in Ghana was more than 60%.

Table 5.2.2 presents the availability of quality-assured ACTs (QAACTs) among all outlets with antimalarials in remote areas and non-remote areas. In both countries, most outlets in remote areas had QAACTs, but the availability of QAACTs in all types of outlets combined was much higher in Ghana (78%) than in Kenya (56%). Public health facilities in remote areas in both countries had very high levels of availability of QAACTs (96% in Ghana and 95% in Kenya). In contrast, private for-profit outlets had availability of 68% in Ghana and less than 50% in Kenya (46%). In reference to baseline data for rural areas (Table 2.2.6 in Section 2), there has apparently been a substantial increase in availability of QAACTs in remote areas in both countries for all outlets combined and for private for-profit outlets. Indeed, the availability of QAACTs for all outlets in remote areas was three times as high as the availability in rural areas at baseline (26%) in Ghana and twice as high as the availability in rural areas (27%) in Kenya.

Table 5.2.3 presents the availability of QAACTs with the AMFm logo in remote areas and non-remote areas. The availability of QAACTs with the AMFm logo in all types of outlets combined in remote areas was 60% in Ghana and 49% in Kenya. In both countries, the availability of QAACTs with the AMFm logo was even higher in public health facilities (85% in Ghana and 61% in Kenya). Two-thirds of private for-profit outlets in remote areas in Ghana had QAACTs with the AMFm logo. However, in Kenya availability was less than half (45%) in private for-profit outlets. Since the quantity of QAACTs with the AMFm logo available in-county was extremely limited at baseline, the substantial levels of availability observed in remote areas of Ghana and Kenya at endline are attributable to the reach of the AMFm program.

Table 5.2.1: Outlets in remote areas and non-remote areas with antimalarials in stock at endline, 2011-2012

Indicator 1.1 Percentage of outlets in remote areas and non-remote areas that had any antimalarials in stock at the time of the survey visit (n) among all outlets where screening questions were completed (N), by type of outlet, according to country, 2011-2012

| Country/Type of outlet | Remote areas | | | | | | Non-remote areas | |
| | In endline survey* | | In additional survey** | | Total | | | |
	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N
Ghana – Total	68.1 (44.6-85.0)	47	79.6 (64.9-89.2)	147	76.8 (64.2-86.0)	194	97.2 (94.7-98.6)	506
Public health facility	100.0	5	100.0	21	100.0	26	96.5 (87.0-99.1)	57
Private not-for-profit health facility	100.0	3	100.0	1	100.0	4	100.0	10
Private for-profit outlet	61.5 (37.6-80.9)	39	80.2 (59.3-91.9)	91	74.6 (56.4-87.0)	130	97.5 (94.9-98.8)	438
Community health worker	-	0	64.7 (54.3-73.9)	34	64.7 (54.3-73.9)	34	0.0	1
Kenya – Total	12.0 (7.9-17.7)	888	10.3 (8.0-13.1)	2,353	11.0 (9.0-13.5)	3,241	12.2 (11.1-13.5)	9,980
Public health facility	90.7 (63.7-98.2)	19	90.7 (73.8-97.1)	39	90.7 (79.0-96.2)	58	96.0 (90.4-98.4)	112
Private not-for-profit health facility	100.0	3	100.0	12	100.0	15	92.8 (80.8-97.5)	47
Private for-profit outlet	10.2 (6.5-15.5)	840	9.0 (6.7-12.0)	2,001	9.6 (7.6-12.0)	2,841	11.0 (9.8-12.4)	9,498
Community health worker	0.0	26	0.3 (0.1-0.8)	301	0.2 (0.1-0.8)	327	0.0	323

Note: Data from non-remote areas come from the main endline outlet surveys. CI = Confidence interval
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

Table 5.2.2: Outlets in remote areas and non-remote areas with quality-assured ACTs in stock at endline, 2011-2012

Indicator 1.5 Percentage of outlets in remote areas and non-remote areas that had quality-assured ACTs in stock at the time of the survey visit (n) among all outlets with any antimalarial in stock at the time of the survey visit (N), by type of outlet, according to country, 2011-2012

| Country/Type of outlet | Remote areas | | | | | | Non-remote areas | |
| | In endline survey* | | In additional survey** | | Total | | | |
	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N
Ghana – Total	71.9 (59.0-81.9)	32	79.5 (66.1-88.5)	117	77.9 (67.0-85.9)	149	83.8 (78.8-87.8)	487
Public health facility	80.0 (26.6-97.8)	5	100.0	21	96.2 (74.5-99.5)	26	80.0 (63.6-90.1)	55
Private not-for-profit health facility	100.0	3	100.0	1	100.0	4	90.0 (57.5-98.4)	10
Private for-profit outlet	66.7 (55.3-76.4)	24	68.5 (41.6-86.9)	73	68.0 (47.6-83.3)	97	84.1 (78.5-88.5)	422
Community health worker	-	0	95.5 (80.0-99.1)	22	95.5 (80.0-99.1)	22	-	0
Kenya – Total	55.7 (33.9-75.5)	123	56.7 (39.7-72.3)	269	56.2 (43.4-68.2)	392	70.8 (63.8-76.8)	1,223
Public health facility	98.3 (78.7-99.9)	17	92.7 (69.4-98.6)	34	95.4 (82.2-98.9)	51	96.4 (89.9-98.8)	105
Private not-for-profit health facility	100.0	3	100.0	12	100.0	15	98.6 (93.1-99.7)	43
Private for-profit outlet	45.7 (20.5-73.3)	103	46.1 (25.6-67.9)	222	45.9 (30.0-62.6)	325	65.5 (57.2-72.9)	1,075
Community health worker	-	0	100.0	1	100.0	1	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. CI = Confidence interval
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

Table 5.2.3: Outlets in remote areas and non-remote areas with quality-assured ACTs with the AMFm logo in stock at endline, 2011-2012

Percentage of outlets in remote areas and non-remote areas that had quality-assured ACTs with the AMFm logo in stock at the time of the survey visit (n) among all outlets with any antimalarial in stock at the time of the survey visit (N), by type of outlet, according to country, 2011-2012

| Country/Type of outlet | Remote areas | | | | | | Non-remote areas | |
| | In endline survey* | | In additional survey** | | Total | | | |
	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N
Ghana – Total	68.8 (57.4-78.2)	32	58.1 (30.7-81.3)	117	60.4 (37.7-79.3)	149	81.5 (76.7-85.6)	487
Public health facility	60.0 (26.1-86.5)	5	90.5 (69.7-97.5)	21	84.6 (65.6-94.1)	26	76.4 (59.4-87.7)	55
Private not-for-profit health facility	100.0	3	100.0	1	100.0	4	80.0 (49.4-94.2)	10
Private for-profit outlet	66.7 (55.3-76.4)	24	65.8 (39.2-85.1)	73	66.0 (45.9-81.6)	97	82.2 (76.9-86.5)	422
Community health worker	-	0	0.0	22	0.0	22		0
Kenya –Total	46.7 (25.1-69.6)	123	50.4 (35.5-65.1)	269	48.5 (36.2-61.0)	392	64.0 (56.3-71.0)	1,223
Public health facility	51.6 (28.1-74.4)	17	68.8 (44.3-85.9)	34	60.5 (44.6-74.4)	51	68.9 (54.0-80.8)	105
Private not-for-profit health facility	58.7 (33.0-80.3)	3	80.2 (41.2-95.9)	12	73.3 (44.0-90.6)	15	58.8 (37.0-77.6)	43
Private for-profit outlet	45.4 (20.1-73.2)	103	44.5 (24.7-66.2)	222	44.9 (29.2-61.8)	325	63.5 (55.6-70.8)	1,075
Community health worker	-	0	100.0	1	100.0	1	-	0

Note: Data from non-remote areas come from the main endline outlet surveys; CI = Confidence interval
* Data collection period: Ghana: November 7 - 28, 2011, Kenya: October 7, 2011 - December 10, 2011
** Data collection period: Ghana: March 4 - 13, 2012, Kenya: February 27 - March 16, 2012.
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

5.2.1 Stockouts of quality-assured ACTs in remote areas

Table 5.2.4 presents data on stockouts of QAACTs in outlets in remote areas and non-remote areas. As indicated in Section 2.2.1, stockouts refer to an outlet being out of stock of all QAACTs for at least one day in the last seven days, as reported by the respondent. Stockouts in remote areas were almost nonexistent in Ghana, where only 1% of all the outlets reported them. In Kenya, 8% of all outlets in remote areas reported stockouts, and stockouts were slightly more common in private for-profit outlets (11%).

Table 5.2.4: Outlets in remote areas and non-remote areas with stockouts of quality-assured ACTs at endline, 2011-2012

Indicator 1.6. Percentage of outlets in remote areas and non-remote areas that were out of stock of all quality-assured ACTs for at least 1 day in the last 7 days (n) among outlets with any quality-assured ACTs in stock at the time of the survey visit or in the 4 weeks preceding the survey visit (N), by type of outlet, according to country, 2011-2012

| | Remote areas | | | | | | Non-remote areas | |
| | In endline survey* | | In additional survey** | | Total | | | |
Country/Type of outlet	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N
Ghana – Total	4.2 (0.5-26.7)	24	0.0	97	0.8 (0.1-6.5)	121	1.5 (0.7-3.3)	406
Public health facility	0.0	4	0.0	21	0.0	25	0.0	46
Private not-for-profit health facility	0.0	3	0.0	1	0.0	4	0.0	10
Private for-profit outlet	5.9 (0.7-36.6)	17	0.0	54	1.4 (0.2-11.2)	71	1.7 (0.7-3.9)	350
Community health worker	-	0	0.0	21	0.0	21	-	0
Kenya – Total	8.3 (4.1-15.9)	64	8.5 (5.4-13.2)	141	8.4 (5.8-12.0)	205	4.4 (3.0-6.5)	968
Public health facility	7.8 (1.1-39.6)	19	0.0	35	3.8 (0.6-21.8)	54	0.7 (0.1-4.9)	101
Private not-for-profit health facility	0.0	2	0.0	12	0.0	14	5.1 (0.8-26.5)	40
Private for-profit outlet	8.8 (4.7-15.9)	43	13.8 (10.1-18.6)	92	11.3 (8.0-15.8)	135	5.1 (3.3-7.8)	826
Community health worker	-	0	0.0	2	0.0	2	0.0	1

Note: Data from non-remote areas come from the main endline outlet surveys. CI = Confidence interval
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

5.2.2 Population coverage of outlets with quality-assured ACTs in remote areas

Table 5.2.5 presents the percentage of population living in a subdistrict with at least one outlet with QAACTs in stock in remote areas and non-remote areas. As indicated in Section 2.2.10, this indicator should be interpreted with caution as the coverage could be affected by population density; therefore, having one outlet with QAACTs is not necessarily a good measure of access to QAACTs, especially in remote areas which are generally sparsely populated. In both countries, 100% of the population in remote areas lived in subdistricts where at least one outlet had QAACTs in stock. This pattern is similar for QAACTs with the AMFm logo. At baseline in rural areas, the coverage for QAACTs was also very high (100% in Ghana and 94% in Kenya) as reported in Table 2.2.10 in Section 2. Note that at baseline, the indicator on QAACTs with the AMFm logo was not measured.

Table 5.2.5: Percentage of the population living in "subdistricts" in remote areas and non-remote areas with outlets with quality-assured ACTs in stock at endline, 2011-2012

Indicator 1.7 Population living in a censused "subdistrict" where there was at least one of a given type of outlet with a quality-assured ACT in stock at the time of the survey visit (n) as a percentage of the total population living in all the censused "subdistricts" (N), by type of outlet, according to country

Country/Type of outlet	Remote areas						Non-remote areas	
	In endline survey*		In additional survey**		Total			
	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N
Ghana								
At least one public health facility stocking quality-assured ACTs	55.1 (6.7 - 95.4)	75,063	90.2 (42.7 - 99.1)	175,620	79.7 (48.3 - 94.3)	250,683	56.6 (39.8 - 72.0)	726,307
At least one private not-for-profit health facility stocking quality-assured ACTs	44.9 (4.6 - 93.3)	75,063	9.8 (0.9 - 57.3)	175,620	20.3 (5.7 - 51.7)	250,683	17.7 (8.8 - 32.3)	726,307
At least one private for-profit outlet stocking quality-assured ACTs	82.0 (12.4 - 99.3)	75,063	100.0	175,620	94.6 (63.8 - 99.4)	250,683	96.2 (85.4 - 99.1)	726,307
At least one community health worker stockin quality-assured ACTs	0.0	75,063	19.1 (3.4 - 60.9)	175,620	13.4 (2.8 - 45.5)	250,683	0.0	726,307
At least one outlet of any type stocking quality-assured ACTs	100.0	75,063	100.0	175,620	100.0	250,683	100.0	726,307
At least one outlet of any type stocking quality-assured ACTs with AMFm logo	100.0	75,063	100.0	175,620	100.0	250,683	100.0	726,307
Kenya								
At least one public health facility stocking quality-assured ACTs	86.5 (31.9-98.9)	108,185	88.2 (51.9-98.1)	195,329	87.4 (59.7-97.0)	303,514	90.2 (78.6-95.8)	1,054,659
At least one private not-for-profit health facility stocking quality-assured ACTs	24.8 (4.2-71.0)	108,185	27.5 (9.0-59.2)	195,329	26.1 (10.4-51.7)	303,514	52.9 (37.0-68.3)	1,054,659
At least one private for-profit outlet stocking quality-assured ACTs	86.5 (31.9-98.9)	108,185	72.5 (40.8-91.0)	195,329	79.8 (55.0-92.7)	303,514	90.5 (74.9-96.8)	1,054,659
At least one community health worker stockin quality-assured ACTs	0.0	108,185	2.0 (0.2-16.2)	195,329	1.0 (0.1-7.5)	303,514	0.0	1,054,659
At least one outlet of any type stocking quality-assured ACTs	100.0	108,185	100.0	195,329	100.0	303,514	100.0	1,054,659
At least one outlet of any type stocking quality-assured ACTs with AMFm logo	100.0	108,185	100.0	195,329	100.0	303,514	99.4 (95.7-99.9)	1,054,659

Note: Data from non-remote areas come from the main endline outlet surveys. CI = Confidence interval

* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 December 10, 2011

** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012

Source: AMFm Phase 1 Independent Evaluation Outlet Surveys and Remote Area Surveys

5.3   Pricing of quality-assured ACTs in remote areas

Table 5.3.1 presents the median cost of QAACTs (all formulations) in outlets in remote areas and non-remote areas. In Ghana, the median cost per AETD in remote areas was USD 0.95 in public health facilities and USD 1.25 in private for-profit outlets. In Kenya, the median cost was USD 0.00 in public health facilities and USD 0.81 in private for-profit outlets.

Table 5.3.2 presents the median cost to patients of QAACTs for pediatric formulations only in remote areas and non-remote areas. In Ghana, the median cost of pediatric formulations of QAACTs per treatment was USD 0.28 in the public health facilities, and more than twice that price in the private for-profit outlets (USD 0.63) in remote areas. In Kenya the median price was USD 0.00 in the public sector and USD 0.46 in the private for-profit outlets.

Table 5.3.3 presents the median cost to patients of non-quality assured ACTs (all formulations) in remote areas and non-remote areas. In remote areas in both countries, the price of non-quality assured ACTs in the private for-profit was very high, especially in Kenya (USD 8.06) where it was more than twice the price of non-quality assured ACTs in similar outlets in Ghana (USD 3.13).

Table 5.3.1: Cost to patients of quality-assured ACTs (including formulations for adults and children) in remote areas and non-remote areas at endline, in US dollars, 2011-2012

Indicator 2.1: Median cost to patients of one adult equivalent treatment dose (AETD) of quality-assured ACTs in remote areas and non-remote areas by type of outlet, according to country

| Country/Type of outlet | Remote areas | | | | | | Non-remote areas | |
| | In endline survey* | | In additional survey** | | Total | | | |
	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products
All quality-assured ACTs								
Ghana – Total	0.94 [0.94-1.25]	36	1.25 [0.94-1.88]	151	1.25 [0.94-1.88]	187	0.95 [0.94-1.88]	923
Public health facility	0.94 [0.94-0.94]	5	0.95 [0.94-1.88]	41	0.95 [0.94-1.88]	46	0.94 [0.94-0.94]	66
Private not-for-profit health facility	0.4 7 [0.00-0.94]	4	0.94	1	0.94 [0.00-0.94]	5	0.94 [0.00-0.94]	20
Private for-profit outlet	1.00 [0.94-1.25]	27	1.25 [0.94-1.88]	87	1.25 [0.94-1.88]	114	1.25 [0.94-1.88]	837
Community health worker	-	0	1.25 [1.25-1.50]	22	1.25 [1.25-1.50]	22	-	0
Kenya – Total	0.00 [0.00-0.58]	132	0.00 [0.00-0.77]	280	0.00 [0.00-0.69]	412	0.46 [0.00-0.61]	1,864
Public health facility	0.00 [0.00-0.00]	63	0.00 [0.00-0.00]	119	0.00 [0.00-0.00]	182	0.00 [0.00-0.00]	342
Private not-for-profit health facility	0.00 [0.00-0.00]	6	0.00 [0.00-0.31]	40	0.00 [0.00-0.31]	46	0.00 [0.00-1.04]	116
Private for-profit outlet	0.69 [0.46-1.84]	63	0.81 [0.58-1.38]	117	0.81 [0.46-1.38]	180	0.46 [0.46-0.92]	1,406
Community health worker	-	0	1.73 [1.15-3.45]	4	1.73 [1.15-3.45]	4	-	0
Quality-assured ACTs with AMFm logo								
Ghana –Total	0.94 [0.94-1.25]	35	1.25 [0.94-1.88]	121	1.00 [0.94-1.88]	156	0.94 [0.94-1.88]	845
Public health facility	0.94 [0.72-0.94]	4	0.94 [0.94-1.88]	35	0.94[0.94-1.25]	39	0.94 [0.94-0.94]	62
Private not-for-profit health facility	0.47 [0.00-0.94]	4	0.94	1	0.94[0.00-0.94]	5	0.94 [0.00-0.95]	19
Private for-profit outlet	1.00 [0.94-1.25]	27	1.25 [0.94-1.88]	85	1.25[0.94-1.88]	112	1.00 [0.94-1.88]	764
Community health worker	-	0	-	0	-	0	-	0
Kenya – Total	0.46 [0.00-1.15]	81	0.46 [0.00-1.15]	211	0.46 [0.00-1.15]	292	0.46 [0.46-0.69]	1,539
Public health facility	0.00 [0.00-0.00]	18	0.00 [0.00-0.00]	72	0.00 [0.00-0.00]	90	0.00 [0.00-0.00]	156
Private not-for-profit health facility	0.00 [0.00-0.00]	3	0.00 [0.00-0.31]	23	0.00 [0.00-0.31]	26	0.46 [0.00-0.69]	45
Private for-profit outlet	0.69 [0.46-1.84]	60	0.81 [0.58-1.38]	112	0.69 [0.46-1.38]	172	0.46 [0.46-0.92]	1,338
Community health worker	-	0	1.73 [1.15-3.45]	4	1.73 [1.15-3.45]	4	-	0
Quality-assured ACTs without AMFm logo								
Ghana –Total	3.75	1	1.25 [1.25-1.88]	30	1.25 [1.25-2.00]	31	6.88 [1.25-8.76]	77
Public health facility	3.75	1	1.56 [1.25-2.00]	6	1.88 [1.25-3.75]	7	1.41 [0.94-2.19]	4
Private not-for-profit health facility	-	0	-	0	-	0	0.94	1
Private for-profit outlet	-	0	2.00 [1.50-2.50]	2	2.00 [1.50-2.50]	2	7.51 [1.50-8.76]	72
Community health worker	-	0	1.25[1.25-1.50]	22	1.25 [1.25-1.50]	22	-	0
Kenya – Total	0.00 [0.00-0.00]	51	0.00 [0.00-0.00]	69	0.00 [0.00-0.00]	120	0.00 [0.00-0.46]	325
Public health facility	0.00 [0.00-0.00]	45	0.00 [0.00-0.00]	47	0.00 [0.00-0.00]	92	0.00 [0.00-0.00]	186
Private not-for-profit health facility	0.00 [0.00-0.00]	3	0.00 [0.00-0.31]	17	0.00 [0.00-0.31]	20	0.00 [0.00-1.15]	71
Private for-profit outlet	3.45 [0.00-3.45]	3	1.15 [1.15-1.73]	5	1.73 [0.92-3.45]	8	0.92 [0.52-2.30]	68
Community health worker	-	0	-	0	-	0	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. IQR = Interquartile range
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 -December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

Table 5.3.2: Cost to patients of quality-assured ACTs (pediatric formulations only) in remote areas and non-remote areas at endline, in US dollars, 2011-2012

Indicator 2.1: Median cost to patients of one PEDIATRIC FORMULATION of quality-assured ACTs for a two-year old child (10kg) in remote areas and non-remote areas by type of outlet, according to country

Country/Type of outlet	Remote areas						Non-remote areas	
	In endline survey*		In additional survey**		Total			
	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products
All quality-assured ACTs								
Ghana – Total	0.69 [0.38-0.84]	4	0.3 80 [0.31-0.63]	46	0.38 [0.31-0.63]	50	0.63 [0.63-0.94]	156
Public health facility	0.53 [0.13-0.94]	2	0.28 [0.24-0.47]	10	0.28 [0.24-0.47]	12	0.24 [0.24-0.47]	5
Private not-for-profit health facility	-	0	-	0	-	0	0.59 [0.24-0.94]	2
Private for-profit outlet	0.69 [0.63-0.75]	2	0.63 [0.63-0.94]	17	0.63 [0.63-0.94]	19	0.63 [0.63-0.94]	149
Community health worker	-	0	0.31 [0.31-0.38]	19	0.31 [0.31-0.38]	19	-	0
Kenya – Total	0.00 [0.00-0.46]	13	0.00 [0.00-0.40]	52	0.00 [0.00-0.46]	65	0.35 [0.00-0.46]	254
Public health facility	0.00 [0.00-0.00]	7	0.00 [0.00-0.00]	20	0.00 [0.00-0.00]	27	0.00 [0.00-0.00]	41
Private not-for-profit health facility	0.00	1	0.00 [0.00-0.23]	9	0.00 [0.00-0.23]	10	0.00 [0.00-0.46]	14
Private for-profit outlet	0.46 [0.46-0.69]	5	0.40 [0.35-0.58]	22	0.46 [0.35-0.58]	27	0.46 [0.35-0.46]	199
Community health worker	-	0	0.58	1	0.58	1	-	0
All quality-assured ACTs with AMFm logo								
Ghana – Total	0.63 [0.13-0.75]	3	0.63 [0.47 -0.94]	21	0.63 [0.42-0.84]	24	0.63 [0.63-0.94]	147
Public health facility	0.12	1	0.24 [0.24-0.47]	6	0.24 [0.24-0.47]	7	0.24 [0.24-0.43]	4
Private not-for-profit health facility	-	0	-	0	-	0	0.59 [0.24-0.94]	2
Private for-profit outlet	0.69 [0.63-0.75]	2	0.63 [0.63-0.94]	15	0.63 [0.63-0.94]	17	0.63 [0.63-0.94]	141
Community health worker	-	0	-	0	-	0	-	0
Kenya – Total	0.32 [0.00-0.46]	10	0.00 [0.00-0.46]	42	0.00 [0.00-0.46]	52	0.35 [0.23-0.46]	212
Public health facility	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	16	0.00 [0.00-0.00]	21	0.00 [0.00-0.00]	19
Private not-for-profit health facility	-	0	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	4	0.00 [0.00-0.58]	6
Private for-profit outlet	0.46 [0.46-0.69]	5	0.40 [0.35-0.58]	21	0.46 [0.35-0.58]	26	0.46 [0.35-0.46]	187
Community health worker	-	0	0.58	1	0.58	1	-	0
Quality-assured ACTs without AMFm logo								
Ghana – Total	0.94	1	0.31 [0.31-0.38]	25	0.31 [0.31-0.38]	26	0.94 [0.47-1.25]	9
Public health facility	0.94	1	0.39 [0.28-0.70]	4	0.47 [0.31-0.94]	5	0.47	1
Private not-for-profit health facility	-	0	-	0	-	0	-	0
Private for-profit outlet	-	0	0.50 [0.38-0.63]	2	0.50 [0.38-0.63]	2	0.94 [0.50-3.13]	8
Community health worker	-	0	0.31 [0.31-0.38]	19	0.31 [0.31-0.38]	19	-	0
Kenya – Total	0.00 [0.00-0.00]	3	0.00 [0.00, 0.23]	10	0.00 [0.00, 0.00]	13	0.00 [0.00-0.17]	42
Public health facility	0.00 [0.00-0.00]	2	0.00 [0.00-0.00]	4	0.00 [0.00-0.00]	6	0.00 [0.00-0.00]	22
Private not-for-profit health facility	0.00	1	0.00 [0.00-0.23]	5	0.00 [0.00-0.23]	6	0.00 [0.00-0.46]	8
Private for-profit outlet	-	0	1.44	1	1.44	1	0.58 [0.46-0.58]	12
Community health worker	-	0	-	0	-	0	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. IQR = Interquartile range
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

Table 5.3.3: Cost to patients of non-quality-assured ACTs (including formulations for adults and children) in remote areas and non-remote areas at endline, in US dollars, 2011-2012

Indicator 2.2: Median cost to patients of one adult equivalent treatment dose (AETD) of non-quality-assured ACTs (including formulations for adults and children) in remote areas and non-remote areas by type of outlet, according to country

| Country/Type of outlet | Remote areas | | | | | | Non-remote areas | |
| | In endline survey* | | In additional survey** | | Total | | | |
	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products
Ghana – Total	2.50 [0.94-3.75]	29	3.13 [1.25-4.55]	89	2.74 [1.25-4.38]	118	3.44 [2.82-5.63]	1,092
Public health facility	0.75 [0.63-1.25]	3	1.03 [0.94-4.55]	14	0.94 [0.94-4.55]	17	1.88 [0.94-4.55]	65
Private not-for-profit health facility	1.25 [0.00-3.75]	4	-	0	1.25 [0.00-3.75]	4	1.88 [1.03-5.19]	12
Private for-profit outlet	2.74 [1.25-4.38]	22	3.13 [1.88-4.69]	72	3.13 [1.88-4.38]	94	3.52 [2.82-5.84]	1,015
Community health worker	-	0	1.50 [0.75-2.50]	3	1.50 [0.75-2.5]	3	-	0
Kenya – Total	8.06 [3.45-15.35]	32	5.87 [3.80-18.13]	67	5.87 [3.45-15.35]	99	6.45 [4.03-11.05]	1,248
Public health facility	0.00 [0.00-0.00]	2	0.00 [0.00- 0.00]	2	0.00 [0.00-0.00]	4	0.00 [0.00-5.18]	12
Private not-for-profit health facility	-	0	0.97	1	0.97	1	5.76 [0.00-7.67]	14
Private for-profit outlet	8.29 [3.45-15.35]	30	6.33 [4.03-18.13]	64	8.06 [4.03-15.54]	94	6.68 [4.03-11.05]	1,222
Community health worker	-	0	-	0	-	0	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. IQR = Interquartile range
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 -December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

5.4   Gross markup between purchase price and retail selling price of quality-assured ACTs in remote areas

Table 5.4.1 presents the median percentage markup between the purchase price and the retail selling price of QAACTs in remote areas and non-remote areas. It should be noted that the gross markups do not take into account the cost of doing business. The median percentage markup in private for-profit outlets in remote areas was 50% in Ghana for all QAACTs and for QAACTs with the AMFm logo. In Kenya, the markup for all QAACTs was 0% in public health facilities and 43% in private for-profit outlets. Regarding QAACTs with the AMFm logo in Kenya, the markup was 0% in public health facilities, 43% in private for-profit outlets.

Table 5.4.1: Gross markup between purchase price and retail selling price of quality-assured ACTs in remote areas and non-remote areas at endline, in US dollars, 2011-2012

Median percentage markup between purchase price and retail selling price of quality-assured ACTs in remote areas and non-remote areas by type of outlet, according to country

Country/Type of outlet	Remote areas						Non-remote areas	
	In endline survey*		In additional survey**		Total			
	Median percentage markup [IQR]	Number of products	Median percentage markup [IQR]	Number of products	Median percentage markup [IQR]	Number of products	Median percentage markup [IQR]	Number of products
All quality-assured ACTs								
Ghana – Total	60.0 [36.0-82.0]	21	50.0 [43.0-67.0]	70	50.0 [36.0-67.0]	91	50.0 [33.0-67.0]	489
Public health facility	114.0 [00.0-114.0]	3	83.0 [25.0-196.0]	12	100.0 [19.0-192.0]	15	25.0 [0.0-50.0]	23
Private not-for-profit health facility	62.0 [36.0-87.0]	2	-	0	62.0 [36.0-0.87]	2	25.0 [0.0-0.63]	16
Private for-profit outlet	55.0 [31.0-74.0]	16	50.0 [43.0-67.0]	58	50.0 [40.0-67.0]	74	50.0 [36.0-67.0]	450
Community health worker	-	0	-	0	-	0	-	0
Kenya – Total	0.0 [0.0-39.5]	121	0.0 [0.0-42.9]	251	0.0 [0.0-40.0]	372	25.0 [0.0-60.0]	1,618
Public health facility	0.0 [0.0-0.0]	63	0.0 [0.0-0.0]	116	0.0 [0.0-0.0]	179	0.0 [0.0-0.0]	326
Private not-for-profit health facility	0.0 [0.0-0.0]	6	0.0 [0.0-0.0]	28	0.0 [0.0-0.0]	34	0.0 [0.0-25.0]	92
Private for-profit outlet	42.9 [33.3-100.0]	52	42.9 [20.0-66.7]	103	42.9 [33.3-81.8]	155	42.9 [33.3-66.7]	1,200
Community health worker	-	0	42.9 [42.9-62.3]	4	42.9 [42.9-62.3]	4	-	0
Quality-assured ACTs with AMFm logo								
Ghana – Total	60.0 [36.0-82.0]	21	50.0 [43.0-67.0]	63	50.0 [40.0-67.0]	84	50.0 [33.0-67.0]	467
Public health facility	114.0 [0.0-114.0]	3	138.0 [53.0-200.0]	7	114.0 [53.0-192.0]	10	25.0 [0.0-50.0]	21
Private not-for-profit health facility	62.0 [36.0-0.87]	2	-	0	62.0 [36.0-87.0]	2	25.0 [0.0-63.0]	16
Private for-profit outlet	55.0 [31.0-74.0]	16	50.0 [43.0-67.0]	56	50.0 [40.0-67.0]	72	50.0 [36.0-67.0]	430
Community health worker	-	0	-	0	-	0	-	0
Kenya – Total	33.3 [0.0-77.8]	71	5.3 [0.0-50.0]	189	33.3 [0.0-60.0]	260	33.3 [0.0-60.0]	1,332
Public health facility	0.0 [0.0-0.0]	18	0.0 [0.0-0.0]	69	0.0 [0.0-0.0]	87	0.00 [0.0-0.0]	143
Private not-for-profit health facility	0.0 [0.0-0.0]	3	0.0 [0.0-0.0]	16	0.0 [0.0-0.0]	19	0.00 [0.0-57.9]	37
Private for-profit outlet	53.8 [33.3-100.0]	50	42.9 [25.0-66.7]	100	42.9 [33.3-81.8]	150	48.1 [33.3-66.7]	1,152
Community health worker	-	0	42.9 [42.9-62.3]	4	42.9 [42.9-62.3]	4	-	0
Quality-assured ACTs without AMFm logo								
Ghana – Total	-	0	42.9 [19.0-100.0]	7	42.9 [19.0-100.0]	7	36.4 [20.0-50.0]	21
Public health facility	-	0	31.6 [19.0-100.0]	5	31.6 [19.0-100.0]	5	111.5 [15.4-207.7]	2
Private not-for-profit health facility	-	0	-	0	-	0	-	0
Private for-profit outlet	-	0	57.1 [42.9-71.4]	2	57.1 [42.9-71.4]	2	36.4 [20.0-50.0]	19
Community health worker	-	0	-	0	-	0	-	0
Kenya – Total	0.0 [0.0-0.0]	50	0.0 [0.0-0.0]	62	0.0 [0.0-0.0]	112	0.0 [0.0-0.0]	286
Public health facility	0.0 [0.0-0.0]	45	0.0 [0.0-0.0]	47	0.0 [0.0-0.0]	92	0.0 [0.0-0.0]	183
Private not-for-profit health facility	0.0 [0.0-0.0]	3	0.0 [0.0-0.0]	12	0.0 [0.0-0.0]	15	0.0 [0.0-0.0]	55
Private for-profit outlet	39.5 [0.0-39.5]	2	25.0 [19.0-316.7]	3	39.5 [19.0-39.5]	5	33.3 [28.6-66.7]	48
Community health worker	-	0	-	0	-	0	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. IQR = Interquartile range
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 -December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

5.5   *Availability and cost to patients of malaria diagnostic tests in remote areas*

Table 5.5.1 presents the percentage of outlets with malaria diagnostic tests (malaria microscopy or rapid diagnostic tests (RDTs)) in remote areas and non-remote areas. The availability of diagnostic tests was generally low in remote areas in both countries. For all types of outlets combined, the percentage of outlets in which malaria microscopy was available was only 15% in Ghana and 14% in Kenya. However, more than 50% of public health facilities in Ghana and one-third of public health facilities in remote areas of Kenya provided malaria microscopy tests. Less than 10% of private for-profit outlets in remote areas in both countries had malaria microscopy tests available. A similar level and pattern were observed for the availability of RDTs. It should be noted that the low level of availability of malaria diagnostic tests is a reflection of the low availability of RDTs at the national level, especially in the private for-profit sector.

Table 5.5.2 presents the median cost to patients for one malaria diagnostic test in remote areas and non-remote areas for Kenya only (results are not shown for Ghana because of the small number of outlets with malaria diagnostic tests in that country). In remote areas in Kenya, in the public health facilities the cost of malaria microscopy was USD 0.58 for adult and USD 0.00 for child patients. In the private for-profit outlets, the price for adult patients (USD 1.15) was about twice the price for child patients (USD 0.58). Rapid diagnostic tests for malaria were free for adult and child patients in remote areas in public health facilities and USD 1.15 in private for-profit outlets.

Table 5.5.1: Availability of malaria diagnostic tests in remote areas and non-remote areas at endline, 2011-2012

Percentage of outlets where malaria diagnostic tests were available (n) as a percentage of outlets with any antimalarials in stock at the time of the survey visit (N) in remote areas and non-remote areas by type of outlet, according to country

Country/Type of outlet	Remote areas						Non-remote areas	
	In endline survey*		In additional survey**		Total			
	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N
Malaria microscopy								
Ghana – Total	3.2 (0.5-17.0)	31	18.1 (9.6-31.6)	116	15.0 (8.2-25.8)	147	8.2 (5.7-11.5)	478
Public health facility	0.0	5	71.4 (36.4-91.6)	21	57.7 (29.9-81.4)	26	36.4 (23.9-50.9)	55
Private not-for-profit health facility	0.0	2	100.0	1	33.3 (3.9-86.0)	3	20.0 (4.6-56.4)	10
Private for-profit outlet	4.2 (0.7-20.9)	24	6.9 (2.9-15.9)	72	6.3 (2.7-13.8)	96	4.1 (2.2-7.6)	413
Community health worker	-	0	0.0	22	0.0	22	-	0
Kenya – Total	13.8 (7.6-23.9)	124	14.6 (9.9-21.2)	269	14.2 (10.3-19.3)	393	20.4 (17.3-23.9)	1,214
Public health facility	29.3 (9.5-62.2)	17	34.9 (20.7-52.4)	35	32.3 (19.7-48.0)	52	50.0 (39.1-60.8)	105
Private not-for-profit health facility	58.7 (33.0-80.3)	3	47.7 (18.6-78.4)	12	51.2 (28.9-72.9)	15	82.2 (66.7-91.5)	43
Private for-profit outlet	9.6 (3.5-23.8)	104	8.1 (2.6-22.6)	221	8.9 (4.4-16.9)	325	12.7 (9.3-17.0)	1,066
Community health worker	-	0	0.0	1	0.0	1	-	0
Rapid diagnostic test for malaria								
Ghana – Total	3.1 (0.6-15.7)	32	14.5 (7.1-27.4)	117	12.1 (6.3-22.0)	149	4.5 (3.0-6.8)	487
Public health facility	0.0	5	61.9 (30.1-86.0)	21	50.0 (24.3-75.7)	26	25.5 (15.4-39.0)	55
Private not-for-profit health facility	0.0	3	0.0	1	0.0	4	10.0 (1.3-48.7)	10
Private for-profit outlet	4.2 (0.7-20.9)	24	5.5 (2.5-11.7)	73	5.2 (2.4-10.5)	97	1.7 (0.8-3.4)	422
Community health worker	-	0	0.0	22	0.0	22	-	0
Kenya – Total	9.2 (4.2-19.0)	124	12.8 (5.2-28.3)	270	11.0 (6.2-18.9)	394	4.0 (2.6-6.1)	1,221
Public health facility	38.8 (11.3-76.0)	17	51.3 (20.0-81.6)	35	45.4 (23.5-69.2)	52	7.3 (3.1-16.4)	105
Private not-for-profit health facility	0.0	3	44.2 (20.9-70.3)	12	30.1 (9.1-64.9)	15	10.7 (4.7-22.7)	43
Private for-profit outlet	3.1 (0.9-10.4)	104	1.9 (0.5-6.3)	222	2.5 (1.1-5.9)	326	3.1 (1.8-5.4)	1,073
Community health worker	-	0	0.0	1	0.0	1	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. CI = Confidence interval
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 -December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

Table 5.5.2: Cost to patients of malaria diagnostic tests in remote areas and non-remote areas at endline, in US dollars, Kenya, 2011-2012

Median cost to patients for one malaria diagnostic test in remote areas and non-remote areas by type of test and type of outlet, Kenya

Country/Type of outlet	Remote areas						Non-remote areas	
	In endline survey*		In additional survey**		Total			
	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products	Median cost [IQR]	Number of products
Malaria microscopy - Cost for adult patient								
Kenya – Total	0.58 [0.58-1.15]	17	0.69 [0.58-1.15]	32	0.58 [0.58-1.15]	49	0.58 [0.46-0.92]	266
Public health facility	0.58 [0.58-1.15]	6	0.58 [0.35-1.15]	15	0.58 [0.46-1.15]	21	0.46 [0.35-0.58]	60
Private not-for-profit health facility	0.58 [0.35-0.58]	2	0.58 [0.58-0.58]	5	0.58 [0.58-0.58]	7	0.58 [0.46-0.58]	34
Private for-profit outlet	0.69 [0.58-1.15]	9	1.15 [1.15-1.15]	12	1.15 [0.58-1.15]	21	0.92 [0.58-1.15]	172
Community health worker	-	0	-	0	-	0	-	0
Malaria microscopy - Cost for child patient								
Kenya – Total	0.58 [0.35-0.58]	17	0.58 [0.00-1.15]	32	0.58 [0.00-0.69]	49	0.58 [0.35- 0.69]	272
Public health facility	0.00 [0.00-1.15]	6	0.00 [0.00-0.58]	15	0.00 [0.00-0.58]	21	0.35 [0.00-0.58]	61
Private not-for-profit health facility	0.58 [0.35-0.58]	2	0.58 [0.58-0.58]	5	0.58 [0.58-0.58]	7	0.58 [0.35-0.58]	34
Private for-profit outlet	0.58 [0.58-0.58]	9	1.15 [0.58-1.15]	12	0.58 [0.58-0.86]	21	0.58 [0.58-1.15]	177
Community health worker	-	0	-	0	-	0	-	0
Rapid diagnostic test for malaria - Cost for adult patient								
Kenya – Total	0.58 [0.00-1.15]	11	0.00 [0.00-0.35]	21	0.00 [0.00-0.58]	32	0.58 [0.35-1.15]	61
Public health facility	0.58 [0.00-1.15]	9	0.00 [0.00-0.35]	13	0.00 [0.00-0.58]	22	0.10 [0.00-0.23]	11
Private not-for-profit health facility	-	0	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	5	0.58 [0.35-0.58]	7
Private for-profit outlet	1.15 [0.35-1.15]	2	0.46 [0.46-1.73]	3	1.15 [0.35-1.15]	5	1.15 [0.58-1.15]	43
Community health worker	-	0	-	0	-	0	-	0
Rapid diagnostic test for malaria - Cost for child patient								
Kenya – Total	0.58 [0.00-1.15]	11	0.00 [0.00-0.00]	21	0.00 [0.00-0.58]	32	0.58 [0.35-1.15]	60
Public health facility	0.58 [0.00-1.15]	9	0.00 [0.00-0.00]	13	0.00 [0.00-0.58]	22	0.00 [0.00-0.00]	10
Private not-for-profit health facility	-	0	0.00 [0.00-0.00]	5	0.00 [0.00-0.00]	5	0.58 [0.35-0.58]	7
Private for-profit outlet	1.15 [0.23-15]	2	0.46 [0.46-1.73]	3	1.15 [0.23-1.15]	5	1.15 [0.58-1.15]	43
Community health worker	-	0	-	0	-	0	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. IQR = Interquartile range
* Data collection period: Kenya: October 7 -December 10, 2011
** Data collection period: Kenya: February 27 - March 16, 2012

Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

5.6   Market share for quality-assured ACTs in remote areas

Table 5.6.1 presents the percent distribution of antimalarial sales volumes in remote areas and non-remote areas. CHWs are not shown separately due to low total sales volumes. In Ghana, for all sectors combined, the market share of all QAACTs in remote areas (59%) was mostly dominated by QAACTs with the AMFm logo. Non-artemisinin therapies had the second highest market share (25%). In Kenya, the market share was similar for QAACTs (48%) and non-artemisinin therapies (50%). While very few ACTs that were not quality assured were sold or distributed in Kenya, in remote areas of Ghana the market share was more than 10%. Referring to the baseline data for rural areas (Table 2.4.4 in Section 2), the market share of QAACTs seems to have increased substantially in both countries; however, the market share of non-artemisinin therapies also increased. It should be mentioned again that non-artemisinin therapies, such as SP, are still needed for IPTp.

In public health facilities, in both countries, QAACTs had the highest market share in remote areas (60% in Ghana and 77% in Kenya). More than 90% of the QAACTs sold or distributed in public health facilities in Ghana had the AMFm logo, whereas only half of the QAACTs in Kenya had the AMFm logo in remote areas. ACTs that were not quality assured had the second highest market share in Ghana (25%). In contrast, in Kenya, no QAACTs that were not quality-assured were sold or distributed, and the second highest market share was for non-artemisinin therapy (23%). Compared with the baseline data for rural areas (Table 2.4.1 in Section 2), there seems to have been a gain in market share for QAACTs in both countries.

In private not-for-profit outlets in Ghana, QAACTs and non-artemisinin therapies had an equal market share in remote areas (around 50%), while in Kenya, non-artemisinin therapies had the dominant market share (71%). There seems to have been a substantial increase in market share of QAACTs in remote areas based on the level of the market share at baseline in rural areas, which was 13% for Ghana and 16% for Kenya (Table 2.4.2 in Section 2).

In private for-profit outlets, QAACTs had the dominant market share (76%) in remote areas in Ghana, while in Kenya, the most commonly sold antimalarials in remote areas were non-artemisinin therapies (57%). However QAACTs still had an important market share in Kenya (40%). Compared with the market share of QAACTs at baseline in rural areas, which was 7% in Ghana and 6% in Kenya (Table 2.4.3 in Section 2), there was a substantial increase in the market share of QAACTs in the remote areas

Table 5.6.1: Percent distribution of antimalarial sales volumes in remote areas and non-remote areas at endline, 2011-2012

Total number of AETDs of each type of antimalarial sold or distributed in the week preceding the survey visit (n), as a percentage of all antimalarial AETDs sold or distributed in the week preceding the survey visit for outlets with any antimalarials in stock at the time of the survey visit (N) in remote areas and non-remote areas, according to type of antimalarial and country

Country/Type of antimalarial	Remote areas						Non-remote areas	
	In endline survey*		In additional survey**		Total			
	Percentage	N	Percentage	N	Percentage	N	Percentage	N
All sectors combined								
Ghana –Total	100.0	2,088	100.0	3,902	100.0	5,990	100.0	29,500
All quality-assured ACTs	71.1		52.2		58.8		55.7	
Quality-assured ACTs with AMFm logo	71.1		49.1		56.8		54.1	
Quality-assured ACTs without AMFm logo	0.0		3.2		2.1		1.6	
Non-quality-assured ACTs	9.4		16.1		13.8		19.9	
Artemisinin monotherapy	5.1		1.0		2.4		4.2	
Non-artemisinin therapy	14.4		30.7		25.0		20.2	
Kenya –Total	100.0	1,661	100.0	5,707	100.0	7,368	100.0	36,803
All quality-assured ACTs	50.2		46.1		48.0		58.4	
Quality-assured ACTs with AMFm logo	36.0		39.0		37.6		53.2	
Quality-assured ACTs without AMFm logo	14.2		7.2		10.4		5.2	
Non-quality-assured ACTs	1.6		2.0		1.8		5.0	
Artemisinin monotherapy	0.1		0.1		0.1		0.6	
Non-artemisinin therapy	48.1		51.8		50.1		36.0	
Public health facilities								
Ghana –Total	100.0	128	100.0	1,160	100.0	1,287	100.0	5,232
All quality-assured ACTs	45.0		61.8		60.1		70.4	
Quality-assured ACTs with AMFm logo	45.0		56.1		55.0		68.0	
Quality-assured ACTs without AMFm logo	0.0		5.7		5.1		2.4	
Non-quality-assured ACTs	45.4		22.9		25.1		21.7	
Artemisinin monotherapy	2.9		0.5		0.7		1.7	
Non-artemisinin therapy	6.7		14.9		14.1		6.1	
Kenya –Total	100.0	250	100.0	1,522	100.0	1,772	100.0	7,477
All quality-assured ACTs	92.6		68.7		77.4		43.3	
Quality-assured ACTs with AMFm logo	22.8		47.9		38.7		36.1	
Quality-assured ACTs without AMFm logo	69.8		20.7		38.7		7.2	
Non-quality-assured ACTs	0.0		0.0		0.0		0.1	
Artemisinin monotherapy	0.0		0.0		0.0		0.4	
Non-artemisinin therapy	7.4		31.3		22.6		56.3	
Private not-for-profit facilities								
Ghana –Total	100.0	673	100.0	491	100.0	1,163	100.0	2,979
All quality-assured ACTs	66.9		22.4		48.1		68.8	
Quality-assured ACTs with AMFm logo	66.9		22.4		48.1		68.8	
Quality-assured ACTs without AMFm logo	0.0		0.0		0.0		0.0	
Non-quality-assured ACTs	1.2		0.0		0.7		20.7	
Artemisinin monotherapy	1.5		0.5		1.1		1.9	
Non-artemisinin therapy	30.4		77.1		50.1		8.6	
Kenya –Total	100.0	162	100.0	1,654	100.0	1,816	100.0	814
All quality-assured ACTs	73.5		21.0		28.8		83.6	
Quality-assured ACTs with AMFm logo	72.1		14.8		23.3		38.5	
Quality-assured ACTs without AMFm logo	1.4		6.2		5.5		45.0	
Non-quality-assured ACTs	0.0		0.0		0.0		0.3	
Artemisinin monotherapy	0.5		0.1		0.1		0.5	
Non-artemisinin therapy	26.0		78.9		71.1		15.6	
Private for-profit facilities								
Ghana –Total	100.0	1,068	100.0	595	100.0	1,663	100.0	2,713
All quality-assured ACTs	81.5		64.9		75.6		51.5	
Quality-assured ACTs with AMFm logo	81.5		64.9		75.6		51.4	
Quality-assured ACTs without AMFm logo	0.0		0.0		0.0		0.1	
Non-quality-assured ACTs	10.1		16.5		12.4		23.3	
Artemisinin monotherapy	8.4		0.1		5.4		8.7	
Non-artemisinin therapy	0.0		18.5		6.6		16.5	
Kenya –Total	100.0	1,249	100.0	2,511	100.0	3,760	100.0	28,513
All quality-assured ACTs	38.6		41.6		40.0		67.0	
Quality-assured ACTs with AMFm logo	37.8		41.3		39.4		65.1	
Quality-assured ACTs without AMFm logo	0.8		0.4		0.6		2.0	
Non-quality-assured ACTs	2.1		3.7		2.8		8.4	
Artemisinin monotherapy	0.1		0.1		0.1		0.7	
Non-artemisinin therapy	59.2		54.5		57.1		23.8	

Note: Data from non-remote areas come from the main endline outlet surveys. CI = Confidence interval
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

5.7   AMFm logo in remote areas

Table 5.7.1 presents the percentage of providers able to recognize the AMFm logo in remote and non-remote areas. In remote areas of both countries, more than two-thirds of providers (69%) were able to recognize the AMFm logo for all outlets combined. This percentage was more than 60% for private for-profit outlets in both countries (76% in Ghana and 68% in Kenya) in remote areas.

Table 5.7.2 presents the percentage of QAACTs bearing the AMFm logo in remote areas and non-remote areas. In Ghana, for all outlets combined, 83% of QAACTs in remote areas had the AMFm logo. The percentage of QAACTs bearing the AMFm logo was lower in Kenya (66%). In the private for-profit sector, more than 90% of QAACTs bore the AMFm logo in both Ghana and Kenya.

Table 5.7.1: Provider recognition of the AMFm logo in remote areas and non-remote areas at endline, 2011-2012

Percentage of providers able to recognize the AMFm logo (n) as a percentage of the number of outlets with antimalarials in stock at the time of the survey visit (N) in remote areas and non-remote areas by type of outlet, according to country

| Country/Type of outlet | Remote areas | | | | | | Non-remote areas | |
| | In endline survey* | | In additional survey** | | Total | | | |
	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N
Ghana – Total	78.1 (60.9-89.1)	32	66.7 (40.0-85.7)	117	69.1 (47.3-84.8)	149	94.4 (90.5-96.8)	485
Public health facility	100.0	5	95.2 (75.7-99.2)	21	96.2 (79.1-99.4)	26	100.0	55
Private not-for-profit health facility	100.0	3	100.0	1	100.0	4	100.0	10
Private for-profit outlet	70.8 (53.2-83.8)	24	78.1 (55.8-91.0)	73	76.3 (58.9-87.8)	97	93.6 (88.8-96.4)	420
Community health worker	-	0	0.0	22	0.0	22	-	0
Kenya – Total	66.0 (42.3-83.7)	124	71.0 (56.7-82.0)	267	68.5 (56.4-78.5)	391	79.7 (73.1-85.0)	1,219
Public health facility	63.9 (36.4-84.6)	17	85.6 (68.1-94.3)	35	75.4 (58.6-87.0)	52	78.9 (64.4-88.6)	104
Private not-for-profit health facility	58.7 (33.0-80.3)	3	73.5 (27.0-95.4)	12	68.8 (35.9-89.7)	15	63.7 (45.5-78.6)	43
Private for-profit outlet	66.6 (37.1-87.0)	104	67.1 (49.7-80.8)	219	66.8 (51.4-79.3)	323	80.6 (73.2-86.4)	1,072
Community health worker	-	0	100.0	1	100.0	1	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. CI = Confidence interval
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 - December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

Table 5.7.2: Percentage of quality-assured ACTs bearing the AMFm logo in remote areas and non-remote areas at endline, 2011-2012

Quality-assured ACTs bearing the AMFm logo (n) as a percentage of all antimalarials audited (N) in remote areas and non-remote areas by type of outlet, according to country

| Country/Type of outlet | Remote areas | | | | | | Non-remote areas | |
| | In endline survey* | | In additional survey** | | Total | | | |
	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N
Ghana – Total	97.2 (78.3-99.7)	36	80.1 (49.2-94.4)	161	83.2 (56.6-95.0)	197	91.2 (87.1-94.1)	955
Public health facility	80.0 (37.1-96.5)	5	84.1 (53.6-96)	44	83.7 (56.8-95.2)	49	93.2 (80.0-97.9)	73
Private not-for-profit health facility	100.0	4	100.0	1	100.0	5	95.0 (68.8-99.4)	20
Private for-profit outlet	100.0	27	97.8 (92.1-99.4)	93	98.3 (94.0-99.6)	120	91.0 (86.7-93.9)	862
Community health worker	-	0	0.0	23	0.0	23	-	0
Kenya – Total	60.6 (46.8-72.8)	140	72.3 (64.0-79.4)	290	66.1 (59.8-71.8)	430	78.1 (70.2-84.3)	1,912
Public health facility	26.8 (12.4-48.6)	63	56.9 (30.4-80.1)	119	40.3 (25.6, 57.0)	182	56.6 (38.5-73.1)	342
Private not-for-profit health facility	44.6 (30.3-60.0)	6	52.6 (39.3-65.5)	41	50.9 (40.3-61.3)	47	37.7 (21.5-57.3)	116
Private for-profit outlet	95.9 (93.2-97.5)	71	92.9 (88.1-95.9)	126	94.6 (91.6-96.6)	197	94.1 (91.9-95.8)	1,454
Community health worker	-	0	100.0	4	100.0	4	-	0

Note: Data from non-remote areas come from the main endline outlet surveys. CI = Confidence interval
* Data collection period: Ghana: November 7-28, 2011, Kenya: October 7 -December 10, 2011
** Data collection period: Ghana: March 4-13, 2012, Kenya: February 27 - March 16, 2012
Source: AMFm Phase 1 Independent Evaluation Endline Outlet Surveys and Remote Area Surveys

5.8   Summary of results

The remote area studies were conducted only at the endline so no baseline data were available to assess changes over time in availability, price and market share of QAACTs in these areas. However, using the baseline data from rural areas, we attempted to estimate changes in availability, assuming that the baseline estimates for remote areas were likely to have been the same or lower than estimates from rural areas. This is a conservative approach, but does not imply that baseline estimates from rural areas are statistically comparable with those from remote areas at endline.

The results show that QAACTs were widely available in remote areas in both Ghana and Kenya at endline. The availability of QAACTs is particularly high in public health facilities (96% in each country), but still substantial in private for-profit outlets (66% in Ghana and 45% in Kenya). Although the availability of QAACTs is lower in remote areas than in non-remote areas, there has been a substantial increase in availability if we use the level of availability in rural areas at baseline as a reference (26% in Ghana and 27% in Kenya). In remote areas in both countries, QAACTs had a substantial market share (59% in Ghana and 48% in Kenya), and this was dominated by QAACTs with the AMFm logo. Overall, the findings suggest that the AMFm program has been instrumental in making QAACTs more available in remote areas in these two countries.

The median price of QAACTs with the AMFm logo at endline was similar in remote and non-remote areas (about USD 1.00 in both areas in Ghana and USD 0.46 in both areas in Kenya). These median prices are very much in line with the recommended retail prices of USD 0.94 in Ghana and USD 0.46 in Kenya. The median prices of all QAACTs in private for-profit facilities in remote areas at endline (USD 1.25 in Ghana and USD 0.81 in Kenya) are much lower than the median prices of all QAACTs in rural areas at baseline (USD 2.74 in Ghana and USD 2.36 in Kenya).

The availability of diagnostic tests for malaria was very low in both remote and non-remote areas in both countries, especially in the private for-profit sector. When the tests were available, they were fairly inexpensive; however, due to the small number of cases, the price data should be interpreted with caution.

In both countries the majority of providers in the remote areas were able to recognize the AMFm logo, suggesting that IEC/BCC efforts were able to reach these areas. The majority of QAACTs in remote areas had the AMFm logo.

Despite the challenges in geographical access posed by remote areas, the results suggest that the AMFm intervention has been able to reach these areas in Ghana and Kenya. This contributed to making QAACTs more available and more affordable in these disadvantaged areas.

6 Results from the logo study (exit interviews and focus group discussions)

6.1 Exit interviews

6.1.1 Description of the sample

Table 6.1.1 shows the number of potential respondents contacted and the number of respondents who were interviewed in urban and rural clusters of Ghana, Kenya, Madagascar and Nigeria. The response rates indicate the percentage of individuals who participated in the study out of those contacted. The number of refusals is remarkably consistent from one country to the next (59-95 refusals per country or an average of five refusals per cluster). In a few rural clusters, no one who was approached refused to participate. In one rural cluster in Madagascar, interviewers were unable to contact more than 40 potential respondents.

Table 6.1.1: Number of individuals contacted by the interviewer and the number who were interviewed by urban/rural clusters, according to country, 2012

| | Residence | | | | | | | | |
| | Urban | | | Rural | | | Total | | |
Country	Contacted	Interviewed	Response rate	Contacted	Interviewed	Response rate	Contacted	Interviewed	Response rate
Ghana	332	290	87.3	302	285	94.4	634	575	90.7
Kenya	323	286	88.5	333	289	86.8	659	575	87.3
Madagascar	328	292	89.0	262	236	90.1	590	528	89.5
Nigeria	373	314	84.2	334	298	89.2	707	612	86.6
Source: AMFm phase 1 Independent Evaluation - Additional Studies - Exit Interviews									

Table 6.1.2 shows the distribution of respondents by sex and age group in urban and rural clusters. The percentage of respondents who were female was 41% in Nigeria, 48% in Ghana, 59% in Madagascar and 61% in Kenya. In Kenya and Nigeria, the largest group of respondents was age 25-34 years, while in Ghana and Madagascar, the largest group was respondents age 35 years and older. The overall number of respondents in the sample was lower in Madagascar than elsewhere (n=528) because few people came to the outlets in one specific rural cluster.

Table 6.1.2: Number of respondents by sex, age and urban/rural cluster, according to country, 2012			
	Residence		
Country, sex and age	Urban	Rural	Total
Ghana (*Total*)	290	285	575
Sex			
Male	149	151	300
Female	140	134	274
Missing	1	0	1
Age in years			
<25	62	57	119
25-34	102	110	212
35+	117	112	229
Missing	9	6	15
Kenya (*Total*)	286	289	575
Sex			
Male	110	112	222
Female	176	177	353
Age in years			
<25	41	57	98
25-34	149	119	268
35+	94	111	205
Missing	2	2	4
Madagascar (*Total*)	236	292	528
Sex			
Male	100	119	219
Female	136	173	309
Age in years			
<25	38	50	88
25-34	106	103	209
35+	92	139	231
Missing	0	0	0
Nigeria (*Total*)	314	298	612
Sex			
Male	183	178	361
Female	131	120	251
Age in years			
<25	76	95	171
25-34	146	125	271
35+	83	74	157
Missing	9	4	13
Source: AMFm phase 1 Independent Evaluation - Additional Studies - Exit Interviews			

6.1.2 Reasons for choosing a malaria treatment

Respondents were asked to give a reason for having accepted or purchased the antimalarial they had received on their visit to the outlet. Multiple answers were accepted. Table 6.1.3 shows that in all countries except Nigeria, the most common response was "Doctor/health care personnel recommended it" (52% in Madagascar, 49% in Ghana and 43% in Kenya). In Nigeria, the most common response was "It is effective" (52%). That answer was also common in Kenya (32%) and Madagascar (27%). The response "It is cheap" was mentioned by 2% in Ghana, 8% in Madagascar, 16% in Kenya and 26% in Nigeria. Other common responses were "I've used it before" (Kenya and Nigeria) and "Pharmacist recommended it" (Ghana, Kenya and Nigeria). It should be noted that by "Pharmacist" respondents may not necessarily mean a trained pharmacist, but it could be a staff member in a drug shop.

Table 6.1.3: Reasons for choosing a malaria treatment

Percentage of respondents stating a specific reason for choosing a particular malaria treatment (n) as a percentage of all respondents who received an antimalarial (N), by urban-rural cluster, according to country, 2012

Country/reason	Residence		
	Urban	Rural	Total
Ghana (*Number of respondents*)	169	138	307
It is free	4.1	4.3	4.2
It is cheap	3.0	1.4	2.3
It is strong	3.0	1.4	2.3
It is effective	21.3	15.2	18.6
Pharmacist recommended it	32.5	33.3	32.9
Doctor/health personnel recommended it	47.9	50.0	48.9
I've used it before	1.2	5.1	2.9
Friend/relative recommended it	1.8	5.1	3.3
Radio/TV	0.0	0.0	0.0
Other	2.4	0.7	1.6
Kenya (*Number of respondents*)	163	154	317
It is free	4.3	5.2	4.7
It is cheap	16.0	15.6	15.8
It is strong	16.0	9.7	12.9
It is effective	28.8	35.7	32.2
Pharmacist recommended it	16.6	17.5	17.0
Doctor/health personnel recommended it	40.5	46.1	43.2
I've used it before	28.8	16.9	23.0
Friend/relative recommended it	4.3	5.2	4.7
Radio/TV	3.1	4.5	3.8
Other	3.1	3.9	3.5
Madagascar (*Number of respondents*)	147	158	305
It is free	1.4	.6	1.0
It is cheap	4.8	10.1	7.5
It is strong	2.0	1.9	2.0
It is effective	27.9	25.3	26.6
Pharmacist recommended it	8.8	5.7	7.2
Doctor/health personnel recommended it	40.8	62.7	52.1
I've used it before	3.4	3.2	3.3
Friend/relative recommended it	0.7	1.3	1.0
Radio/TV	0.0	0.0	0.0
Other	19.7	0.6	9.8
Nigeria (*Number of respondents*)	143	65	208
It is free	2.8	13.8	6.3
It is cheap	25.9	26.2	26.0
It is strong	11.9	12.3	12.0
It is effective	53.1	49.2	51.9
Pharmacist recommended it	13.3	12.3	13.0
Doctor/health personnel recommended it	10.5	23.1	14.4
I've used it before	18.2	29.2	21.6
Friend/relative recommended it	5.6	13.8	8.2
Radio/TV	0.0	0.0	0.0
Other	0.0	0.0	0.0

Source: AMFm phase 1 Independent Evaluation - Additional Studies - Exit Interviews

6.1.3 Source of information about ACTs

Respondents were asked to name the medicines they knew about that were used to treat malaria in their area. If they did not spontaneously mention any ACT, they were asked if they had ever heard of a medicine for malaria called ACTs; those who knew about ACTs were asked to cite the source from which they had heard about ACTs most recently. Table 6.1.4 shows the media sources and locations from which respondents had heard of ACTs most recently. The percentage of those who had heard of ACTs ranged from 34% in Nigeria to 51% in Ghana. Radio was by far the dominant source of information in every country except Ghana, with 81% of respondents in Kenya naming radio as their source, and 41% and 40% in Nigeria and Madagascar, respectively, naming radio as their source. In Ghana, television was more important than radio; 60% of respondents in Ghana named television as their most recent source of information about ACTs. Television was cited by 26% of respondents in

Madagascar. Only 5-13% of respondents reported finding out about ACTs at a health center or clinic.

Country/Source	Residence		Total
	Urban	Rural	
Ghana (*Number of respondents*)	169	123	292
Billboard	0.0	0.0	0.0
Family/friends	3.6	5.7	4.5
Health center/clinic	4.1	4.9	4.5
Internet	0.0	0.0	0.0
Newspaper/magazine	0.0	0.0	0.0
Pharmacy	1.8	4.1	2.7
Poster	0.0	.0.8	0.3
Public event	1.2	0.0	0.7
Radio	23.7	28.5	25.7
Television	64.5	54.5	60.3
Other	0.0	0.8	0.3
Don't remember	1.2	0.8	1.0
Kenya (*Number of respondents*)	128	121	249
Billboard	0.0	0.8	0.4
Family/friends	0.8	2.5	1.6
Health center/clinic	6.3	6.6	6.4
Internet	0.0	0.0	0.0
Newspaper/magazine	0.8	0.8	0.8
Pharmacy	2.3	2.5	2.4
Poster	0.0	0.0	0.0
Public event	0.8	0.0	0.4
Radio	80.5	81.8	81.1
Television	7.8	5.0	6.4
Other	0.0	0.0	0.0
Don't remember	0.0	0.0	0.0
Madagascar (*Number of respondents*)	88	127	215
Billboard	0.0	0.0	0.0
Family/friends	13.6	3.1	7.4
Health center/clinic	20.5	7.1	12.6
Internet	0.0	0.0	0.0
Newspaper/magazine	0.0	0.0	0.0
Pharmacy	1.1	4.7	3.3
Poster	0.0	0.0	0.0
Public event	9.1	7.9	8.4
Radio	47.7	34.6	40.0
Television	2.3	41.7	25.6
Other	5.7	0.0	2.3
Don't remember	0.0	0.0	0.0
Nigeria (*Number of respondents*)	102	106	208
Billboard	8.8	4.7	6.7
Family/friends	11.8	5.7	8.7
Health center/clinic	11.8	10.4	11.1
Internet	1.0	0.9	1.0
Newspaper/magazine	1.0	0.0	0.5
Pharmacy	16.7	11.3	13.9
Poster	3.9	1.9	2.9
Public event	0.0	0.9	0.5
Radio	25.5	55.7	40.9
Television	18.6	8.5	13.5
Other	1.0	0.0	0.5

Table 6.1.4: Source from which respondents had most recently heard of ACTs

Percentage who mentioned hearing about ACTs from a specific source most recently (n) among respondents who have ever heard of ACTs (N), by urban/rural clusters, according to country, 2012

Note: Missing information for Madagascar: Rural: 0.8%; Total: 0.5%

Source: AMFm phase 1 Independent Evaluation - Additional Studies - Exit Interviews

6.1.4 Knowledge of AMFm logo

Respondents were asked if they had ever seen the AMFm logo and, if so, whether they had ever seen the logo in the outlet they had just visited. Overall, the percentage of respondents

who reported they had seen the logo was highest in Ghana (61%), intermediate in Kenya and Nigeria (32% each) and lowest in Madagascar (only 9%).

Among respondents who had ever seen the AMFm logo, Table 6.1.5 shows that the majority in most of the countries said they had never seen the logo in the outlet or they were not sure whether or not they had ever seen the logo in the outlet. The largest percentage of respondent who had seen the logo in the outlet they visited was in Nigeria (46%) and Kenya (43%). The percentages were much lower in Ghana (27%). Except in Ghana, the logo was much more likely to be seen in outlets in urban areas than in rural areas.

Table 6.1.5: Respondents who saw the AMFm logo in the outlet they visited			
Percentage who have ever seen the AMFm logo in the outlet where they were interviewed (n) among respondents who have ever seen the AMFm logo (N), by urban/rural clusters, according to country, 2012			
	Residence		
Country	Urban	Rural	Total
Ghana (*Number of respondents*)	193	159	352
Seen AMFm logo	20.7	34.0	26.7
No/not sure	79.3	66.0	73.3
Kenya (*Number of respondents*)	100	82	182
Seen AMFm logo	47.0	37.8	42.9
No/not sure	53.0	62.2	57.1
Madagascar (*Number of respondents*)	3	42	45
Seen AMFm logo	-	-	-
No/not sure	-	-	-
Nigeria (*Number of respondents*)	111	83	194
Seen AMFm logo	56.8	32.5	46.4
No/not sure	43.2	67.5	53.6
Note: Percentages for Madagascar are not shown because the number of cases is fewer than 50.			
Source: AMFm phase 1 Independent Evaluation - Additional Studies - Exit Interviews			

Table 6.1.6 shows that respondents who came to an outlet to get malaria treatment were hardly more likely than all respondents who had seen the AMFm logo to have seen it in the outlet. The difference was largest in Kenya (53% of those who came to obtain malaria treatment, compared with 43% of all respondents who came to the outlet for any reason).

Table 6.1.6: Respondents who saw the AMFm logo in the outlet they visited (among those who visited the outlet to obtain an antimalarial)

Percentage who have ever seen the AMFm logo in the outlet where they were interviewed (n) among respondents who have ever seen the AMFm logo and visited the outlet to get malaria treatment (N) by urban/rural clusters, according to country, 2012

	Residence		
Country	Urban	Rural	Total
Ghana (*Number of respondents*)	108	85	193
Seen AMFm logo	27.8	40.0	33.2
Not seen/not sure	72.2	60.0	66.8
Kenya (*Number of respondents*)	47	43	90
Seen AMFm logo	59.6	46.5	53.3
Not seen/not sure	40.4	53.5	46.7
Madagascar (*Number of respondents*)	3	27	30
Seen AMFm logo	-	-	-
Not seen/not sure	-	-	-
Nigeria (*Number of respondents*)	89	54	143
Seen AMFm logo	56.2	38.9	49.7
Not seen/not sure	43.8	61.1	50.3

Note: Percentages for Madagascar are not shown because the number of cases is fewer than 50.

Source: AMFm phase 1 Independent Evaluation - Additional Studies - Exit Interviews

Table 6.1.7 shows dramatic contrasts by country in the places identified by respondents where they had seen the AMFm logo. In Ghana, where 61% of respondents had seen the AMFm logo, 60% of those who saw the logo saw it on television. In Kenya, where 32% of respondents had seen the logo, the logo was seen mainly on antimalarial drug packages (59%), at health centers or clinics (43%) and in pharmacies (33%). Relatively few respondents had seen the logo in media other than television. In Nigeria, on the other hand, the largest percentage of respondents saw the logo on a billboard (35%).

Table 6.1.7: Source from which respondents have ever seen the AMFm logo

Percentage who saw the logo from specific sources among respondents who have ever seen the AMFm logo, by urban/rural clusters, according to country, 2012

	Residence		
Country	Urban	Rural	Total
Ghana (*Number of respondents***)**	193	159	352
Billboard	2.1	2.5	2.3
Health center/clinic	11.4	16.4	13.6
Internet	0.0	0.0	0.0
Newspaper/magazine	0.5	0.0	0.3
On antimalarial drug packages	13.0	22.6	17.3
Pharmacy	20.2	20.8	20.5
Poster	1.0	4.4	2.6
Public event	1.0	0.0	0.6
Television	69.4	48.4	59.9
Other	2.1	3.1	2.6
Kenya (*Number of respondents***)**	100	82	182
Billboard	0.0	1.2	0.5
Health center/clinic	44.0	41.5	42.9
Internet	0.0	0.0	0.0
Newspaper/magazine	4.0	1.2	2.7
On antimalarial drug packages	60.0	58.5	59.3
Pharmacy	44.0	19.5	33.0
Poster	6.0	4.9	5.5
Public event	0.0	0.0	0.0
Television	16.0	15.9	15.9
Other	2.0	4.9	3.3
Madagascar (*Number of respondents***)**	3	42	45
Billboard	-	-	-
Health center/clinic	-	-	-
Internet	-	-	-
Newspaper/magazine	-	-	-
On antimalarial drug packages	-	-	-
Pharmacy	-	-	-
Poster	-	-	-
Public event	-	-	-
Television	-	-	-
Other	-	-	-
Nigeria (*Number of respondents***)**	111	83	194
Billboard	28.8	42.2	34.5
Health center/clinic	12.6	6.0	9.8
Internet	1.8	0.0	1.0
Newspaper/magazine	0.0	1.2	0.5
On antimalarial drug packages	0.0	0.0	0.0
Pharmacy	27.0	18.1	23.2
Poster	7.2	6.0	6.7
Public event	0.0	1.2	0.5
Television	15.3	15.7	15.5
Other	0.0	7.2	3.1

Note: Percentages for Madagascar are not shown because the number of cases is fewer than 50.

Source: AMFm phase 1 Independent Evaluation - Additional Studies - Exit Interviews

6.1.5 Meaning of the AMFm logo

Respondents were asked about the meaning of the AMFm logo. The associations that respondents made with the logo are significant since the promotion of ACTs seeks to create an association of the logo with effective and inexpensive antimalarial drugs. Table 6.1.8 shows the responses of those who reported that they have ever seen the AMFm logo. The most common response in Kenya and Nigeria and the second most common response in Ghana was that the logo meant "herbal medicine": 46% in Kenya, 41% in Nigeria and 36% in Ghana. About one-third of respondents said the logo meant "malaria medicine" (38% in Ghana, 31% in Kenya and 35% in Nigeria). In addition, in Nigeria, 28% mentioned "good quality malaria medicine" and 21% mentioned ACTs. These results should be interpreted in

the context of the timing and reach of the supporting interventions on the logo that varied across countries.

Country/Meaning	Residence		Total
	Urban	Rural	
Table 6.1.8: Meaning of the AMFm logo: Respondents who have seen the AMFm logo before			
Percentage of respondents stating a specific meaning of the AMFm logo (n) as a percentage of all respondents who reported having seen the AMFm logo before (N), by urban-rural cluster, according to country, 2012			
Ghana *(Number of respondents)*	193	159	352
Malaria medicine	40.9	34.6	38.1
Good quality malaria medicine	10.4	5.7	8.2
ACTs	9.3	3.8	6.8
Good quality ACTs	5.2	2.5	4.0
Reasonably priced malaria medicine	0.0	0.6	0.3
Strong medicine	1.6	1.3	1.4
Herbal medicine	34.2	39.0	36.4
Don't know	11.9	14.5	13.1
Other	6.2	11.3	8.5
Kenya *(Number of respondents)*	100	82	182
Malaria medicine	35.0	26.8	31.3
Good quality malaria medicine	20.0	11.0	15.9
ACTs	9.0	12.2	10.4
Good quality ACTs	3.0	11.0	6.6
Reasonably priced malaria medicine	13.0	2.4	8.2
Strong medicine	20.0	20.7	20.3
Herbal medicine	37.0	56.1	45.6
Don't know	3.0	11.0	6.6
Other	9.0	9.8	9.3
Madagascar *(Number of respondents)*	3	42	45
Malaria medicine	-	-	-
Good quality malaria medicine	-	-	-
ACTs	-	-	-
Good quality ACTs	-	-	-
Reasonably priced malaria medicine	-	-	-
Strong medicine	-	-	-
Herbal medicine	-	-	-
Don't know	-	-	-
Other	-	-	-
Nigeria *(Number of respondents)*	111	83	194
Malaria medicine	34.2	34.9	34.5
Good quality malaria medicine	30.6	24.1	27.8
ACTs	16.2	8.4	12.9
Good quality ACTs	23.4	18.1	21.1
Reasonably priced malaria medicine	0.0	0.0	0.0
Strong medicine	19.8	19.3	19.6
Herbal medicine	52.3	26.5	41.2
Don't know	2.7	14.5	7.7
Other	7.2	4.8	6.2
Note: Percentages for Madagascar are not shown because the number of cases is fewer than 50.			
Source: AMFm phase 1 Independent Evaluation - Additional Studies - Exit Interviews			

6.1.6 Summary of results from exit interviews

These findings indicate that the promotion of ACTs as the main treatment for malaria is well underway in Kenya, and to a lesser degree in Ghana, but that the situation is much different in Nigeria and Madagascar. In Madagascar in particular, few people had heard of ACTs or seen the logo. More than half of those who had seen the logo in Madagascar did not know what it means, which is not surprising since the supporting interventions on the logo had not started in Madagascar by the time of the logo survey. The reliance on the recommendations of health care personnel and pharmacists (respondents may have been referring to drug store staff) suggests that the promotion of ACTs through those channels will be crucial in encouraging the use of ACTs in the future. It should be noted that while this study provides interesting insights about the population-level awareness of the AMFm program, the results should be interpreted with caution because of the small number and the non-random selection

process of participants. The results cannot be generalized to groups other than the participants. However, some of the keys issues raised can be the subject of further assessment to better understand the implications for the implementation of the AMFm program in these countries.

6.2 *Focus group discussions*

It should be noted that the FDGs are only meant to understand and report on perceptions of participants about malaria medicines and the AMFm logo, not to measure coverage or effectiveness of the awareness compaigns. The following findings should be interpreted within this context.

6.2.1 Description of the sample

Focus group discussions for the AMFm Phase 1 logo study were conducted in four countries: Ghana, Kenya, Nigeria and Madagascar.

Two focus group discussions (FGD) were held in each of the eight clusters in each country. The FGD participants were classified by gender, and the clusters were identified as urban or rural, since such a classification would increase homogeneity within the groups and because the research team thought there might be systematic differences by gender and by residence in the way participants discussed these issues.

6.2.2 Knowledge of treatment of malaria

The discussion of antimalarial treatments was normally preceded by a brief discussion of common symptoms of malaria. The description of symptoms did not vary much within groups, between men and women, or from country to country; participants seemed to know all too well what malaria felt like. In the discussions of how to treat malaria, participants mentioned treatments for fever and treatments for the malaria itself. It was not always possible to determine if participants were referring to treatments that were seeking to treat the symptoms, the underlying illness, or both. Participants in all groups mentioned treatments that could reduce high fever.

Treatments for malaria fall into three categories based on the origin of the medication. First, there are herbal medicines, most often leaves boiled so the sick person can drink the water or inhale the steam under a cover. Second, there are monotherapies that have been available for decades: chloroquine, Nivaquine, quinine, Fansidar, Halfan and related drugs (respondents referred to a mix of generic and brand names, and we have reported these directly as mentioned by respondents). Recent monotherapies include amodiaquine or artesunate. Third, there are ACTs that were known in some clusters but not in others.

The discussions of treatments for malaria, with expectations that individuals may recall the names of specific medications, are complicated by three phenomena often mentioned in these FGDs. One, we often heard individuals say that they do not know what they were given, since they went to the health care provider who gave them the necessary drugs to treat them.

Two, participants often referred to specific drugs by their color or by the number of tablets included in a full dose. A person will say: "I use the yellow one" or "I use the three by three drug" or "I use the 442." And three, in many group discussions, several persons stated that individuals are different; the medicine that works for you may not work for me, which complicates any generalization about what people think about the effectiveness of a specific drug.

Herbal medicines were often cited as treatments for malaria in Ghana and Nigeria, but were rarely cited in Kenya and Madagascar. The consensus position in Madagascar was that when one feels malaria symptoms, one needs to consult a community health worker or a nurse or doctor at a health center right away. The consensus in most of the FGDs in Ghana was that drugs such as chloroquine, Nivaquine and Fansidar are no longer readily available in outlets.

6.2.3 Knowledge and perceived availability of ACTs

Participants in focus group discussions were asked about their knowledge and use of ACTs and any specific ACTs available in their region. The moderators found that asking about different types of ACTs made little sense to people, for the participants in the majority of groups did not have a clear concept of what an ACT might be, and thus could not describe any types. In one group, they established a contrast between ACTs for infants and ACTs for children less than five years of age. Participants often noted that they may have used an ACT given or prescribed by a health care provider, but they were not sure whether or not they used an ACT since they did not know what they had been given.

In Kenya, some participants in FGDs reported that Coartem and AL were available, while other participants mentioned that ACTs were not available. The urban men's group in Kenya reported that they had never heard of ACTs. Participants had heard of ACTs on the radio and on television, but they had not yet seen the medicines in shops. Both women's and men's groups stated that some people take Coartem or AL, and in general, they like them because they are effective and have no side effects. People in several groups complained that the Coartem pills were too many (24) and they were too large to swallow easily.

Knowledge of ACTs in Nigeria varied greatly from one cluster to another. Six of the 16 groups reported they knew nothing about ACTs, while in another four, at least one person said they knew about using ACTs to treat malaria. The other groups knew about ACTs and spoke about using Coartem, a medicine they found was expensive. Participants in several groups noted that while they do not know about ACTs, it is possible that doctors had given them an ACT without explaining what medicine they had been given. Several groups noted that the effectiveness of medicines varied widely with individuals.

In Ghana, only two groups reported that they did not know about ACTs. In one of these groups (rural men), participants had a long discussion about whether local medicine or white man's medicine was more effective. In half of the clusters, participants were familiar with at least one ACT and found the medicine very effective, either artesunate-amodiaquine or

artemether-lumefantrine. The former was far more frequently mentioned than the latter. In the other groups, participants had seen advertisements on television over the past year or so, but were uncertain if the health care provider in health centers had given them an ACT or another drug for malaria. Several groups talked about the uncertainty of the price of ACTs, saying that they had to pay more than the price advertised, which might be an indication of the effects of the demand-shaping levers, given that the data collection for the FGDs occurred in February 2012.

The discussions of ACTs in Madagascar showed that five of the 16 groups knew about ACTs and used them to treat malaria. The main ACT available was Actipal, although Coartem was mentioned in one group. Several groups mentioned that community health workers sold or gave out ACTs for malaria. Several other groups reported that Actipal was free at the local government health center (Centre de Santé de Base). In half of the groups, most of the participants had never used an ACT themselves, but they had seen advertisements for ACTs on television several times. One group of rural women and one group of rural men had not heard of ACTs.

6.2.4 Knowledge and perception of the AMFm logo

After a discussion of the symptoms and treatments of malaria familiar to the participants, and sometimes following a discussion of ACTs, the focus group moderator showed the AMFm logo to the group and asked if they had seen this image. They were then asked what the logo meant or what image the logo brought to mind.

In Kenya, seven of the 16 FGDs said they had never seen the logo, although they had heard about it on the radio and/or television. In the other clusters, several individuals had seen the logo on medicine displayed in a chemist shop or similar outlet. The most common images that the logo suggested were a leaf, a tea leaf and herbal medicine. In one urban cluster, the women said the logo might mean cheap medicine for malaria, or government medicine, preferred medicine, or good quality medicine. Several groups suggested that the image of a mosquito be added to the logo for better comprehension.

The discussion groups in Ghana, with both men and women, all had some participants who had seen the logo on television, on billboards, or in chemist shops. In one rural cluster, the women said that the logo stands for ACTs; one person in that group stated that she buys the medicine when she sees the logo. In an urban cluster, several women noted that while the logo suggests herbal medicine to them, they have learned that it refers to malaria treatment. People in nearly all the clusters now associate the logo with treatment for malaria.

In Nigeria, in four of the eight female groups and one male group, no one had seen the logo before that day. In the 11 other groups, always at least one person, and sometimes several, had seen the logo on television and/or had heard of the logo on the radio. In one urban cluster, most of the men had seen the logo on television, and one person reported seeing it on a box of medicine. The men in that group said the logo suggested herbs or a leaf. Those same

men did not understand what was meant by ACTs. FGD participants said the logo suggested a leaf or a flower or local herbs to them. It should be noted that some of the participants may not have been exposed to any BCC campaigns about the AMFm logo and may not have seen the logo previously. Therefore, the perception is not necessarily a reflection of the effectiveness of the awareness campaign.

The FGD participants in Madagascar had not often seen the AMFm logo. In five of the eight clusters for women, no one had seen the logo to date. Among the clusters with males, three of the eight had never seen the logo. For the most part, those who had seen the logo had seen it advertised on television. In one urban cluster, more than half the women had seen the logo on TV or said they had seen it on drug packaging. In one rural cluster, most of the men had seen the logo on television, and they knew about ACTs. One man said the logo goes with the ACTs. While many had seen the logo as part of an advertisement on television, or heard about it as part of a radio show, very few had yet to try the medication. Most participants interpreted/perceived the logo as a leaf, a plant, herbal medicine or nature. In five different groups, it was suggested that the image of a mosquito should be on the logo. It should be noted that given the low exposure to the AMFm logo and any awareness campaigns, these responses should not be seen as a reflection of the effectiveness of these campaigns.

The reading of the FGD texts in each country was done in sequence to facilitate the comparison of male and female groups and urban versus rural groups. No consistent patterns were found of difference between men and women or by residence in relation to the treatments mentioned, the knowledge of ACTs or the knowledge of the AMFm logo. Overall, the discussions of symptoms of malaria and of treatment options were livelier and more spontaneous than were discussions of the types of ACTs or knowledge of the logo.

FGD participants in Kenya, Nigeria and Madagascar did not have sufficient familiarity with the AMFm logo to form associations between the logo and effective malaria treatment. Only in Ghana had nearly all participants seen the logo in advertisements and on billboards and on antimalarial drugs. Many had also used the medicine themselves. In several groups, women said that while they did not know the name of the medicine, they recognized the logo and that was the medicine they had used.

6.2.5   Summary of the results of the focus group discussions

It should be noted that the findings of the focus group discussions (FGD) do not necessarily address the coverage or effectiveness of the awareness campaigns, but highlight some of the social perceptions about malaria medicine and the AMFm logo. The FGD revealed the following:

- FGD participants in Madagascar spoke more about the importance of consulting a health care professional for malaria treatment than did those from other countries.

- In all countries, individuals with experience of using ACTs find they are very effective in treating malaria.

- FGDs revealed a great deal of variation in whether or not participants knew about ACTs or had used them themselves.

- Most participants in these FGDs associate the AMFm logo with leaves or herbal medicine, although many of the participants had not seen the logo before, or had not been exposed to accompanying communications. In part, this could be the result of the late introduction and limited reach of the supporting interventions on the AMFm logo, especially in Madagascar and Nigeria.

7 Summary of key findings from relevant operational research

During the Phase 1 timeframe, a number of operational research (OR) studies have been conducted alongside AMFm implementation in the pilot countries. These studies offer potential insights into the effects of additional or complementary interventions aimed at improving malaria case management. They include projects proposed by countries in their AMFm applications funded by Global Fund grants, a program of operations research commissioned and managed by the Clinton Health Access Initiative (CHAI), research conducted by the ACT Consortium that is led by the London School of Hygiene and Tropical Medicine and funded by the Bill and Melinda Gates Foundation, and an additional study commissioned directly by the Global Fund in response to specific requests and priorities of the AMFm Ad Hoc Committee.

The criteria we have applied for including a summary of the results of these studies in this report are the following:

1. Studies that report the effectiveness of interventions related to enhancing malaria case management in the public or private sectors in the context of AMFm implementation in the Phase 1 pilot countries

2. Studies for which endline results were made available to the IE team by May 11, 2012.

Only studies from the CHAI OR portfolio were made available by the deadline above. They include studies of a number of different interventions aimed at enhancing malaria case management. The interventions and key results are summarized in the table below. With the exception of the Cambodia subsidy program, these were all implemented at a sufficiently small scale that the interventions themselves are unlikely to have influenced the AMFm indicators. Note that the Cambodia study has been included in this summary even though Cambodia is not an operational AMFm pilot and is not included in the broader Independent Evaluation; this is because it has been the site of a national-scale intervention providing subsidized ACTs and RDTs through private outlets since 2003 and it offers important insights for AMFm implementation. Baseline findings from the Tanzania Remote Distribution Incentive Project are included even though no intervention was eventually implemented, because the baseline results and consequent decision not to implement the intervention provide important data regarding the availability of ACTs in remote areas.

Summary of operations research studies

Country and timeframe	Intervention	Scale of implementation	Research design/methods	Key findings
Tanzania February 2011 – January 2012 (Yadav, Cohen, Alphs et al. 2012)		3 regions initially selected (Lindi, Mtwara and Rukwa); Lindi dropped from later survey rounds due to budget constraints.	Retail audits conducted in all Accredited Drug Dispensing Outlets (ADDOs) in the selected regions. Five audit rounds conducted between Feb 2011 and Jan 2012. Audits recorded availability and price of ACTm (QAACTs with AMFm logo). Principal components analysis was used to estimate a remoteness index for each ADDO, comprising distance to supplier, distance to region-specific major towns, subjective road quality classifications assigned by the survey teams, altitude of ADDO and population in the area surrounding the ADDO. The measure was divided into quintiles, with the first three quintiles taken to be "remote" areas while the top two were assumed to be "non-remote" areas.	Summary: Availability of QAACTs with the AMFm logo increased in both regions over the period of study. Availability in remote outlets was slightly lower than in non-remote outlets by round 5, but availability in remote outlets was high enough that the plan to introduce an incentive scheme to encourage uptake in remote areas was abandoned. Stocking of ACTm increased over time in both Rukwa and Mtwara. By the fourth survey round, ACTm stocking in Mtwara reached over 85% of all ADDOs. Availability in Rukwa continued to rise up until the final survey round, reaching over 60% In Mtwara, ACTm stocking was spatially widespread by the second and third survey rounds. Spatial patterns of ACTm stocking in Rukwa were initially concentrated in areas adjacent to Lake Rukwa, spreading to the more urbanized areas of Sumbawanga and Mbeya, and by the final round nearly every area of the region had at least one ADDO which stocked ACTm. In all rounds more ADDOs were stocking adult packs of ACTm than child packs; in round 5, fewer than 30% of ADDOs stocked child packs. The gap in availability between remote and non-remote outlets decreased substantially over the 5 survey rounds, so that by round 5, ACTm was stocked by 61% of remote outlets and 65% of non-remote outlets in Rukwa, and by 86% of remote outlets and 95% of non-remote outlets in Mtwara. There were no significant differences in the price of adult artemether-lumefantrine between between remote and non-remote ADDOs in any audit round.
Uganda March 2011 – April 2012 (Cohen, Fink et al. n.d.)	Introduction of RDTs in drug shops: Training, initial supply of RDTs provided free of charge, link to wholesaler who would re-stock.	108 shops in 67 villages in 7 districts in Eastern Uganda invited to participate	Longitudinal study of outlets receiving the intervention, with monthly monitoring of shops, administrative data on RDT sales from wholesaler, and monthly household surveys (n=30 households x 67 villages); follow up was over 6 months.	**Summary**: Results indicate that drug shop staff can successfully administer RDTs, that there is interest among shopkeepers in stocking them, and that use of RDTs provided in drug shops can reduce inappropriate antimalarial use. Of 108 shops invited to the training, 92 (85%) attended and successfully completed training. Of 67 targeted villages, RDTs were available in at least one shop in 59 villages (88%). Of 92 shops with trained staff, 56 (61%) restocked RDTs at least once in 6 months. Over 6 months, 13,420 RDTs were sold (=2200/month). There was a high variance in RDT sales, with 6 shops accounting for 40% of volume. Median RDT price was USH 1,000 (USD 0.40), a 100% markup on purchase price. Compliance with protocols for treatment, storage and waste management was high. Intervention has potential to improve targeting: 30% of patients with a positive RDT received an ACT; 10.5% of those with negative RDT received an ACT.
Uganda November 2010 - August 2011 (Cohen, Yavuz and Ward. n.d.)	Effect of RDTs on adherence to ACT treatment. Effect of medicine packaging on adherence to ACT treatment (results not yet available)	Catchment areas of 9 drug shops located in and around 3 small trading centers in the east of Luwero district	Randomized controlled trial. Random assignment of treatment (standard ACT packaging or specialized packaging); random assignment of RDTs to purchasers of ACTs; follow-up surveys of 85% of ACT purchasers at their home to determine adherence.	**Summary**: The data on effectiveness of packaging on adherence are not yet available. Adherence to subsidized ACTs in standard packaging is only modest (65%). Being offered a malaria diagnosis via RDT does not appear to affect adherence. Among patients who purchased subsidized ACTs in standard AMFm approved packaging, 65% were probably adherent (completed entire treatment course, assessed through inspection of blister pack + self-report during a follow-up visit after 3 days). RDT positive patients were adherent in 66% of cases, similar to those not offered a RDT. RDT negative patients who nonetheless bought an ACT adhered in 55% of cases, although the difference from those not offered an RDT is not significant.

Summary of operations research studies, *cont.*

Country and timeframe	Intervention	Scale of implementation	Research design/methods	Key findings
Kenya May – December 2009 (pre-AMFm) (Cohen et al. 2012; Abdul Latif Jameel Poverty Action Lab 2012)	Varying levels of subsidy for ACTs (92%, 88%, 80%); some received subsidy for ACTs and RDTs (provided free, or at 85% subsidy)	Households living near 4 rural drug shops in Busia, Mumias and Samia districts, Kenya.	Randomized controlled trial. Households within 4 km of the drug shops (n=2,928) were sampled and randomly assigned to treatment groups (no subsidy, ACT subsidy, RDT subsidy and ACT subsidy). A subset received a surprise RDT after drug shop visit to assess targeting of ACTs to patients with malaria parasites.	**Summary**: ACT subsidy in drug shops led to increased treatment seeking for malaria, especially for children; a shift towards drug shops for treatment; a high rate of overtreatment for adults. A slightly lower subsidy did not compromise access for children although it reduced ACT use for adults; targeting of ACTs to those with malaria improved when the subsidy level was slightly lower. The RDT subsidy nearly doubled the share of illness episodes tested for malaria. Households not seeking treatment for fever decreased by 42% (*p*<0.01). Among literate households, there was a shift away from public facilities (from 38% to 24%, *p*<0.05) and toward drug shops (from 44% to 65%, *p*<0.01). Among illiterate households, most were already using the private sector, and the increase, from 59% to 66%, was not statistically significant. The subsidy increased ACT use more by the poorest households (from 11% to 38%, *p*<0.01), with a smaller and non-significant increase (8 percentage points) for literate-headed households. Among children under 18 years, the subsidy increased the share of ill children treated with ACTs from 34% to 47%; and among the poorest households, the subsidy increased ACT treatment of ill children from 15% to 44% (significance not reported). Overtreatment was uncommon among children (82% of children for whom a subsidized ACT was purchased tested positive for malaria). The ACT subsidy led to significant overtreatment by adults (only 25% of those who purchased a subsidized ACT tested positive for malaria). A slightly lower subsidy reduced ACT treatment by adults, but not for children; a lower subsidy also led to improved targeting of ACTs (75% of those purchasing an ACT at 80% and 88% subsidy had malaria, compared with only 56% at 92% subsidy, statistical significance not provided). The RDT subsidy doubled the share of illness episodes tested for malaria, from 22% to 43%. However, non-compliance with the test result was high (49% of those over age 5 who tested negative for malaria nonetheless purchased an ACT).
Cambodia 2003 onwards (scale-up of social marketing) October 2010 – February 2011 (fieldwork for this study) (Yeung et al. 2011)	Subsidized ACTs and RDTs in the private sector operating through a social marketing program, introduced in 2000 and scaled up to national level in 2003	The subsidy program operates at the national level (from 2003)	Mixed methods cross-sectional study in 12 health center catchment areas. Individual methods were: Census survey of 217 retail drug providers; RDT use assessed among 57 providers in retail drug shops and 11 village malaria workers; mystery shoppers in 211 retail drug shops; 8 focus group discussions; quality testing of RDTs retrieved from 12 drug shops in 12 different districts; temperature and humidity logged during RDT transit to 5 provinces and under routine storage conditions in 5 shops	**Summary**: The Cambodian experience of widespread availability of subsidized ACTs and RDTs in the private sector demonstrates the importance of locating these products within the context of the diversity of providers and their health care practices, and the management of fever more generally. Uptake of RDTs varied by type of provider (56% of mystery clients presenting with fever were advised to receive a blood test among cabinets (small private clinics); only 15% in grocery shops; differences related to self-perceived provider roles – "selling" vs. "treating"; Although the quality of RDTs can be compromised at multiple points in the distribution chain, temperature and humidity levels were acceptable during transit from central to provincial level; excessive temperatures were only observed during the final journey to retail shops. Only 55% of retail shops sold RDTs, 83% of these performed RDTs; some problems with RDT use were identified (e.g., blood collection, interpretation, and sharps disposal). 81% of retail shops surveyed sold the social marketing product (AS-MQ), and there were few problems of stockouts; some AMT was present, although regulation of AMT was reported to have reduced stocking behavior. Registration status was valued by providers, increasing their adherence to the MOH ban on AMT, despite limited understanding of the purpose of the ban. Treatment practices were influenced by a complex set of contextual and immediate factors. Providers tailored medicines to illness, severity, patient condition, preferences and side effects.

Summary of operations research studies, *cont.*

Country and timeframe	Intervention	Scale of implementation	Research design/methods	Key findings
Ghana May – October 2011 (Goldberg and Fink n.d.)	Text message reminders to improve adherence to ACT treatment	Patients recruited from 69 randomly selected health providers (ranging from small drug shops to large public health facilities) in Tamale city (the capital of Northern Region).	Randomized controlled trial. All patients who purchased antimalarials from selected facilities, living within 30 minutes drive of the shop, with access to personal or shared mobile phone. Participants randomized to control or treatment group; treatment group divided into those receiving "short" and "long" reminder messages. Follow-up interviews conducted 72 hours after enrollment to collect self-reports of adherence and pill-count from those who retained blister packs.	**Summary**: Overall adherence to ACTs is low (58% among the control group). Overall, the intervention had no significant effect (adherence was 58% among the control group and 61% among the intervention group). The shorter message had a larger effect than the longer message (65.1% adherence vs. 58%), but this was still not significant. The effect on children was larger and statistically significant (56% in control group vs. 68% in intervention group, $p<0.05$); and the shorter message was more effective than the longer message (74% vs. 62%, $p<0.01$).

These studies cover a range of different types of interventions that have the potential to improve malaria case management and targeting of antimalarials, particularly in private sector outlets. The interventions include studies which modify the core AMFm intervention by varying the subsidy level to examine the impact on both ACT use and targeting; and measures which could complement the AMFm subsidy on ACTs, such as providing subsidized RDTs to improve targeting of ACTs to those with malaria and increasing treatment adherence through text messaging. All of the studies show that such interventions are feasible to implement at a small scale (with the exception of the Cambodia study which took place against the backdrop of a national level program). However, the evidence on their effectiveness is mixed, and more evidence of the effectiveness and cost-effectiveness of such measures in large-scale programs is needed.

The studies also provide important background information on the context in which the ACT subsidy is being introduced, such as the low level of adherence to ACT treatment (56% among children in Ghana (Goldberg and Fink n.d.) and 65% in Uganda (Cohen, Yavuz and Ward n.d.), and on the generally high use of ACTs for treatment of non-malarial fevers. These findings on background adherence to and targeting of ACTs need to be interpreted in light of the broader evidence base which shows relatively poor adherence to and targeting of antimalarials in general. A recent review identified 23 studies of adherence to ACTs (Bruxvoort, 2012), most of which were undertaken in health facilities or specialized malaria clinics. Many of these were undertaken in the context of trials of interventions to improve adherence, or reported adherence outcomes along with clinical outcomes. A variety of different definitions of adherence and reporting methods were used. The studies which attempted to measure adherence under "real life" conditions reported adherence of 64-88% among patients at public health facilities, comparable with the levels of adherence observed in the AMFm OR studies.

Similarly, evidence of poor targeting of ACTs to those with malaria parasites found in these studies is consistent with existing evidence of the effects of introducing RDTs into health facilities. A variety of studies have shown that health care providers continue to prescribe antimalarials even in face of a negative RDT in as many as half or more cases (Whitty et al, 2008); and that a complex set of factors affect providers' prescribing behaviours, including initial training, influence of peers, pressure to conform with patient expettions, and quality of diagnostic support for febrile illness (Chandler et al, 2008). Successful deployment of RDTs to improve targeting of ACTs will require a comprehensive package of training and support, together with a clear understanding of the social and contextual influences on provider behavior (Chandler et al, 2010).

The evidence summarized here should also be seen in the context of the broader literature on improving malaria case management, which is summarized in review papers such as Goodman et al. (2007), Smith et al. (2009) and Wafula and Goodman (2010). These reviews have found that

medicine sellers are willing to participate in such interventions and that a range of interventions can be effective in improving provider knowledge and treatment practices. These include various forms of training; quality assurance programs such as accreditation, franchising and supervision; demand generation and consumer information; and adapting medicine packaging. Characteristics of successful programs include starting with a careful assessment of the context (including the legal and market environment), involving a wide range of stakeholders in the design of the interventions, including medicine sellers and central and local governments, and using a mix of approaches. The literature also suggests that achieving sustained changes in provider behavior requires compatibility between the financial incentives of providers and the desired behavior changes.

8 Success metrics and interpretation

8.1 *Ghana*

The success metrics scorecard for Ghana is shown in Figure 8.1.1. Achievement of the AMFm objectives, the supply of AMFm copaid drugs, implementation of supporting interventions, and contextual factors that could affect the achievement of the AMFm benchmarks are discussed below.

8.1.1 Achievement of AMFm objectives

Availability: QAACT availability across all outlets increased by 52 percentage points, from 31% at baseline to 83% at endline (Benchmark 1). Ghana has therefore easily met the benchmark of a 20 percentage point increase in QAACT availability ($p<0.0001$). There has been no increase in availability in the public sector. The largest rise was in private for-profit outlets, which saw an increase in QAACT availability of 58 percentage points. QAACT availability increased more in rural than in urban areas, resulting in elimination of the urban-rural gap in QAACT availability that was observed at baseline among all outlets and in private for-profit outlets. Even in remote areas, 78% of all outlets had QAACTs in stock at the time of the remote areas study (96% of public health facilities and 68% of private for-profit facilities). Availability of QAACTs with the AMFm logo was much higher than that of QAACTs without the logo (80% vs. 13%), although there was still relatively high availability of QAACTs without the logo in private for-profit health facilities/pharmacies at endline (43% of outlets). Availability of nAT in private for-profit outlets decreased by 12 percentage points, from 94% at baseline to 82% at endline. At endline, 47% of private for-profit outlets still stocked oral AMT. Non-quality-assured ACTs were also still prevalent at endline in both public health facilities (63%) and private for-profit outlets (67%). Non-quality assured ACTs were more commonly found in urban than in rural outlets.

Price: Dramatic decreases in median QAACT prices were observed between baseline and endline. Across all outlets, the median price per AETD fell from USD 3.42 to USD 0.94. In public health facilities, the QAACT price fell from USD 2.74 to USD 0.94, while in the private for-profit sector, the median price of QAACTs fell from USD 3.42 to USD 1.13, which is slightly higher than the RRP of USD 0.94. At endline, QAACTs were slightly more expensive in urban than rural areas (USD 1.25 vs. USD 0.94), but no difference in price was observed between private for-profit outlets in remote and non-remote areas. Between baseline and endline, the price of non-artemisinin therapy increased, from USD 1.03 to USD 1.50 overall, and from USD 0.91 to USD 1.31 in private for-profit outlets.

Figure 8.1.1: AMFm success metrics scorecard – Ghana

Availability

Benchmark 1: 20 percentage point increase from baseline in availability of all QAACTS

Percentage point change, 95% CI for change and p-value for test that QAACT availability is at least 20 percentage points higher, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	86.2	80.7	-5.5 (-14.5-3.5)	np
Private for-profit outlet	24.8	82.6	57.8 (51.7-63.8)	<0.0001
Total*	30.7	82.7	51.9 (46.2-57.7)	<0.0001

Price

Benchmark 2: Median price of QAACTs with the AMFm logo is less than 3 times the median price of the most popular antimalarial that is not a QAACT, in tablet form**

Ratio of medians, 95% CI for ratio, p-value for test that ratio is < 3, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of most popular non-QAACT	Ratio (95% CI)	p
Private for-profit outlet	USD 0.94	USD 0.31	3.0 (2.9-3.2)	0.8127

Benchmark 3: Median price of QAACTs with the AMFm logo is less the median price of AMT tablets

Difference in prices in USD (QAACT – AMT), 95% CI for difference, p-value for test that difference is negative, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of AMT	Difference (95% CI)	p
Private for-profit outlet	USD 0.94	USD 1.88	-0.94 (-0.95 - -0.93)	<0.0001

Further results

QAACT price in private for-profit outlets fell from USD 3.42 at baseline to USD 1.13 at endline (USD 1.25 in urban areas, USD 0.94 in rural areas). The median price of QAACTs with the AMFm logo was the same as the RRP of USD 0.94 (2010 prices) for an adult dose.

QAACT availability in all outlets increased by 36 percentage points in urban areas and 53 percentage points in rural areas, effectively closing the urban/rural gap in availability at endline.

QAACT market share was very similar in urban and rural outlets at endline.

Private for-profit outlets were responsible for 71% of all antimalarial sales at endline.

Use

Benchmark 4: 5-10 percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment

Percentage point change and p-value for t-test that use is at least 5 percentage points higher

	Baseline (%)	Endline (%)	Change (95% CI)	p
Children under 5 years	21.5	na	na	na

Market share

Benchmark 5: 10-15 percentage point increase from baseline in the market share of all QAACTs

Percentage point change, 95% CI and p-value for test that market share of QAACTs is at least 10 percentage points higher, by type of outlet

	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	45.6	69.0	23.3 (7.5-39.1)	0.0490
Private for-profit outlet	6.5	51.8	45.3 (40.3-50.4)	<0.0001
Total*	17.3	57.6	40.3 (33.0 -47.6)	<0.0001

Benchmark 6: Decrease in market share of oral AMTs

Percentage point change in market share, 95% CI for change and p-value for test that change is negative, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	1.1	0.1	-1.0 (-2.6-0.5)	0.0979
Private for-profit outlet	5.0	3.5	-1.5 (-3.4-0.5)	0.0676
Total*	3.6	2.5	-1.1 (-2.5-0.3)	0.0593

Process and context data

The AMFm agreement was signed on July 14 , 2010, and the first copaid drugs arrived in August 2010 (15.5 months before endline).

SIs including mass communication started in February 2011 giving 9 months of effective implementation before baseline. Global Fund demand levers meant that only 27% of orders were approved in second half of 2011. Contextual factors include LLIN distribution concurrent with AMFm implementation (5 million nets distributed by the end of 2011).

Notes: Green shading = benchmark was achieved, with strong statistical evidence (generally p<0.01); Amber shading = either benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak (p≥0.05); Red shading = benchmark was not met ; Grey shading for Benchmarks 3 and 6 = metrics are not relevant because the number of AMT products was very low at baseline. ACT = Artemisinin-based combination therapy; AMT = Artemisinin monotherapy; CI = Confidence interval; RRP = Recommended Retail Price; na = not available; np = not presented because availability exceeded 80 percent at baseline; QAACT = Quality-assured artemisinin-based combination therapy; SI = Supporting intervention; * Total includes CHWs and private not-for-profit facilities that are not shown separately; ** The most popular antimalarial in tablet form that was not a QAACT in the private for-profit sector in Ghana was SP.

The median price in private for-profit outlets for a QAACT carrying the AMFm logo was USD 0.94 per AETD. This is 3.0 times the median price of the most popular antimalarial which is not a QAACT in tablet form (SP), and therefore Ghana appears to have just missed Benchmark 2, which states that the ratio should be less than 3. The price of copaid QAACTs in the private for-profit sector was lower than that of AMT tablets (USD 1.88), meaning that Benchmark 3was comfortably met. In fact, the median price for copaid QAACTs in the private for-profit sector was only half as high as the median price for tablets. The median price of QAACTs without the AMFm logo was still very high at endline – USD 6.88 across all sectors and USD 7.51 in private for-profit outlets. There was very little change in the price of non-quality assured QAACTs between baseline and endline, when they were USD 3.44 across all outlets and USD 3.50 in private for-profit outlets. The gross percentage markup on QAACTs, measured among private for-profit outlets, increased from 33% to 50% between baseline and endline. However, with the large decrease in the median price of QAACTs, this amounts to a much smaller absolute markup at endline. The average markup was the same in remote and non-remote areas. The gross percentage markup in private for-profit outlets at endline was higher on copaid than on non-copaid QAACTS (50% vs. 36%), but again, because of the very large differences in the price of these products, the absolute markup on copaid QAACTs was much lower. As a comparator, the median gross percentage markup on nAT in the private for-profit sector was the same as for QAACTs (50%). The median total markup from the first line buyer price to the retail price in private for-profit outlets was USD 0.87.

Market share: The market share of QAACTs has more than tripled overall, from 17% to 58% of all antimalarials sold/distributed in the week preceding the survey. There was no difference in the market share between urban and rural areas, and QAACT market share reached the same level in remote and non-remote areas. Benchmark 5 of a 10 percentage point increase in market share from baseline to endline has easily been achieved overall, with a 40 percentage point increase ($p<0.0001$); it has also been met in each sector individually (with percentage point increases ranging from 23 to 61). The market share of oral AMTs was very low at baseline (4% in all types of outlets combined) and has remained very low at endline (3%). The decrease between baseline and endline (Benchmark 6) is of borderline statistical significance ($p=0.06$ for a test that the change was negative), but the relevance of this benchmark to Ghana is questionable given the low share for oral AMTs at baseline.

In the public and private non-profit sectors, the gain in QAACT market share was primarily due to a shift from non-quality assured ACT to QAACTs; while in private for-profit facilities, the main shift was from nAT to QAACTs, with a 45 percentage point increase in the QAACT market share and a 32 percentage point decrease in the nAT market share. This is consistent with QAACTs displacing nAT in the private sector. QAACTs with the AMFm logo accounted for 97% of all QAACTs sold or distributed, across all outlets and private for-profit outlets.

The private for-profit sector was responsible for at least two-thirds of all antimalarials sold or distributed at baseline and endline, with a higher market share at endline in urban areas than rural areas (76% vs. 57%).

8.1.2   Supply of AMFm copaid drugs

A total of 32 private for-profit FLBs were registered with the Global Fund as of January 31, 2012, and orders were placed by 14 of these private for-profit FLBs by December 2011. The Ministry of Health also registered as a public sector FLB, as did the Church Health Association of Ghana (CHAG), a private not-for-profit organization. The first orders for copaid QAACTs were placed in July 2010 by a private for-profit FLB and were delivered in August 2010. Distribution of these drugs did not begin until after the end of baseline data collection. Early problems with import procedures were resolved quickly, and a waiver was granted by the Ministry of Finance allowing taxes to be calculated on the FLB price rather than the market value of the drugs.

The first public sector FLB orders were placed only in July 2011 and were delivered in October 2011. The country case study indicates that this was because the Central Medical Stores (CMS) still held significant quantities of non-copaid ACTs ordered in 2010. Delays occurred in the procurement and delivery of public sector QAACT orders, and both the public sector and private not-for-profit providers were reported to have purchased QAACTs from private for-profit FLBs. Eighty-four percent of all public health facilities (including those without antimalarials in stock on the day of the interview) had QAACTS in stock at baseline, falling to 78% at endline (the change is borderline statistically significant). The private not-for-profit FLB had not placed an order by the end of 2011.

Stockouts of QAACTs along the private sector distribution chain were reported at the time of endline data collection as a consequence of the exercise of the Global Fund "demand levers," and some FLBs reported that they were considering restocking non-copaid ACTs to meet demand. As indicated in Table 1.2.2 only 27% of QAACTs requested by private sector FLBs were approved by the Global Fund in Q3 and Q4 of 2011. Delivery times were reported to have increased from eight weeks at the start of AMFm to as long as seven months.

A total of 24,673,726 copaid QAACT treatments were delivered between July 2010 and December 2011, amounting to 1.01 treatments per capita (the whole population of Ghana is considered at risk of malaria), of which 95% (0.95 treatments per capita) were delivered to private for-profit FLBs. A total of 15.5 months elapsed between the date the first drugs arrived in Ghana (August 2010) and the midpoint of endline outlet survey fieldwork. Supporting interventions started in February 2011, giving only 9 months of effective SI implementation.

8.1.3 Implementation of supporting interventions

A total of USD 22,042,722 was available through the Global Fund for SIs at the time of grant signing (this does not take into account interventions funded through other programs). As of November 2011, USD 10,312,120 had been disbursed, giving a per capita disbursement on SIs of USD 0.42. The commencement of SIs trailed the arrival of drugs in Ghana by approximately six months. Supporting interventions included communications, training of 12,000 health workers from the public and private sectors and some pharmacovigilance activities. Two operational research studies took place, but these were on a limited scale and therefore unlikely to have influenced AMFm outcomes.

The RRP of USD 0.94 for an adult dose did not appear on the packaging of copaid QAACTS, but was widely promoted in media campaigns and by the Pharmaceutical Society of Ghana to its members. It seems likely that the RRP was a significant factor in "anchoring" the price of QAACTs in Ghana. Provider awareness of the RRP was high (84%), with higher awareness in urban than in rural areas (91% vs. 73%). Of those who were aware of the RRP, 92% stated its correct level (95% in urban areas and 87% in rural areas).

Provider knowledge of the AMFm program was high, at 76% overall. Knowledge exceeded 85% in the public sector and in private for-profit health facilities/pharmacies. Over 50% of respondents stated that they had received some training on antimalarials with the AMFm logo, including 45% of private for-profit health facility/pharmacies and 60% of public health facilities. There was an increase in provider knowledge of the first line drug, with increases among private for-profit health facilities/pharmacies (8 percentage points, from 89% to 97%), and drug stores (9 percentage points, from 71% to 80%. The latter increase was only marginally significant).

Between baseline and endline there was a significant decrease in the responses "too expensive" (29% to 5%) and "my customers do not ask for them" (42% to 17%) as reasons for not stocking QAACTs among private for-profit providers.

There was a very high level of provider recognition of the AMFm logo at endline (93% overall and uniformly high across all sectors), although recognition was lower in rural than in urban areas (87% vs. 97%). Even in remote areas, 69% of providers reported that they had seen the logo. Of those recognizing the logo, 62% said it meant an effective/quality antimalarial, and 50% said it was an affordable antimalarial. Nine percent of respondents did not know what it meant. Logo recognition among the general population was lower, with 61% of exit survey respondents reporting that they had seen the logo. Television was the most common source cited. Of those who had seen the logo, 38% associated it with malaria medicine and 36% associated it with herbal medicine.

8.1.4   Context

A variety of taxes and duties are levied on imported antimalarials (other than quinine products which are exempt from all taxes). These are levied on the value of the commodity (the FLB price in the case of copaid QAACTs) plus shipping and insurance costs. In contrast, active pharmaceutical ingredient imported for use in locally manufactured nATs is tax exempt.

The period of pilot implementation was one of economic and political stability. Other programs supporting AMFm outcomes, such as home-based care, did not operate through the private sector, and they are unlikely to have affected availability and market share in these outlets. There was no increase in the availability of diagnostics between baseline and endline; and the availability of RDTs in public health facilities decreased from 59% to 32% ($p<0.05$). Mass distribution of LLINs took place during the AMFm pilot period, with 5 million nets distributed by the end of 2011. The National Health Insurance Scheme covers approximately 65% of outpatient service users in the public and private not-for-profit sectors, and the reimbursement rate for malaria treatment was reduced to encourage people to obtain copaid ACTs. ACTs had over-the-counter status.

8.1.5   Summary

Copaid QAACTs were available in Ghana for 15.5 months before the endline outlet survey, although supporting interventions were only implemented for 9 months before the survey. There is strong evidence that Ghana has met Success Benchmarks 1 (QAACT availability) and 5 (QAACT market share). The results for Benchmark 2 (QAACT price relative to the most popular antimalarial which is not a QAACT in tablet form suggest Ghana just missed the threshold; and the decrease in oral AMT market share (Benchmark 6) is of borderline statistical significance. However, the oral AMT market share was at a very low level (2.5%), despite relatively high availability in private for-profit outlets. The evidence about impressive changes in the availability and price of QAACTs, together with strong evidence of increased knowledge and awareness, the flow of copaid drug orders and the evidence on SI implementation, provide plausible evidence that AMFm is responsible for the substantial increase observed in QAACT market share. The high levels of availability and market share in remote areas underline the success of AMFm in reaching more vulnerable populations. These changes occurred despite the implementation of the Global Fund's demand levers, which substantially reduced the share of orders requested that were approved in the last 2 quarters of 2011. These changes are unlikely to be due to other contextual factors. The decrease in the market share of nAT in private for-profit outlets is consistent with AMFm crowding out nATs and not simply shifting demand from other ACTs. Although there was a large decrease in the price of QAACTs, the price benchmark appears just to have been missed. This may be because the relatively high RRP is acting as a floor for the QAACT price, and stopping it from falling below this level. This could also be due to the very low price of the most popular antimalarial which is not a QAACT (USD 0.31 for

tablets and all dosage forms), making this quite a difficult benchmark to reach. Differential tax treatment of imported medicines compared with locally produced drugs may have further contributed to the large difference between the price of QAACTs and SP.

8.2   Kenya

The success metrics scorecard for Kenya is shown in Figure 8.2.1. Achievement of the AMFm objectives, the supply of AMFm copaid drugs, implementation of supporting interventions, and contextual factors that could affect the achievement of the AMFm benchmarks are discussed below.

8.2.1   Achievement of AMFm objectives

Availability: QAACT availability across all outlets increased by 34 percentage points, from 32% at baseline to 66% at endline (Benchmark 1). Kenya has therefore easily met the benchmark of a 20 percentage point increase in QAACT availability (p=0.0007). Substantial increases were seen in both urban and rural areas (28 and 36 percentage points, respectively). Even in remote areas, QAACTs were available in 56% of outlets at the time of the remote areas study. The largest increase was in private for-profit outlets, which saw an increase in QAACT availability of 39 percentage points. At endline, in the public and private not-for-profit sectors, availability of QAACTs with and without the AMFm logo was very similar, but in the private for-profit sector, availability of QAACTs with the logo was 59% compared with only 5% for QAACTs without the logo. QAACTs with the logo had also substantially penetrated remote areas, with 45% of private for-profit outlets stocking them. Availability of nATs fell significantly, from 91% to 81% overall and from 93% to 77% in private for-profit outlets.

Price: The median price of QAACTs in the private for-profit sector fell dramatically between baseline and endline, from USD 2.63 per AETD to USD 0.58, although the endline median price was still somewhat higher than the RRP of USD 0.46. There were significant falls in both urban and rural areas, although prices remained slightly higher in urban areas at endline (USD 0.61 versus USD 0.46 in rural areas). In the public and private not-for-profit sectors, the median price remained USD 0.00 at baseline and endline, reflecting the policy of free ACT provision. Due to an increase in sales in the private for-profit sector, the overall median price rose from USD 0.00 to USD 0.46.

The median price at endline for a QAACT with the AMFm logo was USD 0.46 per AETD overall (exactly equal to the RRP) and USD 0.52 in the private for-profit sector. Prices were slightly higher in remote than non-remote areas (USD 0.69 vs. USD 0.46), although the remote areas study took place four months after the endline outlet survey when the Global Fund's demand levers may have placed upward pressure on QAACT prices. The median among private for-profit outlets is exactly equal to the median price of the most popular antimalarial which is not a QAACT (SP) in private for-profit outlets, whether this is measured in tablet form or among all dosage types, therefore Kenya comfortably met pricing Benchmark 2. It was not possible to compute Benchmark 3 for Kenya, as the number of AMT products audited at endline was fewer

than 50. By contrast, there was no significant change in the price of non-quality assured ACTs in the private for-profit sector between baseline (USD 7.00) and endline (USD 6.91). Of providers not stocking QAACTs, the percentage who said this was due to their high price fell substantially, from 28% at baseline to 11% at endline.

Figure 8.2.1: AMFm success metrics scorecard – Kenya

Availability

Benchmark 1: 20 percentage point increase from baseline in availability of all QAACTS

Percentage point change, 95% CI for change and p-value for test that QAACT availability is at least 20 percentage points higher, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	87.5	97.0	9.5 (0.7-18.3)	np
Private for-profit outlet	21.2	60.2	38.9 (29.7-48.2)	<0.0001
Total*	31.2	65.8	34.6 (25.8-43.4)	0.0007

Price

Benchmark 2: Median price of QAACTs with the AMFm logo is less than 3 times the median price of the most popular antimalarial that is not a QAACT , in tablet form**

Ratio of medians, 95% CI for ratio, p-value for test that ratio is < 3, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of most popular non-QAACT	Ratio (95% CI)	p
Private for-profit outlet	USD 0.52	USD 0.52	1.0 (0.6-1.5)	<0.0001

Benchmark 3: Median price of QAACTs with the AMFm logo is less the median price of AMT tablets

Difference in prices in USD (QAACT – AMT), 95% CI for difference, p-value for test that difference is negative, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of AMT	Difference (95% CI)	p
Private for-profit outlet	USD 0.52	ns	ns	ns

Further results

QAACT price in private for-profit outlets fell from USD 3.42 at baseline to USD 1.13 at endline (USD 1.25 in urban areas, USD 0.94 in rural areas). The median price of QAACTs with the AMFm logo is the same as the RRP of USD 0.94 (2010 prices) for an adult dose.

QAACT availability in all outlets increased by 36 percentage points in urban areas and 53 percentage points in rural areas, effectively closing the urban/rural gap in availability at endline.

QAACT market share was very similar in urban and rural outlets at endline.

Private for-profit outlets were responsible for 71% of all antimalarial sales at endline.

Use

Benchmark 4: 5-10 percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment

Percentage point change and p-value for t-test that use is at least 5 percentage points higher

	Baseline (%)	Endline (%)	Change (95% CI)	p
Children under 5 years	18.0	na	na	na

Market share

Benchmark 5: 10-15 percentage point increase from baseline in the market share of all QAACTs

Percentage point change, 95% CI and p-value for test that market share of QAACTs is at least 10 percentage points higher, by type of outlet

	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	60.0	47.6	-12.4 (-52.8-27.9)	0.8636
Private for-profit outlet	12.1	61.4	49.3 (39.5-59.1)	<0.0001
Total*	25.8	57.1	31.3 (12.7-49.9)	0.0125

Benchmark 6: Decrease in market share of oral AMTs

Percentage point change in market share, 95% CI for change and p-value for test that change is negative, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	0.0	0.0	0.0	0.9790
Private for-profit outlet	1.4	0.1	-1.3 (-2.8-0.2)	0.0407
Total*	0.9	0.0	-0.9 (-2.0-0.2)	0.0603

Process and context data

The AMFm agreement was signed on July 14 , 2010 and the first copaid drugs arrived in August 2010 (15.5 months before endline). During Q3 and Q4, only 56% of treatments requested by private for-profit buyers were approved, due to Global Fund demand management.

SIs including mass communication started in February 2011 giving 9 months of effective implementation before baseline. Contextual factors included an emergency response to a predicted malaria epidemic which did not arise; mass distribution of LLINs, depreciation of Kenya shilling; high level political support for AMFm.

Notes: Green shading = benchmark was achieved, with strong statistical evidence (generally p<0.01); Amber shading = either benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak (p≥0.05); Red shading = benchmark was not met ; Grey shading for Benchmarks 3 and 6 = metrics are not relevant because the number of AMT products was very low at baseline. ACT = Artemisinin-based combination therapy; AMT = Artemisinin monotherapy; CI = Confidence interval; RRP = Recommended Retail Price; na = not available; np = not presented because availability exceeded 80 percent at baseline; ns = not shown because the number of observations for either baseline or endline is fewer than 50 outlets/products (availability/price) or fewer than 500 AETDs (market share); QAACT = Quality-assured artemisinin-based combination therapy; SI = Supporting intervention; * Total includes CHWs and private not-for-profit facilities that are not shown separately;
** The most popular antimalarial in tablet form that was not a QAACT in the private for-profit sector in Kenya was SP.

The gross percentage markup on QAACTs, measured among private for-profit outlets, increased slightly from 40% to 48% between baseline and endline, although with the large decrease in the median price of QAACTs, this amounts to a much smaller absolute markup at endline. The gross percentage markup in private for-profit outlets at endline was higher on QAACTs with the logo than on QAACTs without the logo (50% vs. 40%), but again, because of the large differences in the price of these products, the absolute markup on copaid QAACTs was much lower. Markups on QAACTs were the same in remote and non-remote areas. As a comparator, the gross percentage markup on non-artemisinin therapy (nAT) in the private for-profit sector was very similar across the two periods, at 48% and 50% respectively, and very similar to that of QAACTS at endline. The median total markup from first line buyer price to retail price in private for-profit outlets was low, at only USD 0.40.

Market share: Market share of QAACTs has increased overall from 26% to 57% of all antimalarials sold/distributed in the week preceding the survey, with similar increases in urban and rural areas. Benchmark 5 of a 10 percentage point increase in market share from baseline to endline was achieved overall (p=0.01) and within the private for-profit (p<0.0001) and private not-for-profit sectors (p=0.002). Surprisingly, there is some evidence that QAACT market share fell in the public sector, although the decrease was not significant. Even in remote areas, QAACT market share was 48% among all outlets (77% in public health facilities and 40% in private for-profit outlets). Overall market share of oral AMTs was negligible at baseline (0.9%) and almost zero at endline (0.05%) (p=0.06 for Benchmark 6 that the change was negative, although this benchmark is not relevant in the context of such low oral AMT sales at baseline).

In the private for-profit and private not-for-profit sectors, the gain in QAACT market share was accompanied by a decrease in the market share of nAT (falls in nAT market share of 44 and 49 percentage points, respectively); there was also some indication of a reduction in the market share of non-quality-assured ACTs in urban areas.

At endline, QAACTs with the AMFm logo accounted for 88% of all QAACTS dispensed overall and 97% of all QAACTs dispensed in the private for-profit sector.

The private for-profit sector was responsible for 67% of all antimalarials sold or distributed at baseline, accounting for 79% and 63% in urban and rural areas, respectively. At endline, the share in urban areas had further risen to 89%, but in rural areas the share had fallen to 52%, giving an overall endline share of 62%.

8.2.2 Supply of AMFm copaid drugs

Seven private sector FLBs registered and established relationships with manufacturers, and the FLB for the public sector was the Kenya Medical Supplies Agency (KEMSA). Orders were

placed with six of these private for-profit FLBs by December 2011. The first orders for copaid QAACTs were placed in July 2010 by a private for-profit FLB and delivered in August 2010. The first public sector orders were placed in April 2011 and delivered from June 2011, in several batches. Public sector facility stockouts were not reported except for a four-week period in July and August 2011. This was corroborated by the finding that at endline 94% of all public facilities had QAACTs in stock, compared with only 80% of public facilities at baseline. Some delays were reported in deliveries from manufacturers to FLB, and the Global Fund "demand levers" were said to have slowed down approval of orders from August 2011. During Q3 and Q4 of 2011, only 56% of treatments requested by private for-profit and private not-for-profit FLBs were approved by the Global Fund, as a result of the exercise of the demand management process (see Table 1.2.2). Between August 2010 and the end of December 2011, a total of 14.1 million treatment doses had been received by private sector FLBs, and between June 2010 and the end of 2011, 14.3 million were received by the public sector, amounting to a total of 0.9 treatments per person at risk of malaria (76% of the Kenyan population are considered at risk).

There were no major issues reported in the registration of FLBs, the determination of order quantities or customs clearance, although at first there was some confusion as to whether customs levies should be charged on the full or subsidized price of copaid ACTs.

The first copaid drugs arrived in Kenya in August 2010, with a national launch in the same month (see below), but baseline outlet survey data collection was conducted from September to November 2010. By the end of baseline data collection, 1,613,600 copaid treatments had arrived in Kenya. This implies that some of the indicators may capture limited AMFm implementation at baseline, meaning that the achievements in terms of QAACT availability, price and market share may have been somewhat under-estimated. A total of 15 months elapsed between the date the first drugs arrived in Kenya and the midpoint of endline outlet survey fieldwork.

8.2.3 Implementation of supporting interventions

A total of USD 16,571,492 was available through the Global Fund for SIs at the time of grant signing (this does not take into account interventions funded through other programs). As at November 2011, USD 7,426,298 had been disbursed, giving a per capita disbursement on SIs of USD 0.18. Although a national launch was conducted in August 2010, the start of most SIs trailed the arrival of drugs in Kenya by approximately six months starting in February 2011, giving only 9 months of effective SI implementation. The main supporting intervention was an IEC/BCC campaign. Training was also planned, although by December 2011 only 733 private sector health workers had been trained. During the endline outlet survey, 12% of respondents in private for-profit outlets said they had received some training on antimalarials with the AMFm logo. Pharmacovigilance activities were also conducted, but no operational research had taken place by December 2011. The RRP of USD 0.46 for all pack sizes did not appear on the packaging of copaid QAACTS, but was widely promoted in media campaigns, and appears to

have had an important influence on retail prices. Provider awareness of the RRP was high during the endline outlet survey (72% of providers), especially in private for-profit health facilities and pharmacies (82%) and drug stores (93%). Of those who were aware of the RRP, 95% stated its correct level.

There was a significant increase in provider knowledge of the first-line antimalarial; this was already almost universal at baseline among public and private not-for-profit providers, but among private for-profit providers it increased from 45% to 66%.

Provider recognition of the AMFm logo rose from 19% at baseline to 77% at endline. Even in remote areas, 69% of providers had seen the logo. Of those recognizing the logo, 29% said it meant an effective/quality antimalarial, 25% an ACT and 16% an affordable antimalarial. One-quarter of respondents did not know what it meant. Provider knowledge of the AMFm program was 58%, with no significant differences across sectors. Logo recognition was lower among people exiting outlets, as only 32% reported that they had seen the logo, although 81% respondents in Kenya heard about ACTs on the radio. The most common sources for seeing the logo were drug packaging, a health center/clinic and a pharmacy.

8.2.4   Context

Two other initiatives may have contributed to QAACT availability in the public sector: ACT provision through the President's Malaria Initiative (PMI) and emergency provision of antimalarials to parts of Kenya in preparation for a predicted epidemic in late 2011 (although the epidemic did not materialize). The ban on artemisinin monotherapies since 2006 is also thought to have provided an environment conducive to expansion of QAACT market share. Mass distribution of long-lasting insecticidal nets (LLINs) may have reduced antimalarial demand to some degree. There were no significant changes in the availability of diagnostics between baseline and endline. There was a substantial depreciation of the Kenya shilling between baseline and endline outlet surveys, but this was not thought to have had a major impact on QAACT prices. Political support for AMFm is reported to have been high. ACTs did not have over-the-counter status.

8.2.5   Summary

There is strong evidence that Kenya has met Success Benchmark 1 on QAACT availability, 2 on price, and 5 on market share. Data are not available to assess Benchmark 4 on use, and Benchmark 6 on decrease in AMT market share is not relevant given the negligible AMT share at baseline. The evidence about changes in the availability and price of QAACTs, together with strong evidence of increased knowledge and awareness, the flow of copaid drug orders and the evidence on implementation of the IEC/BCC campaign, provide plausible evidence that AMFm is responsible for the substantial increase in QAACT market share observed. These changes occurred despite the implementation of the Global Fund's demand levers, which had a significant

effect on the share of orders approved in the last two quarters of 2011. Substantial levels of QAACT availability and market share were also observed in remote areas. QAACT prices in private for-profit outlets were slightly higher in remote areas, although the demand levers may have placed upward pressure on prices by the time the remote areas survey was undertaken. Contextual factors that could also have contributed to increased QAACT availability (PMI procurement and epidemic preparedness) operated mainly in the public sector where QAACT market share appeared actually to have fallen, and not in the private for-profit and private not-for-profit sectors, which saw substantial and significant increases. The decrease in the market share of nAT in private for-profit outlets is consistent with a view that AMFm is crowding out less effective antimalarials.

8.3   *Madagascar*

The success metrics scorecard for Madagascar is shown in Figure 8.3.1. Achievement of the AMFm objectives, the supply of AMFm copaid drugs, implementation of supporting interventions, and contextual factors that could affect the achievement of the AMFm benchmarks are discussed below.

8.3.1   Achievement of the objectives

Availability: There was no significant difference in overall QAACT availability between baseline (23%) and endline (28%), meaning that Madagascar did not meet Benchmark 1. There was no change in QAACT availability in the private for-profit sector, which remained low (8% at baseline and 9% at endline). However, there was considerable variation within the private for-profit sector. QAACT availability at baseline and endline was much higher in private for-profit health facilities/ pharmacies (47% at baseline and 63% at endline) and drug stores (56% at baseline and endline), than in general retailers (3% at baseline and 2% at endline). These latter outlets are not licensed to stock or sell ACTs. A very high number of general stores were screened for the outlet surveys, of which antimalarials were stocked by 32% baseline and 21% at endline (principally cholorquine), meaning that general stores represented a high proportion of private for-profit antimalarial outlets, thereby pulling down average QAACT availability in the private for-profit sector as a whole. For private for-profit health facilities/pharmacies and drug stores, QAACT availability at endline was substantially higher in urban areas (90% and 88%, respectively) than in rural areas (30% and 53%, respectively), and this urban-rural disparity appeared to have widened since baseline. This was reflected in the significantly higher QAACT availability in the urban private for-profit sector as a whole at endline (19% versus 8% in rural areas).

In public facilities, QAACT availability was already high at baseline (83%) and increased further to 94% at endline. This represents a significant increase from baseline. The increase in public facility availability was particularly marked in urban areas (from 66% to 91%). QAACT availability was high among community health workers (CHWs) at both baseline (99.8%) and

endline (92%). At endline, in public facilities and private for-profit health facilities/pharmacies, availability of QAACTs with and without the AMFm logo was very similar, but in drug stores, availability of QAACTs with the logo was 51% compared with only 12% for QAACTs without the logo.

Price: In the public and private not-for-profit sectors, the median QAACT price remained USD 0.00 at baseline and endline, reflecting the policy of free ACT provision. Pooling all sectors, the median price also remained at zero. However, the median price of QAACTs in the private for-profit sector increased significantly between baseline and endline, from USD 0.14 to USD 0.60 per AETD. This mainly reflected significant increases in prices in drug stores and general

Figure 8.3.1: AMFm success metrics scorecard – Madagascar

Availability

Benchmark 1: 20 percentage point increase from baseline in availability of all QAACTS

Percentage point change, 95% CI for change and p-value for test that QAACT availability is at least 20 percentage points higher, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	83.2	93.7	10.5 (4.7-16.4)	np
Private for-profit outlet	8.1	9.2	1.0 (-3.3 – 5.4)	0.9999
Total*	23.4	28.1	4.6 (-7.2 - 16.5)	0.9943

Price

Benchmark 2: Median price of QAACTs with the AMFm logo is less than 3 times the median price of the most popular antimalarial that is not a QAACT , in tablet form**

Ratio of medians, 95% CI for ratio, p-value for test that ratio is < 3, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of most popular non-QAACT	Ratio (95% CI)	p
Private for-profit outlet	USD 0.51	USD 0.32	1.6 (1.6-1.6)	<0.0001

Benchmark 3: Median price of QAACTs with the AMFm logo is less the median price of AMT tablets

Difference in prices in USD (QAACT – AMT), 95% CI for difference, p-value for test that difference is negative, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of AMT	Difference (95% CI)	p
Private for-profit outlet	USD 0.51	ns	ns	ns

Further results

Sample contains large number of general stores stocking antimalarials, but these are less likely to stock QAACTs; QAACT availability in all outlets was same in urban and rural areas (28%); QAACT availability was higher in private health facilities/pharmacies than drug stores or general stores, some evidence that availability increased in these outlets (from 47% to 63%); in these outlets, availability much higher in urban than rural areas, and the disparity increased from baseline.
QAACT price in private for-profit sector increased from USD 0.14 to USD 0.60 (low baseline price in private outlets in rural areas, and in drug stores and general stores in urban areas, may reflect ACTipal). Private for-profit share of all antimalarials was 49 percent at endline.

Use

Benchmark 4: 5-10 percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment

Percentage point change and p-value for t-test that use is at least 5 percentage points higher

	Baseline (%)	Endline (%)	Change (95% CI)	p
Children under 5 years	1.0 -3.3***	na	na	na

Market share

Benchmark 5: 10-15 percentage point increase from baseline in the market share of all QAACTs

Percentage point change, 95% CI and p-value for test that market share of QAACTs is at least 10 percentage points higher, by type of outlet

	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	27.4	12.7	-14.7 (-37-7.5)	0.9851
Private for-profit outlet	6.8	22.0	15.1 (5.6-24.6)	0.1428
Total*	12.1	20.7	8.6 (-0.6-17.9) ****	0.6150

Benchmark 6: Decrease in market share of oral AMTs

Percentage point change in market share, 95% CI for change and p-value for test that change is negative, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	0.0	0.0	0.0	-
Private for-profit outlet	0.0	0.0	0.0	-
Total*	0.0	0.0	0.0	-

Process and context data

The AMFm agreement was signed on May 11, 2010, and the first copaid drugs arrived in October 2010 (14 months before endline).
Some SIs took place in July 2010. National launch took place January 2011. Communications activities started in April 2011, but were halted after one month. Other SIs included training of doctors, paramedics, lab technicians and CHWs, and an intervention involving medical representatives. There was no RRP. Contextual factors included national scale social marketing of pediatric ACTs to CHWs and private retailers from 2008; IRS and mass distribution of LLINs; continued effects from the 2009 coup d'état, leading to political and economic deterioration.

Notes: Green shading = benchmark was achieved, with strong statistical evidence (generally p<0.01); Amber shading = either benchmark was nearly, but not fully, met, or the uncertainty around the point estimate for benchmark indicates that it was met but with weak statistical evidence (p≥0.05); Red shading = benchmark was not met; Grey shading for Benchmarks 3 and 6 = metrics are not relevant because the number of AMT products was very low at baseline; ACT = Artemisinin-based combination therapy; AMT = Artemisinin monotherapy; CI = Confidence interval; na = not available; np = not presented because availability exceeded 80 percent at baseline; ns = not shown because the number of observations for either baseline or endline is fewer than 50 outlets/products (availability/price) or fewer than 500 AETDs (market share); QAACT =Quality-assured artemisinin-based combination therapy; SI = Supporting intervention; * Total includes CHWs and private not-for-profit facilities that are not shown separately; ** The most popular antimalarial in tablet form that was not a QAACT in the private for-profit sector in Madagascar was chloroquine; *** Based on two different baseline surveys (DHS and ACTwatch); **** The power to detect a 10 percentage point increase in market share was only 70% in Madagascar, compared with the usual minimum standard of 80%; therefore, p-values should be interpreted with caution.

retailers, especially in rural areas. It is clear that QAACT prices at baseline were well below their unsubsidized levels in all rural private for-profit outlet types, and in drugstores and general stores in urban areas. This is likely to have reflected the pediatric ACT subsidy program for Actipal (artesunate-amodiaquine) that PSI had been operating in Madagascar since 2008 with distribution through CHWs and retailers. Retail sector Actipal had an RRP of 100 ariary (about USD 0.05), which was increased to ariary 200 (USD 0.10) in November 2010, implying a recommended price per AETD of USD 0.10-0.20 at baseline and USD 0.20-0.40 at endline. Distribution of Actipal continued during AMFm phase 1, with procurement of 705,000 treatments between February 2010 and August 2011. As a result, at endline in rural drug stores and general stores, the median price of QAACTs without the logo was similar to the median price of QAACTs with the logo. However, in urban areas, QAACTs without the logo were much more costly than those with the logo in the private for-profit sector (median of USD 0.51 with the logo and USD 9.10 without the logo), indicating that unsubsidized QAACTs were still common in urban areas. Moreover, the median price of non-quality-assured ACTs in the private for-profit sector was much higher than for QAACTs, and it had significantly increased between baseline (USD 5.61) and endline (USD 9.14).

The median price at endline for a QAACT with the logo in private for-profit outlets (USD 0.51) was 1.6 times the median price of the most popular antimalarial which is not a QAACT in tablet form (chloroquine) in private for-profit outlets. Madagascar therefore comfortably met price Benchmark 2. Benchmark 3 was not relevant in Madagascar as there were no price observations for oral AMT, reflecting its absence from the market.

The gross percentage markup on QAACTs, measured among private for-profit outlets, increased slightly between baseline (38%) and endline (44%), and was almost the same at endline for QAACTs with the logo (43%) and QAACTs without the logo (44%). As a comparator, the gross percentage markup on non-artemisinin therapy (nAT) in the private for-profit sector was 67% at both baseline and endline. The median total markup from first line buyer price to retail price in private for-profit outlets was low, at only USD 0.45 suggesting that the low mark up informally agreed by FLBs was adhered to.

Market share: Overall market share of QAACTs was 12% at baseline and 21% at endline, but this change did not meet Benchmark 5 of a 10 percentage point increase; however the power to detect a 10 percentage point increase in market share is below the usual minimum standard of 80%, so the p-value should be interpreted with caution. In the private for-profit sector, market share increased from 7% to 22%. This 15 percentage point change is significantly different from zero, but the p-value (0.14) provides only weak evidence that the 10 percentage point threshold was met. The gain in QAACT market share in this sector was accompanied by a reduction in the market share of nAT. Surprisingly, there is some evidence that QAACT market share fell in the public sector, although this decrease was not significant. The public sector QAACT market share

also seems surprisingly low at endline (13%), given that QAACT availability was 91% in all public health facilities (including those without antimalarials in stock on the day of the interview), with nATs accounting for 79% of market share. Overall market share of oral AMTs was zero at baseline and endline, meaning that Benchmark 6 was not relevant in Madagascar. At endline, QAACTs with the AMFm logo accounted for 86% of all QAACTS dispensed overall and 95% of all QAACTs dispensed in the private for-profit sector.

The private for-profit sector was responsible for 82% of all antimalarials sold or distributed at baseline, and 70% at endline, with the private sector share being slightly higher in urban areas at both time points.

8.3.2 Supply of AMFm copaid drugs

Eight private sector FLBs registered and placed orders with manufacturers, and the FLB for the public sector was the public sector procurement agency, the Unité de Gestion de Projet (UGP). Orders were placed with all eight of these private for-profit FLBs by December 2011. The first orders for copaid QAACTs were placed in September 2010 by a private for-profit FLB, with small quantities being delivered in October and December 2010 and larger quantities in February 2011. The first public sector orders were placed in December 2010, with first deliveries in February 2011.

Lead times between approval and delivery have ranged from a couple of weeks to nearly six months, and were reported to have been particularly long in the second half of 2011. There were also initially some problems with customs clearance leading to month-long delays, but these were resolved. The Global Fund had not applied "demand levers" to constrain order approval for Madagascar (see table 1.2.2). Public sector availability was quite high at endline, with 91% of all public health facilities having QAACTs in stock.

By the end of December 2011, a total of 1.2 million treatment doses had been received by private sector FLBs, and 489,000 by the public sector, amounting to only 0.08 treatments per capita or one treatment for every 12 people (the whole population of Madagascar is considered at risk of malaria). A total of 14 months elapsed between the date the first drugs arrived in Madagascar and the midpoint of endline outlet survey fieldwork. Some supporting interventions began in July 2010, before the first copaid drugs arrived.

8.3.3 Implementation of supporting interventions

A total of USD 2,052,437 was available through the Global Fund for SIs at the time of grant signing (this does not take into account interventions funded through other programs). As of

November 2011, USD 1,334,422 had been disbursed, giving quite a low per capita disbursement on SIs of USD 0.06 (and all disbursed funds may not have been spent by December 2011).

A national launch was conducted in January 2011, with communication activities beginning in April 2011. Promotional materials were provided to private medicine practitioners, businesses in the private sector supply chain, and CHWs. A radio and TV campaign was begun in April 2011, but terminated in May 2011 because it was deemed to contravene the law prohibiting advertising of prescription drugs to the general population. There was no maximum or recommended retail price for copaid ACTs in Madagascar, although at endline 15% of respondents stated that there was one, perhaps referring to the RRP for Actipal.

About one-third of the country's 3,000 medical doctors and 250 paramedics had been trained by December 2011. Training was also conducted for CHWs, with 2,442 trained between July 2010 and June 2011, and laboratory technicians were trained on drug quality issues. During the endline outlet survey, 16% of public facility respondents and 30% of private not-for-profit respondents said they had received some training on antimalarials with the AMFm logo. Training coverage was quite high in urban private for-profit facilities/pharmacies and drug stores (31% and 41%, respectively), but was low in rural areas and in both rural and urban general stores. Provider knowledge of the first-line antimalarial remained quite low at endline (at 33% of all providers).

CHAI conducted a pilot intervention starting in September 2011 for training medical detailers, covering around one-fifth of Madagascar's districts. As of December 2011, medical representatives had held information sessions with 235 physicians and 234 retail outlets.

At endline, provider recognition of the AMFm logo was 37% overall. Recognition was over 73% in public facilities, private not-for-profit facilities, private for-profit facilities/pharmacies and drug stores, but only 35% among CHWs and 25% among general retailers. Recognition was over 96% among urban private for-profit facilities/pharmacies and drug stores. Of those recognizing the logo, 34% said it meant an effective/quality antimalarial, and 10% an antimalarial. One-quarter of respondents did not know what it meant. Only 13% of respondents overall had heard of the AMFm program although knowledge of the program was higher in private for-profit health facilities/pharmacies (33%). Recognition of the AMFm logo was also very low among exit survey respondents, with only 9% reporting that they had seen the logo; 60% of these said they did not know its meaning. The most common source of exposure to the logo was television (40%), followed by antimalarial drug packaging and a health center/clinic (20% each).

8.3.4   Context

ACTs do not have over-the-counter status, and their sale is not permitted in general stores. In addition to the distribution of subsidized Actipal (see above), other malaria control interventions of relevance to the Malagasy context were expansion of indoor residual spraying and mass

distribution of long-lasting insecticidal nets (LLINs), which may have affected antimalarial demand to some degree. While microscopy coverage remained very low, there was a significant increase in availability of RDTs from 9% at baseline to 19% at endline, which may also have reduced demand for antimalarials. At endline, RDT availability was 94% in public facilities, 70% in private not-for-profit facilities and 65% among CHWs, but remained very low in the private for-profit sector.

Madagascar continues to suffer from the consequences of the coup d'état in March 2009, which is said to have led to a steadily deteriorating economic and political situation. For example, it was reported that after the coup many companies went out of business, unemployment rose and the purchasing power of the population fell. Government spending is also reported to have fallen leading to a deterioration in public health facilities and in infrastructure more generally. Political instability has led to frequent turnover in Ministers of Health, and therefore delays in program implementation.

8.3.5 Summary

Madagascar has not met success Benchmarks 1 on QAACT availability or 5 on QAACT market share. However, Benchmark 2 on the relative price of copaid QAACTs compared with the most popular antimalarial which is not a QAACT was met, despite the lack of an RRP. Benchmarks 3 and 6 were not relevant because there was an almost complete absence of oral AMT in the market at baseline and endline. Data are not available to assess Benchmark 4 on use.

Although a significant increase in QAACT market share was observed from baseline to endline in the private for-profit sector, the increase was not sufficient to meet the market share benchmark, especially given the lack of improvement in the public sector. This limited improvement in market share was associated with the low level of copaid drugs delivered to Madagascar, at only one treatment for every 12 people, or 0.08 treatments per capita. This partly reflects long delivery times, but more importantly low copaid drug orders, which amounted to only one treatment for every 11 people, or 0.09 treatments per capita. Reasons for these low orders are likely to reflect low confidence by FLBs, reluctance to order due to a lack of data on the unmet need for ACTs within the private sector and a fear of overstocking. The low level of provider and exit survey respondent awareness and understanding of the logo are no doubt due to the curtailment of the mass media campaign, which is likely to have had a substantial impact on consumer demand for QAACTs. However, the Madagascar experience should be seen in the light of the recent political instability and economic challenges, which provided a highly problematic context for both the public and private sectors during the period of AMFm Phase 1.

8.4   Niger

The success metrics scorecard for Niger is shown in Figure 8.4.1. Achievement of the AMFm objectives, the supply of AMFm copaid drugs, implementation of supporting interventions, and contextual factors that could affect the achievement of the AMFm benchmarks are discussed below.

8.4.1   Achievement of the objectives

Availability: QAACT availability among all outlets increased by 10 percentage points between baseline and endline, from 9% to 19% (Benchmark 1). This was a statistically significant increase, but did not meet the AMFm benchmark of a 20 percentage point increase. There was a significant increase in public sector outlets (from 45% to 73%) and a smaller, but also significant, increase in private for-profit outlets from 6% at baseline to 14% at endline. A very high number of general stores and itinerant vendors were screened for the outlet surveys, and it was common for them to have antimalarials in stock (42% of general stores and 63% of itinerant vendors enumerated at baseline stocked antimalarials), meaning that they represented a high proportion of private for-profit antimalarial outlets. They had lower stocking rates of QAACTs at endline (13% compared with 62% in private health facilities/pharmacies and 65% in drug stores), which therefore pulls down average QAACT availability in the private for-profit sector as a whole. Endline availability was higher in urban areas than rural areas, for all outlets combined and for private for-profit outlets. Availability of QAACTs with the AMFm logo was slightly higher than of those without the logo (13% vs. 9%), although availability of QAACTs *without* the logo was higher (58%) than those with the logo (30%) in public health facilities. Availability of nATs in the private for-profit sector declined only marginally (from 99% at baseline to 95% at endline). Oral AMT was rarely available in Niger, other than in private for-profit health facilities/ pharmacies, where it was still 9% at endline. The availability of non-quality-assured ACTs increased slightly between baseline and endline among all outlets, from 4% to 8%, and was higher in urban than rural areas at endline (13% vs.7%).

Price: The median price per adult equivalent treatment dose (AETD) of QAACTs fell considerably between baseline and endline, from USD 2.06 to USD 0.79 among all outlets. The median price remained zero in public health facilities, and in private for-profit outlets the median price fell from USD 2.47 to USD 1.19, somewhat higher than the RRP of USD 0.69 for an adult treatment. QAACT prices fell much more in private health facilities/pharmacies (from USD 9.38 to USD 1.98), where they had been considerably more expensive than among general retailer/itinerant vendors at baseline. Non-quality-assured QAACTs remained very expensive at endline, at USD 7.58 in private for-profit outlets.

Figure 8.4.1: AMFm success metrics scorecard – Niger

Availability

Benchmark 1: **20 percentage point increase from baseline in availability of all QAACTS**

Percentage point change, 95% CI for change and p-value for test that QAACT availability is at least 20 percentage points higher, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	44.8	72.9	28.1 (16.9-39.3)	0.0781
Private for-profit outlet	6.3	13.8	7.6 (4.6-10.6)	0.9999
Total*	9.4	19.4	10.0 (7.0-13.1)	0.9999

Price

Benchmark 2: **Median price of QAACTs with the AMFm logo is less than 3 times the median price of the most popular antimalarial that is not a QAACT , in tablet form ***

Ratio of medians, 95% CI for ratio, p-value for test that ratio is < 3, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of most popular non-QAACT	Ratio (95% CI)	p
Private for-profit outlet	USD 1.19	USD 0.48	2.5 (2.2 -2.8)	<0.0001

Benchmark 3: **Median price of QAACTs with the AMFm logo is less the median price of AMT tablets**

Difference in prices in USD (QAACT – AMT), 95% CI for difference, p-value for test that difference is negative, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of AMT	Difference (95% CI)	p
Private for-profit outlet	USD 1.19	ns	ns	ns

Further results

QAACT price in private for-profit outlets fell from USD 2.47 at baseline to USD 1.19 at endline; it was USD 1.39 in urban areas and USD 1.19 in rural areas. The price of QAACTs with the AMFm logo at endline was also USD 1.19, higher than the RRP of USD 0.69 (2010 prices).
QAACT availability was higher in urban (27%) than rural (16%) areas at endline.
QAACT market share was similar in urban and rural areas at endline.
The private for-profit share of all antimalarials was 49% at endline.

Use

Benchmark 4: **5-10 percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment**

Percentage point change and p-value for t-test that use is at least 5 percentage points higher

	Baseline (%)	Endline (%)	Change (95% CI)	p
Children under 5 years	2.4	na	na	na

Market share

Benchmark 5: **10-15 percentage point increase from baseline in the market share of all QAACTs**

Percentage point change, 95% CI and p-value for test that market share of QAACTs is at least 10-percentage points higher, by type of outlet

	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	36.9	27.0	-10.0 (-26.8 -6.9)	0.9898
Private for-profit outlet	3.7	7.6	3.9 (1.4 -6.4)	0.9999
Total*	18.4	9.6	-8.8 (-18.0 -3.8)	0.9999

Benchmark 6: **Decrease in market share of oral AMTs**

Percentage point change in market share, 95% CI for change and p-value for test that change is negative, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	0.2	0.1	-0.2 (-0.6-0.3)	0.2655
Private for-profit outlet	0.1	0.0	-0.1 (-0.14-0.02)	0.0823
Total*	0.1	0.0	-0.1 (-0.3-0.1)	0.1266

Process and context data

The AMFm agreement was signed on May 31, 2010 and the first copaid drugs arrived in February 2011 (9.5 months before endline).

SIs started in January 2011 but implementation was impeded by delays in receiving funds, delays in the selection of communications firm to implement the activities and suspension of disbursement on the AMFm SI grant in the second half of 2011. SI implementation therefore took place for 6 months, but no SIs took place after June 2011. Other important contextual factors include adverse weather, difficult transport outside the main cities and problems of insecurity.

Notes: Green shading = benchmark was achieved, with strong statistical evidence (generally p<0.01); Amber shading = either benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak (p≥0.05); Red shading = benchmark was not met ; Grey shading for Benchmarks 3 and 6 = metrics are not relevant because the number of AMT products was very low at baseline; ACT = Artemisinin-based combination therapy; AMT = Artemisinin monotherapy; CI = Confidence interval; RRP = Recommended retail price; na = not available; ns = not shown because the number of observations for either baseline or endline is fewer than 50 outlets/products (availability/price) or fewer than 500 AETDs (market share); QAACT = Quality-assured artemisinin-based combination therapy; SI = Supporting intervention; * Total includes CHWs and private not-for-profit facilities that are not shown separately; ** The most popular antimalarial in tablet form that was not a QAACT in the private for-profit sector Niger was chloroquine.

The median price in private for-profit outlets for a QAACT carrying the AMFm logo was USD 1.19 per AETD. This is d 2.5 times higher than the price of chloroquine tablets, the most popular antimalarial which is not a QAACT, suggesting that Niger achieved AMFm Benchmark 2, which states that the ratio should be less than 3. It was not possible to compute Benchmark 3 for Niger, as the number of AMT products audited at endline was fewer than 50. The median price of QAACTs without the AMFm logo in private for-profit outlets was somewhat higher than those with the logo (USD 1.98).

The gross percentage markup on QAACTs in private for-profit outlets was 35% at baseline and endline, so with the reduction in QAACT prices, this meant a substantial reduction in absolute markup on QAACTs. The percentage markup was very similar on copaid and non-copaid QAACTs, leaving much higher absolute markups for retail sales of QAACTs without the AMFm logo. As a comparator, the median gross percentage markup on nAT in the private for-profit sector was quite a bit higher (85% at endline).

Market share: QAACT market share measured across all outlets fell from 18% at baseline to 10% at endline, although the change is not significantly different from zero; and there was a significant increase in the share of nAT, from 73% at baseline to 87% at endline. This means that Benchmark 5 of a 10 percentage point increase in QAACT market share from baseline to endline has not been achieved in Niger. The public sector saw no significant shifts in market share among the different antimalarial product categories. In the private for-profit sector, the QAACT share doubled, but from a very low starting level of 4% at baseline to 8% at endline. QAACTs without the AMFm logo had a slightly higher market share than QAACTs with the logo overall (5% vs. 4%), suggesting very low penetration of copaid QAACTs into the supply chain. At endline, public health facilities were responsible for 46% of total sales of antimalarials, while the private not-for-profit sector and private for-profit sector accounted for 5% and 49%, respectively. These patterns were little changed from baseline.

8.4.2 Supply of AMFm copaid drugs

Seven first line buyers had registered with the Global Fund as of January 31, 2012. This was made up of five private for-profit firms, one UN agency and one public sector agency. Three of the five private for-profit FLBs placed orders by the end of 2011. The first order to be placed by a private for-profit first line buyer (FLB) was in August 2010, and the medicines arrived in Niger in January 2011. It was reported that the manufacturer with whom the order was originally placed did not supply the medicines, and the order was then placed with another manufacturer. This delay in drug delivery meant that the effective implementation period before the endline outlet survey was 9.5 months. The first public sector order was placed in January 2011, approved in that same month, and medicines were delivered to the public sector in February 2011. By the end of 2011, a total of 2,225,120 treatments had been delivered to Niger, or 0.14 treatments per

capita (the whole population of Niger is considered to be at risk of malaria). Eighty percent of drugs delivered were ordered by the public sector FLB, and only 0.03 treatments per capita were delivered to private sector FLBs.

New regulatory measures were taken to ensure QAACT supply to the public health system, including allowing the public sector distribution system to supply private rural drug depots and authorizing the private sector to supply public facilities with copaid ACTs when the public pharmaceutical stores cannot meet the demand for copaid ACTs.

8.4.3   Implementation of supporting interventions

A total of USD 1,731,526 was available through the Global Fund for SIs at the time of grant signing (this does not take into account interventions funded through other programs). As of November 2011, disbursements amounted to USD 977,676, giving a per capita disbursement on SIs of USD 0.06. Given delays in implementation (see below), this may overestimate the actual expenditure on SIs. The formal AMFm launch took place in March 2011, but IEC/BCC activities started in January 2011, at about the time of the arrival of the first copaid drugs in Niger. A broad range of activities were planned, including interpersonal communication, promotion through the mass media, social mobilization and advocacy activities. However, only about 30% of planned activities took place due to delays in receiving funds, delays in the selection of communications firms to undertake the activities and the suspension of disbursement of the Global Fund AMFm supporting intervention grant in the second half of 2011, following an investigation by the Global Fund's Office of the Inspector General. An RRP was set at USD 0.40 for a child dose and USD 0.69 for an adult dose. Training activities started in December 2010, and a total of 25 trainers and 750 public sector health workers were trained on AMFm. In addition, two people received training on drug quality testing. Other planned training did not take place.

The effects of the limited implementation of SIs can be seen in the mixed performance on indicators of provider knowledge and awareness of AMFm. There was a significant increase in the level of provider knowledge of the first-line antimalarial, which nearly doubled between endline and baseline, from 17% to 33%. This was already high at baseline among public sector providers (86%) and private health facilities/pharmacies (79%), but among general retailers/ itinerant vendors, the level of knowledge increased from 10% at baseline to 26% at endline. There was a large reduction between baseline and endline in the proportion of those who gave "too expensive" (from 29% to 14%) and "my suppliers do not have it in stock" (40% to 27%) as reasons for not supplying QAACTs, although no change in the frequency of "my customers do not ask for them" (20% at endline) as a response. At endline, 30% of all respondents recognized the AMFm logo, with higher levels of recognition in public health facilities (75%) than private for-profit providers (26%). Thirty-one percent of those who recognized the logo, however, did not know its meaning, and only 23% of providers had heard of the AMFm program. Only 13%

of all respondents knew of the RRP for copaid QAACTs (8% among general retailers/itinerant vendors), and of those aware of the RRP, 61% knew the correct value. Only 2% of all respondents said that someone in their outlet had participated in training related to AMFm.

A number of supporting regulatory interventions were implemented during AMFm Phase 1. These included measures to increase QAACT availability in rural areas, such as allowing rural drug depots to be supplied by either the Central Medical Stores or the private sector; allowing public health facilities to procure drugs from private FLBs and changes in regulation to allow mass media advertising on copaid ACTs. Some limited pharmacovigilance activities were planned, but they had not been implemented by the end of 2011.

8.4.4 Context

In addition to the suspension of disbursement on the AMFm supporting intervention grant, which was an important constraint on implementation, a number of contextual features may have affected AMFm. The security situation in Niger continued to be challenging. Rainfall in 2011 was erratic and uneven leading to both drought and flooding. Fewer LLINs were distributed in 2011 than in previous years. The Chinese government supplied an additional 500,000 doses of ACT (DHA-PP and ASAQ), equivalent to about 20% of AMFm copaid ACT deliveries, which may have increased the availability of non-quality-assured ACTs in public facilities. ACTs did not have over-the-counter status.

8.4.5 Summary

Niger appears to have met Success Benchmark 2 relating to the price of copaid QAACTs, which specifies that the median price should be less than three times the price of the most popular antimalarial which is not a QAACT. It has not, however, achieved Benchmark 1 on availability or Benchmark 5 on market share of QAACTs. The market share of oral AMT (Benchmark 6) was already so low that it is not relevant to assessing the impact of AMFm in Niger. The amount of time elapsed between the arrival of copaid drugs and the endline outlet survey was only around 9.5 months, so the short time for implementation could be responsible for the slow progress of the program. However, it also seems that the quantity of copaid QAACTs ordered, particularly by private for-profit FLBs, was too low to have made much of an impact on availability and market share. The implementation of supporting interventions, which might have helped to increase demand for copaid QAACTs, and thereby might have stimulated private for-profit orders, was also derailed by delays and the suspension of the Global Fund SI grant. Finally, the implementation context in Niger is challenging, with problems of adverse weather interrupting supply chains, difficult transport outside the main cities and problems of insecurity.

8.5   *Nigeria*

The success metrics scorecard for Nigeria is shown in Figure 8.5.1. Achievement of the AMFm objectives, the supply of AMFm copaid drugs, implementation of supporting interventions and contextual factors that could affect the achievement of the AMFm benchmarks are discussed below.

8.5.1   Achievement of the objectives

Availability: QAACT availability in all outlets increased from 28% to 54%, an increase of 26 percentage points from baseline to endline (Benchmark 1). There is therefore some evidence that Nigeria has met the benchmark of a 20 percentage point increase in QAACT availability (p=0.14), although the large p-value means we do not have strong evidence for this. There was no difference in availability between urban and rural areas at endline. In public health facilities, availability was 46% at baseline and 57% at endline, but this increase was not statistically significant. The major contributor to the overall increase in availability was the private for-profit sector, in which availability increased significantly from 27% to 53%. Forty-seven percent of all outlets stocked QAACTs with the AMFm logo at endline, but a relatively high proportion of outlets stocked QAACTs without the logo (38% of public health facilities and 14% of private for-profit health facilities). Availability of nAT remained very high at endline (97% in all outlets). There was no reduction in the availability of oral AMT, which was still available in 35% of private for-profit outlets and 15% of public health facilities at endline; and no change in availability of non-quality-assured ACTs (27% of all outlets at endline). The use of AMTs became widespread when chloroquine and SP were found to be less effective but ACTs were not yet widely available, a situation that has complicated attempts to eliminate AMTs from the market even after they were banned. It should be noted that Nigeria has several nationally-approved ACTs that are included in the non-quality-assured category.

Price: There was a substantial fall in the price of QAACTs between baseline and endline. Among all outlets, the median price per AETD fell from USD 3.72 at baseline to USD 1.48 at endline (p<0.0001). In public health facilities the median price of QAACTs was USD 0.00 at baseline and at endline, while the median price of nAT was USD 0.71 at endline, indicating the policy of free ACTs in those facilities. In private for-profit outlets, the decline in median price of QAACTs is even larger, from USD 4.47 to USD 1.48 (p<0.0001). There was little change over this period in the prices of nAT, oral AMT or non-quality-assured ACTs.

Despite this large decline in the price of QAACTs in private for-profit outlets, the ratio of the median price of QAACTs with the AMFm logo to that of the most popular antimalarial which is not a QAACT was 3.1, and therefore Nigeria missed Benchmark 2, which states that the ratio should be less than 3. The price of QAACTs with the AMFm logo was less than that of tablet AMT (USD 2.66), meaning that Benchmark 3 has been met.The median price for QAACTs with the logo is just over half of that for AMTs of either form. The median price of QAACTs without the AMFm logo was USD 2.36 at endline.

Figure 8.5.1: AMFm success metrics scorecard – Nigeria

Availability

Benchmark 1: 20 percentage point increase from baseline in availability of all QAACTS

Percentage point change, 95% CI for change and p-value for test that QAACT availability is at least 20 percentage points higher, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	46.3	56.7	10.4 (-14.4-35.2)	0.7765
Private for-profit outlet	26.6	52.9	26.3 (15.1-37.5)	0.1342
Total*	27.7	53.5	25.8 (15.1-36.5)	0.1438

Price

Benchmark 2: Median price of QAACTs with the AMFm logo is less than 3 times the median price of the most popular antimalarial that is not a QAACT, in tablet form **

Ratio of medians, 95% CI for ratio, p-value for test that ratio is < 3, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of most popular non-QAACT	Ratio (95% CI)	p
Private for-profit outlet	USD 1.48	USD 0.47	3.1 (3.1-3.2)	0.9998

Benchmark 3: Median price of QAACTs with the AMFm logo is less the median price of AMT tablets

Difference in prices in USD (QAACT – AMT), 95% CI for difference, p-value for test that difference is negative, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of AMT	Difference (95% CI)	p
Private for-profit outlet	USD 1.48	USD 2.65	-1.17 (-1.24- -1.10)	<0.0001

Further results

QAACT price in private for-profit sector fell from USD 4.47 to USD 1.48 at endline, and was similar in rural and urban areas.
The price of QAACTs with the AMFm logo at endline was also USD 1.48, higher than the RRP of USD 0.60 (2010 prices).
No difference in QAACT availability between urban and rural areas in availability at endline.
QAACT market share was very similar in urban (19%) and rural (23%) areas at endline.
At endline, private for-profit outlets were responsible for 92% of all antimalarials distributed.

Use

Benchmark 4: 5-10 percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment

Percentage point change and p-value for t-test that use is at least 5 percentage points higher

	Baseline (%)	Endline (%)	Change (95% CI)	p
Children under 5 years	2.4	na	na	na

Market share

Benchmark 5: 10-15 percentage point increase from baseline in the market share of all QAACTs

Percentage point change, 95% CI and p-value for test that market share of QAACTs is at least 10-percentage points higher, by type of outlet

	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	6.4	48.1	41.7 (26.5-56.8)	<0.0001
Private for-profit outlet	2.2	17.8	15.6 (12.1-19.1)	0.0009
Total*	2.4	20.1	17.7 (13.6-21.8)	0.0002

Benchmark 6: Decrease in market share of oral AMTs

Percentage point change in market share, 95% CI for change and p-value for test that change is negative, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	0.6	0.8	0.2 (-0.6-1.0)	0.7038
Private for-profit outlet	8.3	4.4	-3.9 (-7.9-0.1)	0.0288
Total*	8.1	4.1	-3.9 (-7.9-0.0)	0.0258

Process and context data

The AMFm agreement was signed on October 5, 2010 and the first copaid drugs arrived in January 2011 (9.5 months before endline). SIs started in April 2011 (giving 6 months of implementation before endline) but this was constrained by the suspension of the Global Fund grant to one of the recipient organizations, and mass communication activities only started in August/September 2011. Global Fund demand levers reduced order approval to 24% in the second half of 2011. Contextual factors include LLINs and IRS (in some states), a large domestic pharmaceutical manufacturing sector and federal elections in 2011.

Notes: Green shading = benchmark was achieved, with strong statistical evidence (generally p<0.01); Amber shading = either benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak (p≥0.05); Red shading = benchmark was not met ; Grey shading for Benchmarks 3 and 6 = metrics are not relevant because the number of AMT products was very low at baseline; ACT = Artemisinin-based combination therapy; AMT = Artemisinin monotherapy; CI = Confidence interval; RRP = Recommended retail price; na = not available; ns = not shown because the number of observations for either baseline or endline is fewer than 50 outlets/products (availability/price) or fewer than 500 AETDs (market share); QAACT = Quality-assured artemisinin-based combination therapy; SI = Supporting intervention; * Total includes CHWs and private not-for-profit facilities that are not shown separately; ** The most popular antimalarial in tablet form that was not a QAACT in the private for-profit sector in Nigeria was SP.

QAACTs with the AMFm logo were being sold on average for 2.4 times more than the recommended retail price for an adult dose of USD 0.59.

The gross percentage markup on QAACTs, measured among private for-profit outlets, was 50% at endline compared with 33% at baseline; it was also 50% on copaid QAACTs. However, with the large decrease in the median price of QAACTs, this amounts to a much smaller absolute markup at endline. The level of the markup on copaid QAACTs is similar to the median markup of 41% charged on nATs. The median total markup from the first line buyer price to the retail price in private for-profit outlets was USD 1.33.

Market share: Overall, measured across all outlets, the market share of QAACTs increased from 2% at baseline to 20% at endline (18 percentage points). The QAACT share of all antimalarials sold increased even more dramatically in the public sector, from 6% at baseline to 48% at endline, while in private for-profit outlets it increased from 2% to 18%.

The increase in QAACT share in both the public sector and the private for-profit sector was accompanied by a large reduction in the share of nATs, which fell in the public sector from 85% to 38%, and in the private for-profit sector from 84% to 69%. The share of non-quality-assured QAACTs remained fairly constant, and was 8% in all outlets at endline. The private sector accounted for over 90% of all antimalarials distributed at baseline and at endline.

8.5.2 Supply of AMFm copaid drugs

A total of 54 FLBs were registered with the Global Fund as of January 31, 2012 (51 private for-profit, 2 private not-for-profit and 1 public sector). Orders were placed with 28 of these private for-profit FLBs by December 2011. The country case study noted the absence of two major importing firms who declined to participate in AMFm because they were reluctant to undermine the market for their existing products. It seemed that these firms were involved in supply of both non-quality-assured ACTs and AMTs, which may help to explain the continued substantial presence of these products in the market.

The first public sector order was placed in March 2011 and delivered in May 2011. The private sector ordering process proceeded smoothly at the beginning, with the first orders placed in October 2010 and arriving in Nigeria in January 2011. In total, 28 FLBs had placed orders by the end of 2011. Approximately 9.5 months elapsed between the arrival of the first copaid drugs and the midpoint of endline outlet survey fieldwork. However, at the time of the endline outlet survey data collection, serious delays and shortfalls in supply were being reported by the private sector, linked to the exercise of the Global Fund demand levers. Concerns seemed to be developing among private sector suppliers regarding the low volumes of medicines being supplied and the pressure that this was placing on prices and availability. Evidence from the Global Fund orders database suggests a substantial buildup of unfilled orders by the end of 2011,

with orders for 47 million doses pending by December 2011. Table 1.2.2 indicates that only 24% of treatments requested by private FLB in the second half of 2011 had been approved by the end of December. However, it is not entirely clear that this pressure would have fed through to the retail level by the time of endline data collection.

A range of challenges with the customs clearing process were reported in the processing of shipments, particularly for private for-profit FLBs. These led to delays and in some cases to increased costs, either due to taxes being applied inappropriately or to demurrage charges incurred. Shortages of supply in the private sector were also reported to have affected the willingness of private sector outlets to stock them and to have limited distribution outside of major urban centers, although there is no evidence from the endline outlet survey that QAACT availability in private for-profit outlets in rural areas was lower than in urban areas.

By the end of 2011, a total of 58,902,076 copaid ACT doses had been delivered in Nigeria. This amounted to 0.37 doses per capita (the whole population of Nigeria is considered at risk of malaria), of which 76% went to private for-profit FLBs, 15% to public sector FLBs and 9% to private not-for-profit FLBs.

8.5.3 Implementation of supporting interventions

Global Fund resources available at the time of grant signing for implementation of supporting interventions (SIs) in Nigeria were originally allocated in grants to three separate organizations: the Yakubu Gowon Center for National Unity and International Cooperation (USD 7,214,102); the National Malaria Control Programme (USD 15,658,997); and the Society for Family Health (USD 23,231,858), giving a total of USD 46,104,957. The Yakubu Gowon grant was suspended because of use of the parallel foreign currency market to exchange USD for Nigerian naira and misappropriation of the proceeds of these transactions. None of the funds from this grant were disbursed, and the suspension of this grant was reported to have had a substantial effect on the implementation of SIs. From the remaining two grants, USD 15,304,587 had been disbursed by November 2011, amounting to USD 0.10 per capita for SIs.

Implementation of supporting interventions trailed the arrival of the first copaid drugs by approximately three months, giving about six months from the start of implementation of SIs before the midpoint of the endline outlet survey. The National Launch was held on March 31, 2011. Some delays in initiating communications activities were caused by problems of coordination among the Principal Recipients (PRs). In the interim, a number of activities were undertaken by other stakeholders such as professional associations and pharmaceutical firms. The Society for Family Health (SFH) only started to implement its behavior change communication (BCC) activities in August 2011, and some mass media activities did not start until September 2011. The range of activities implemented from April 2011 onwards included advocacy, mass media communications, community dramas and road shows. The costs of these

activities were increased because of the need to translate materials into multiple languages and to take account of cultural differences. Training was undertaken by the NMCP, focused on public sector health workers including lab technologists, civil society organizations and different types of community health extension workers. SFH training programs emphasized the private for-profit sector, targeting Patent Proprietary Medicine Vendors (PPMVs), private sector health workers and pharmacists.

Regulatory changes introduced alongside AMFm included relaxing the requirement that only one importer is permitted to import a particular product, waiving the "franchise levy" on copaid QAACTs and reducing analysis fees for copaid QAACTs levied by the National Agency for Food and Drug Administration and Control (NAFDAC). Other supporting regulatory changes included the inclusion of ACTs in the Nigerian Essential Drugs List, 5th edition (2010) and the removal of chloroquine from the list, although this was subsequently reclassified for treatment of non-malaria illness, allowing it to continue to be manufactured and imported. ACTs were reclassified as over-the-counter drugs in 2006, allowing them to be sold/ distributed in a wide variety of outlets. Oral artemisinin monotherapies were banned in 2006, with their importation and local manufacturing prohibited by law. However, their continued presence on the market suggests that this regulation is not fully enforced.

The RRP was originally set at N 75 (USD 0.44) for an adult dose and increased to N 100 (USD 0.59) in November 2011, with lower prices for children's doses. These RRPs involved a reduction in the RRP of N 120 (USD 0.70) that had been applied by SFH for an earlier subsidized product that was no longer available when AMFm started. The new RRP was not printed on the packaging of copaid drugs, but was widely promoted in radio jingles. A set of price enforcement plans was developed, but at the time of endline data collection these had not yet been implemented.

There was a large increase between baseline and endline in knowledge of the first-line drug, from 16% to 54% among all outlets. A particularly large increase was recorded among public health facilities (from 39% to 87%). Overall, 53% of respondents recognized the AMFm logo and 36% of respondents said they knew of the AMFm program. Only 15% knew of the existence of the RRP and only 11% of these correctly stated it. Fourteen percent of all outlet survey respondents said they received some kind of training on AMFm. The exit survey found that 32% of respondents had seen the AMFm logo before, and that the most common sources were billboards (35%) and pharmacies (23%).

Rapid Diagnostic Tests (RDTs) were being gradually introduced through activities by the NMCP in six states in the north and in the private sector by SFH in six states in the south. However, availability of diagnostics was very low overall at endline, with only 6% of outlets reporting availability of any diagnostic testing. This was higher in the public sector (29%) than in private

for-profit sector (4%). Within the private for-profit sector, availability of diagnostic testing was higher in health facilities/pharmacies (32%) and negligible in drug shops (1%).

8.5.4 Context

There is a large pharmaceutical manufacturing sector in Nigeria, which means that the introduction of AMFm was met with strong initial resistance because the locally produced ACTs were not eligible for the subsidy. A number of other development partners have provided support for malaria control during this period, including support for the distribution of long-lasting insecticidal nets (LLINs), the use of indoor residual spraying (IRS) in two states and scale-up of RDTs. General elections for Nigeria were held in April 2011. These elections brought some temporary restrictions on movement, which were, however, prolonged in some northern states due to the ensuing post-election crises between April and May 2011. Nigeria is experiencing ongoing terrorist attacks from the Boko Haram group, which have escalated in frequency and impact since September 2011, a situation which led to the President's declaration of a state of emergency in 15 Local Government Areas in three States (Borno, Yobe and Plateau) on December 29, 2011. As stated above, ACTs had over-the-counter status.

8.5.5 Summary

Nigeria fully met Success Benchmarks 3 (QAACT price relative to AMT), 5 (QAACT market share) and 6 (AMT market share). There is some evidence that Nigeria also met Benchmark 1 (availability). Nigeria just missed the threshold for Benchmark 2 (QAACT prices relative to the most popular antimalarial which is not a QAACT in tablet form). The price of SP tablets was quite low (USD 0.47), making this target difficult to meet, but there was also poor adherence to the RRP. This could reflect the relatively low awareness of the RRP or perhaps market pressures linked to the exercise of the Global Fund demand levers. Benchmark 4 could not be calculated. These results were achieved despite the context of instability caused by the post-election crisis and terrorist attacks, which may have affected supply in some areas. There have been impressive increases in knowledge of the first-line drug, particularly in public health facilities, but achievements in recognition of the AMFm logo and knowledge of the AMFm program are more modest, consistent with the relatively short period of implementation of SIs before the endline outlet survey was conducted.

8.6   Tanzania mainland

8.6.1   Achievement of AMFm objectives

Availability: QAACT availability across all outlets increased by 44 percentage points, from 26% at baseline to 70% at endline (Benchmark 1). Tanzania has therefore easily met the benchmark of a 20 percentage point increase in QAACT availability ($p<0.0001$). There has been no increase in availability in the public sector, which was already 80% at baseline. Rather, the increase was concentrated in private for-profit outlets, which saw an increase in QAACT availability of 56 percentage points, with QAACTs available at endline in 79% of private for-profit health facilities/ pharmacies and 69% of drug stores. Similar increases in availability were observed in urban and rural areas. At endline, availability of QAACTs with the AMFm logo was much higher than that of QAACTs without the logo, overall (62% vs. 21%), and in private for-profit outlets (63% vs. 10%), although in public health facilities QAACTs without the logo were still common (55% vs. 64%). Oral AMT was almost entirely absent from the market at both baseline and endline. Availability of non-quality-assured ACTs increased by 11 percentage points overall and by 15 percentage points in private for-profit outlets, being more common in urban than in rural outlets.

Price: In public and private non-profit health facilities, the median QAACT price remained at USD 0.00 at baseline and endline reflecting the policy of free provision. Dramatic decreases in median QAACT prices were observed in the private for-profit sector between baseline and endline, from USD 5.28 to USD 0.94 per AETD, although this was still somewhat higher than the RRP of USD 0.62. The price decrease was much greater in private for-profit outlets in urban areas than in rural areas, reflecting the relatively low median price at baseline in rural areas (USD 1.41) for which the reasons are unclear. It is possible that this reflects the presence of products subsidized by other programs in the market at baseline. However, at endline, QAACTs were still slightly more expensive in urban private for-profit outlets than in rural outlets (USD 1.25 vs. USD 0.87). Between baseline and endline, the price of non-artemisinin therapy in the private for-profit sector remained unchanged at USD 1.41.

The median price in private for-profit outlets for a QAACT carrying the AMFm logo was USD 0.94 per AETD. This is exactly the same as the median price of the most popular antimalarial which is not a QAACT (SP) in tablet form, and therefore Tanzania has comfortably met Benchmark 2, which states that the ratio should be less than 3. As the number of oral AMT products in the market was negligible, Benchmark 3 was not relevant to Tanzania. There was very little change in the price of non-quality-assured QAACTs, which remained at over USD 9.00 in the private for-profit sector at baseline and endline.

Figure 8.6.1: AMFm success metrics scorecard – Tanzania mainland

Availability

Benchmark 1: 20 percentage point increase from baseline in availability of all QAACTS

Percentage point change, 95% CI for change and p-value for test that QAACT availability is at least 20 percentage points higher, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	80.1	81.4	1.3 (-15.8-18.4)	np
Private for-profit outlet	10.8	66.4	55.6 (46.4-64.8)	<0.0001
Total*	25.5	69.5	44.0 (35.8-52.1)	<0.0001

Price

Benchmark 2: Median price of QAACTs with the AMFm logo is less than 3 times the median price of the most popular antimalarial that is not a QAACT, in tablet form **

Ratio of medians, 95% CI for ratio, p-value for test that ratio is < 3, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of most popular non-QAACT	Ratio (95% CI)	p
Private for-profit outlet	USD 0.94	USD 0.94	1.0 (1.0-1.0)	<0.0001

Benchmark 3: Median price of QAACTs with the AMFm logo is less the median price of AMT tablets

Difference in prices in USD (QAACT – AMT), 95% CI for difference, p-value for test that difference is negative, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of AMT	Difference (95% CI)	p
Private for-profit outlet	USD 0.94	ns	ns	ns

Use

Benchmark 4: 5-10 percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment

Percentage point change and p-value for t-test that use is at least 5 percentage points higher

	Baseline (%)	Endline (%)	Change (95% CI)	p
Children under 5 years	37.9	na	na	na

Market share

Benchmark 5: 10-15 percentage point increase from baseline in the market share of all QAACTs

Percentage point change, 95% CI and p-value for test that market share of QAACTs is at least 10-percentage points higher, by type of outlet

	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	58.3	56.6	-1.8 (-37.7-34.2)	0.7414
Private for-profit outlet	2.2	32.1	30.0 (21.9 -38.1)	<0.0001
Total*	26.3	42.2	15.9 (0.1-31.7)***	0.2302

Benchmark 6: Decrease in market share of oral AMTs

Percentage point change in market share, 95% CI for change and p-value for test that change is negative, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	0.0	0.0	0.0	-
Private for-profit outlet	0.0	0.0	0.0	-
Total*	0.0	0.0	0.0	-

Further results

QAACT price in private for-profit outlets fell from USD 5.28 to USD 0.94 with a greater decrease in urban areas (endline pirce in urban areas was USD 1.25 and rural areas USD 0.87). The price of QAACTs with the AMFm logo (USD 0.94) was higher than the RRP of USD 0.62.
QAACT availability increased by similar amounts in urban and rural areas, and availabilty in urban and rural areas was similar in all outlets and private for-profit outlets. QAACT market share at endline was 34% in urban areas and 46% in rural areas. Private for-profit outlets were responsible for 59% of all antimalarials at endline.

Process and context data

The AMFm agreement was signed on August 6th, 2010 and the first copaid drugs arrived in October 2010 (13.5 months before endline). SIs started in January 2011 and mass communications began in April 2011 giving 7 months implementation before endline. Demand levers only had a modest impact in Tanzania, with 90% of orders in Q3 and Q4 of 2011 approved. Contextual factors include a large scale malaria control communications campaign funded by PMI and the Global Fund, distribution of RDTs to public facilities, IRS and mass distribution of LLINs, and depreciation of the Tanzanian shilling.

Notes: Green shading = benchmark was achieved, with strong statistical evidence (generally p<0.01); Amber shading = either benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak (p≥0.05); Red shading = benchmark was not met ; Grey shading for Benchmarks 3 and 6 = metrics are not relevant because the number of AMT products was very low at baseline; ACT = Artemisinin-based combination therapy; AMT = Artemisinin monotherapy; CI = Confidence interval; RRP = Recommended retail price; na = not available; np = not presented because availability exceeded 80 percent at baseline; ns = not shown because the number of observations for either baseline or endline is fewer than 50 outlets/products (availability/price) or fewer than 500 AETDs (market share); QAACT = Quality-assured artemisinin-based combination therapy; SI = Supporting intervention; * Total includes CHWs and private not-for-profit facilities that are not shown separately; ** The most popular antimalarial in tablet form that was not a QAACT in the private for-profit sector in Tanzania mainland was SP; *** The power to detect a 10 percentage point increase in market share was only 35% in Tanzania mainland, compared with the usual minimum standard of 80%; therefore, p-values should be interpreted with caution

The gross percentage markup on QAACTs, measured among private for-profit outlets, increased from 50% to 67% between baseline and endline. However, with the large decrease in the median price of QAACTs, this amounts to a much smaller absolute markup at endline. The gross percentage markup in private for-profit outlets at endline was higher on copaid than on non-copaid QAACTS (67% vs. 50%). As a comparator, the median gross percentage markup on nAT in the private for-profit sector was 67% at baseline and 77% at endline. The median total markup from the first line buyer price to the retail price in private for-profit outlets was USD 0.84, slightly higher in urban areas (USD 1.10) than in rural areas (USD 0.78).

Market share: The market share of QAACTs overall increased by 16 percentage points from 26% at baseline to 42% at endline. The increase took place mainly in the private for-profit sector, which saw a 30 percentage point increase from 2% to 32%. By contrast, the market share was unchanged in public health facilities, where a fall in QAACT market share in urban areas was not sufficiently offset by an increase in rural areas. The evidence that Benchmark 5 (10 percentage point increase in market share from baseline to endline) has been met for all sectors combined is not strong ($p=0.23$); however, the power to detect a 10 percentage point increase in market share is below the usual minimum standard of 80%, therefore p values should be interpreted with caution. However, in the private for-profit sector alone, the increase was significantly greater than 10 ($p<0.0001$). Benchmark 6 was not relevant to Tanzania given the negligible market share of oral AMTs at both baseline and endline.

In the private for-profit sector, the gain in QAACT market share was primarily due to a shift from nATs to QAACTs, with a 30 percentage point increase in the QAACT market share and a 27 percentage point decrease in the nAT market share. This is consistent with argument that QAACTs are displacing nAT in the private sector. QAACTs with the AMFm logo accounted for 61% of all QAACT volumes across all outlets and 91% among private for-profit outlets.

The private for-profit sector was responsible for 59% all antimalarials sold or distributed at endline, with a much higher private for-profit market share at endline in urban areas than rural areas (91% vs. 44%). The private for-profit share had increased from 45% at baseline, mainly reflecting a fall in the private not-for-profit sector share in urban and rural areas and a fall in the public sector market share in urban areas.

8.6.2   Supply of AMFm copaid drugs

A total of 10 private for-profit FLBs were registered with the Global Fund, and five formed relationships with manufacturers and placed orders by the end of 2011. For the public sector, the Medical Stores Department (MSD) was registered as an FLB. The first orders for copaid QAACTs were placed in August 2010 by a private for-profit FLB and were delivered in October 2010. It is possible that some copaid drugs were on the retail market before the end of baseline outlet survey data collection, which finished in November 2010, but the baseline results

indicated that this was very limited as very few products bearing the AMFm logo were audited. The copaid drug supply system to the private sector was reported to have functioned relatively smoothly, although orders were slow initially and some delivery times were long.

The first public sector FLB order was placed in April 2011, with delivery starting from July 2011. There were a number of problems with public sector delivery, including delays in the initial procurement process, delays in delivery and delays in approval of the second round of orders. As a result, only 4,917,000 public sector treatments had arrived in Tanzania between July and the end of December 2011, which fell far short of requirements. Emergency procurement by PMI went some way to addressing this gap, although supplies were still insufficient, leading to high stockout levels in public facilities, with over one-fifth and over one-quarter of public facilities having no stock of the first-line antimalarial in May and August 2011, respectively. The IE outlet survey confirmed this, showing that only 76% of all public health facilities (including those without antimalarials in stock on the day of the interview) had QAACTs in stock at endline, which was unchanged from the 75% observed at baseline.

A total of 13,039,620 copaid QAACT treatments were delivered between October 2010 and December 2011, amounting to 0.31 treatments per capita (the whole population of Tanzania is considered at risk of malaria), of which 62% were delivered to private for-profit FLBs. The Global Fund's demand levers are likely to have had only a small effect in Tanzania, with 90% of orders requested by private sector FLBs in the second half of 2011 receiving Global Fund approval. A total of 13.5 months elapsed between the date the first drugs arrived in Tanzania (October 2010) and the midpoint of endline outlet survey fieldwork. Supporting interventions started in January 2011, giving only 10 months of effective SI implementation, and only 7 months from the start of the communications campaign (see below).

8.6.3 Implementation of supporting interventions

A total of USD 3,284,890 was available through the Global Fund for SIs at the time of grant signing (this does not take into account interventions funded through other programs). As of November 2011, USD 1,303,223 had been disbursed, giving a per capita disbursement on SIs of only USD 0.03. However, actual AMFm related expenditure is considerably higher than this as funding for upgrading of drug stores to accredited drug dispensing outlets (ADDOs) was mainly covered by other Global Fund grants. A national launch was held in April 2011, followed by a mass media campaign, and distribution of promotional materials. Additional community-level communication activities began in August 2011 in 24 out of 121 districts. The main training activity involved upgrading drug stores to ADDOs in an additional six regions in January to March 2011, involving a 35-day training program. A one-day supplementary training covering AMFm was also implemented in August to September 2011 in two regions that had undergone ADDO conversion before AMFm. Other supporting interventions covered pharmacovigilance

activities, and monitoring and evaluation, but these were not expected to have influenced AMFm outcomes.

The RRP of USD 0.64 for an adult dose did not appear on the packaging of copaid QAACTS, but was widely promoted in media campaigns. It seems likely that the RRP was a significant factor in "anchoring" the price of QAACTs in Tanzania. Provider awareness of the RRP was quite high (61%), with similar awareness in urban and rural areas. Of those who were aware of the RRP, 82% stated its correct level.

There was a very high level of provider recognition of the AMFm logo at endline (87% overall and uniformly high across all sectors), with recognition similar in urban and rural areas. Of those recognizing the logo, 54% said it meant an ACT, 22% an effective/quality antimalarial and 22% an affordable antimalarial. Eleven percent of respondents did not know what it meant. Provider knowledge of the AMFm program was also high, at 72% overall.

Overall 17% of respondents stated that they had received some training on antimalarials with the AMFm logo, with similar figures across sectors and in urban and rural areas. Provider knowledge of the first-line drug was already high at baseline at 88% and increased significantly to 96% at endline.

8.6.4 Context

The USD 1.3 million disbursed for AMFm communications was complementary to a USD 25 million malaria communications program over the previous five years funded by PMI and the Global Fund, covering malaria prevention and treatment in 18 regions. One must therefore be cautious in attributing general improvements in malaria-related knowledge to the AMFm campaign, which was conducted against the background of these broader promotional activities. Other important malaria control interventions rolled out during this period were RDTs in public health facilities in six regions, distribution of 18 million LLINs between October 2010 and October 2011, and indoor residual spraying in limited areas, all of which may have reduced demand for antimalarials. There was no increase in the availability of diagnostics between baseline and endline, with endline availability at 48% in public facilities and 6% in private for-profit outlets, although there was some indication of increasing RDT availability in public health facilities. A ban on AMTs, which had been in place since 2008, is likely to have provided a supporting environment for AMFm. ACTs did not have over-the-counter status. The Tanzanian Shilling experienced rapid depreciation during 2011 which may have put upward pressure on the price of imported drugs, but the impact is not expected to have been large on copaid drug prices.

8.6.5 Summary

There is strong evidence that Tanzania has met Success Benchmark 1 (QAACT availability), and there is evidence to suggest that Tanzania has likely also met Benchmark 2 (QAACT price relative to the most popular antimalarial which is not a QAACT). It is possible that Benchmark 5 (QAACT market share) was also met across all sectors, but the evidence is not strong, However, we can be confident that the required 10 percentage point increase in market share was easily achieved in the private for-profit sector. Benchmarks 3 and 6 are not relevant to Tanzania given the negligible presence of oral AMT in the market at baseline and endline. Data were not available to assess Benchmark 4 on use. The evidence about impressive changes in the availability and price of QAACTs, together with strong evidence of awareness of AMFm, as well as the flow of copaid drug orders and the evidence on SI implementation, provide plausible evidence that AMFm is responsible for the increases observed in QAACT market share. These changes may have also been supported by the complementary malaria communications campaign funded by other sources. The decrease in the market share of nAT in private for-profit outlets suggests that AMFm may be crowding out nATs and not simply shifting demand from other ACTs.

8.7 Uganda

8.7.1 Achievement of AMFm objectives

Availability: QAACT availability across all outlets increased by 46 percentage points, from 21% at baseline[17] to 67% at endline (Benchmark 1). There is strong evidence that Uganda has therefore met the benchmark of a 20 percentage point increase in QAACT availability ($p<0.0001$). The increase was slightly higher in urban areas (57 percentage points) than in rural areas (43 percentage points). In the public sector, QAACT availability remained high, at 87% at baseline and 92% at endline, meaning that most of the overall increase arose in the private for-profit sector, which saw an increase in QAACT availability of 54 percentage points. There is strong evidence that the increase in availability in private for-profit outlets was greater than the 20 percentage point threshold ($p<0.0001$). Availability of QAACTs with the AMFm logo was much higher than that of QAACTs without the logo overall (58% vs. 16%), in the public sector (83% vs. 42%) and in the private for-profit sector (61% vs. 8%). Availability of QAACTs with the logo was higher in urban than in rural areas (70% vs. 55%). Availability of non-quality-assured ACTs fell significantly, from 48% at baseline to 28% at endline. Non-quality assured ACTs were more commonly found in urban than in rural outlets at baseline and endline. Availability of oral AMT was negligible at baseline and endline.

Price: In the public and private not-for-profit sectors and for Community Health Workers (CHWs), the median price remained USD 0.00 at baseline and endline, reflecting the policy of free ACT provision. In the private for-profit sector, the median QAACT price at endline was USD 1.96 in urban and rural areas. In urban areas this represented a fall of over 50% from the baseline median of USD 4.64 ($p=0.001$), but in rural areas the decrease from USD 2.32 at baseline was not significant. The median price for QAACTs at endline was much higher than the RRP, which was USD 0.47. Due to an increase in QAACT sales in the private for-profit sector, the overall median price rose from USD 0.00 to USD 1.37 ($p=0.0004$). There were no significant changes in the cost of non-artemisinin therapy or non-quality assured ACT in the private for-profit sector between baseline and endline.

The median price in private for-profit outlets for a QAACT carrying the AMFm logo was USD 1.96 per AETD. This is 3.3 times the median price of the dominant antimalarial which is not a QAACT (SP) in tablet form, and therefore Uganda did not meet Benchmark 2, which states that the ratio should be less than 3. Benchmark 3 was not relevant in Uganda as there was only one price observation for oral AMT, reflecting its absence from the market.

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[17] At baseline there were 35 observations of Artemether + Lumefantrine (AL) that were manufactured at Quality Chemicals International Limited's (QCIL) factory in Kampala. These were not classified as QAACTs at baseline, because QCIL's AL product did not comply with the Global Fund's Quality Assurance policy until after the baseline survey (refer to Appendix I for further details). This has not affected the comparability of availability at baseline and endline, as most outlets stocking QCIL's ACT at baseline had other QAACTs in stock. Indeed, only one outlet (a public health facility) that stocked the ACT manufactured by QCIL at baseline had no other QAACT in stock.

Figure 8.7.1: AMFm success metrics scorecard – Uganda

Availability

Benchmark 1: 20 percentage point increase from baseline in availability of all QAACTS

Percentage point change, 95% CI for change and p-value for test that QAACT availability is at least 20 percentage points higher, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	87.3	91.7	4.3 (-1.2-9.8)	np
Private for-profit outlet	11.3	65.5	54.2 (47.3-61.0)	<0.0001
Total*	21.0	67.1	46.2 (39.5 -52.9)	<0.0001

Price

Benchmark 2: Median price of QAACTs with the AMFm logo is less than 3 times the median price of the most popular antimalarial that is not a QAACT, in tablet form **

Ratio of medians, 95% CI for ratio, p-value for test that ratio is < 3, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of most popular non-QAACT	Ratio (95% CI)	p
Private for-profit outlet	USD 1.96	USD 0.59	3.3 (3.3-3.3)	0.9999

Benchmark 3: Median price of QAACTs with the AMFm logo is less the median price of AMT tablets

Difference in prices in USD (QAACT – AMT), 95% CI for difference, p-value for test that difference is negative, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of AMT	Difference (95% CI)	p
Private for-profit outlet	USD 1.96	ns	ns	ns

Use

Benchmark 4: 5-10 percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment

Percentage point change and p-value for t-test that use is at least 5 percentage points higher

	Baseline (%)	Endline (%)	Change (95% CI)	p
Children under 5 years	23.3***	na	na	na

Market share

Benchmark 5: 10-15 percentage point increase from baseline in the market share of all QAACTs

Percentage point change, 95% CI and p-value for test that market share of QAACTs is at least 10-percentage points higher, by type of outlet

	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	64.2	81.3	17.1 (4.2-30.0)	0.1380
Private for-profit outlet	5.1	38.5	33.4 (26.0-40.8)	<0.0001
Total*	40.0	56.7	16.8 (7.1-26.5)****	0.0846

Benchmark 6: Decrease in market share of oral AMTs

Percentage point change in market share, 95% CI for change and p-value for test that change is negative, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	0.0	0.0	0.0	-
Private for-profit outlet	0.0	0.0	0.0	-
Total*	0.0	0.0	0.0 (-0.06-0.02)	0.1560

Further results

QAACT price in urban areas fell from USD 4.64 to USD 1.96, with the rural decrease smaller and not significant; the median price of QAACTs with the AMFm logo was about 4 times higher than the RRP of USD 0.47 (2010 prices).

Retail markup on QAACTs increased from 50% to 127% (compared with 67% on nAT at endline). There was a larger increase in QAACT availability in urban than rural areas (57 vs. 43 percentage points) and endline availability was higher in urban areas (77% vs. 65%). Endline market QAACT market share was higher in rural than urban areas (62% vs. 42%).

Process and context data

The AMFm agreement was signed on February 11, 2011, and the first copaid drugs arrived in April 2011 (7 months before endline).

By December 2011 no SIs had begun other than a small-scale communications campaign. Exercise of Global Fund demand levers meant that only 57% of orders in Q3 and Q4 of 2011 were approved. Other contextual factors were delays in placement of the first public sector order, and there was significant depreciation of the Ugandan shilling against the dollar.

Notes: Green shading = benchmark was achieved, with strong statistical evidence (generally p<0.01); Amber shading = either benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak (p≥0.05); Red shading = benchmark was not met ; Grey shading for Benchmarks 3 and 6 = metrics are not relevant because the number of AMT products was very low at baseline; ACT = Artemisinin-based combination therapy; AMT = Artemisinin monotherapy; CI = Confidence interval; RRP = Recommended retail price; na = not available; np = not presented because availability exceeded 80 percent at baseline; ns = not shown because the number of observations for either baseline or endline is fewer than 50 outlets/products (availability/price) or fewer than 500 AETDs (market share); QAACT = Quality-assured artemisinin-based combination therapy; SI = Supporting intervention; * Total includes CHWs and private not-for-profit facilities that are not shown separately; ** The most popular antimalarial in tablet form that was not a QAACT in the private for-profit sector in Uganda was SP; *** Source of baseline information for Benchmark 4 is the 2009-10 Malaria Indicator Survey; ****The power to detect a 10 percentage point increase in market share was only 66% in Uganda, compared with the usual minimum standard of 80%; therefore, p-values should be interpreted with caution.

Surprisingly, there was no difference in the private for-profit sector between the median price of QAACTs with and without the AMFm logo overall, although in urban areas the price of QAACTs without the AMFm logo was USD 2.74.

The gross percentage markup on QAACTs, measured among private for-profit outlets, increased from 50% to 127% between baseline and endline, with similar increases in urban and rural areas. The gross percentage markup in private for-profit outlets at endline was higher for QAACTs with the logo than on those without the logo (133% vs. 100%). In rural areas, the difference in markup between QAACTs with and without the logo is even greater (127% v. 71%). Since the median price of QAACTs with the AMFm logo is the same as the median price of QAACTs without the logo, the higher markups on QAACTs with the logo could indicate that retailers in rural areas are taking advantage of the subsidy to obtain higher markups on the copaid products. As a comparator, the median gross percentage markup on nAT in the private for-profit sector remained at 67% at baseline and endline. The median total markup from the first line buyer price to the retail price in private for-profit outlets was USD 1.83.

Market share: The market share of QAACTs overall increased significantly from 40% to 57%, an increase of 17 percentage points (95% CI 7.1-26.5). This represents a significant increase from baseline, and provides some evidence that Benchmark 5 of a 10 percentage point increase had been met, although the evidence is not strong ($p=0.08$). However, the power to detect a 10 percentage point increase in market share is below the usual minimum standard of 80%; therefore, p values should be interpreted with caution. Similar results were obtained for the public sector alone, where QAACT market share also increased significantly, by 17 percentage points (95% CI 4.2-30.0). There was almost no change in QAACT market share in private not-for-profit outlets (47% to 51%). However, in the private for-profit sector, the QAACT market share increased substantially, from 5% to 39%. There is strong evidence that the increase exceeded the 10 percentage point threshold ($p<0.0001$), with similar increases in urban and rural areas. The overall market share of oral AMTs was close to zero at baseline and endline, meaning that Benchmark 6 was not relevant for Uganda.

In the public and private for-profit sectors, the gain in QAACT market share was primarily due to a shift from nAT to QAACTs. In the public sector, there was a 17 percentage point increase in QAACT market share and a 17 percentage point fall in nAT market share, and in private for-profit facilities there was a 33 percentage point increase in the QAACT market share and a 29 percentage point decrease in nAT market share. This is consistent with the argument that QAACTs are displacing nAT in the public and private sectors.

QAACTs with the AMFm logo accounted for 76% of all QAACTs sold or distributed across all outlets, and 88% of QAACT volumes in private for-profit outlets. At baseline, the private for-profit sector was responsible for 76% of all antimalarials sold or distributed in urban areas and

33% in rural areas. At endline, there was no change in the share in urban areas (77%), but in rural areas the private for-profit share increased to 46%, at the expense of the public sector, for which the rural share fell from 64% to 47%.

8.7.2   Supply of AMFm copaid drugs

A total of 9 private for-profit and 3 private not-for profit FLBs were registered with the Global Fund as of January 31, 2012. QCIL also registered as a first line buyer for the public sector, as did Crown Agents. Orders were placed with 4 of these private for-profit FLBs by December 2011.

The first orders for copaid QAACTs were placed in March 2011 by private for-profit and private not-for-profit FLBs, with first deliveries arriving in April 2011 for private for-profit FLB and in June 11 for the private not-for-profit FLB. Delays in receiving orders were reported in both the private for-profit and private not-for-profit sector. The second order of the Joint Medical Stores (JMS), a private not-for-profit FLB, was delayed by 134 days from the date that the order was approved to the date of delivery to the first port of entry. This is unlikely to have affected availability of QAACTs in private not-for-profit facilities in the endline survey because the JMS had good stock levels through the second half of 2011. The private-for profit FLBs reported that some orders were delayed or cut, and indicated that they experienced stockouts of all or some age-bands in between orders. This is supported by evidence from Table 1.2.2 that only 57% of treatments requested by private sector FLBs in Q3 and Q4 of 2011 were approved. This might have affected availability and market share in private for-profit outlets. Nevertheless, the thresholds for the availability and market share success metrics were clearly met in private for-profit outlets in Uganda.

The first public sector FLB orders were placed only in June 2011 with deliveries beginning from July 2011, but no stockouts of the adult package size of AL at the National Medical Stores (NMS) were reported. However, stock levels of the adolescent and pediatric package sizes of AL were low by December 2010, and by March 2011 the NMS was out of stock of these pack sizes. By September 2011, the NMS had received substantial quantities of copaid ACTs. QAACT stocking levels in all public health facilities were similar at baseline (84%) and endline (91%). This is consistent with the case study findings that stock levels of ACTs at the NMS were high in the months preceding both the baseline and endline surveys.

A total of 28,226,700 copaid QAACT treatments were delivered between April 2011 and December 2011, amounting to 0.84 treatments per capita (the whole population of Uganda is considered at risk of malaria). Of these, 73% were delivered to the public sector, 25% to the private for-profit sector, and 2% to the private not-for-profit FLB.

Only 7 months elapsed between the date the first drugs arrived in Uganda (April 2011) and the midpoint of endline outlet survey fieldwork, so the implementation period was quite short.

8.7.3 Implementation of supporting interventions

A total of USD 28,575,151 was available through the Global Fund for SIs at the time of grant signing (this does not take into account interventions funded through other programs). The first disbursement of USD 5,554,024 was made by November 2011, but none of these funds were spent by the end of 2011. The only AMFm supporting interventions that occurred prior to the end of endline data collection were the National Launch that was held as part of World Malaria Day celebrations, and the small-scale AMFm pre-disbursement marketing campaign. In addition, some first line buyers either printed their own point-of-sale materials, or used posters or other promotional items provided by the manufacturer. These activities likely had limited influence on AMFm outcomes, due to their small scale.

An RRP of USD 0.47 for an adult dose was set, but did not appear on the packaging of copaid QAACTs. Key informant interviews revealed that awareness and adherence to the RRP was thought to be low. This was confirmed by the endline outlet survey results. Only 10% of providers were aware that there was an RRP on copaid QAACTs, with awareness similar across urban/rural locations and outlet types. Of those who were aware of the RRP, only 5% stated its correct level. Poor awareness of the RRP might have contributed to the relatively high median prices for QAACTs bearing the AMFm logo that were observed in the endline outlet survey.

Provider knowledge of the AMFm program was somewhat higher than awareness of the RRP, at 25% overall. Attendance of training on antimalarials with the AMFm logo was reported by only 15% of respondents, with similar levels across the public (12%), private not-for-profit (11%) and private for-profit (17%) sectors. Provider knowledge of the first-line drug was high at baseline (78%) and endline (79%), with particularly high levels of over 95% in public health facilities at both time points. Between baseline and endline there was a significant decrease in the response "I don't know about these drugs" (16% to 6%) as a reason for not stocking QAACTs among private for-profit providers.

There was a high level of provider recognition of the AMFm logo at endline (66% overall), with similar results in urban and rural areas. Of those recognizing the logo, 89% said it meant an ACT and 33% said it meant an antimalarial (multiple responses were allowed). Twenty-six percent of all respondents did not know what it meant. Given that the implementation of AMFm supporting interventions was limited at the time of the survey, providers might have recognized the logo from the CAPSS (Consortium for ACT Private Sector Subsidy) program. CAPSS distributed subsidized ACTs to the private sector from 2008-2010 in four districts and used a logo very similar to the AMFm logo on its packaging and marketing materials.

8.7.4   Context

ACTs were recently granted over-the-counter status. This regulatory change was seen as legalizing the longstanding practice of drug shops selling ACTs. Further implementation of this regulatory change was expected as part of the AMFm supporting interventions, but like other AMFm supporting interventions these activities had not started by the end of 2011. There was no significant increase in the availability of microscopy between baseline and endline, but availability of RDTs increased significantly in public health facilities (from 4% to 53%) and in private non-profit outlets (from 9% to 51%), leading to significant increases in availability of any diagnostic, especially in rural areas. RDT availability in the private for-profit sector remained low, at 10% at endline. There was a substantial depreciation of the Ugandan shilling between the baseline and endline outlet surveys.

8.7.5   Summary

There is strong evidence that Uganda has met Success Benchmark 1 (QAACT availability), and some evidence that it has met Benchmark 5 (market share). The threshold of a 10 percentage point increase in QAACT market share was clearly met in the private for-profit sector. Benchmark 2 (QAACT price relative to the most popular antimalarial which is not a QAACT) was not met, with a ratio of 3.3 which is above the threshold set of 3. Benchmarks 3 and 6 were not relevant to Uganda as oral AMT was so rare at both baseline and endline. Data were not available to calculate Benchmark 4. The improvements in QAACT availability and market share were achieved despite the relatively short time between first arrival of copaid drugs and the endline outlet survey (7 months), and the lack of AMFm supporting interventions. Large improvements in availability and market share in the private for-profit sector were also achieved even though only a quarter of copaid drugs delivered went to private for-profit FLB, and in spite of the exercise of the Global Fund's demand management levers. It is likely that these improvements were due to AMFm, given the high share of QAACTs with a logo among all QAACTs in the private for-profit sector at endline (88%). The share of antimalarials distributed by the private for-profit sector rose in rural areas between baseline and endline, which may partly be explained by an expansion of RDT availability in the public and private not-for-profit sectors, which should have reduced ACT use in these facilities. The decrease in the market share of nAT suggests that AMFm is crowding out nATs and not simply shifting demand from other ACTs. The failure to meet Benchmark 2 is indicative of a particularly high retail price for copaid QAACTs, reflecting very high gross percentage retail markups, and a high total markup from FLB price to retail selling price. This may have been influenced by lack of awareness of the RRP, with only 10% of respondents being aware that there was an RRP and only 5% of these knowing its level.

8.8   Zanzibar

The success metrics scorecard for Zanzibar is shown in Figure 8.8.1. Achievement of the AMFm objectives, the supply of AMFm copaid drugs, implementation of supporting interventions, and contextual factors that could affect the achievement of the AMFm benchmarks are discussed below.

8.8.1   Achievement of AMFm objectives

Availability: QAACT availability across all outlets increased by 39 percentage points, from 46% at baseline to 85% at endline (Benchmark 1), easily meeting the benchmark of a 20 percentage point increase in QAACT availability. Availability was slightly higher in rural than in urban areas at endline (90% vs. 82%). Virtually all of the increase in QAACT availability occurred in private for-profit outlets, as availability in public sector health facilities was already 92% at baseline and increased only marginally to 94% at endline. Within the private for-profit sector, QAACT availability increased by 71 percentage points from 9% at baseline to 80% at endline. Availability at endline was slightly higher in private health facilities/pharmacies (89%) than in drug stores (74%). At endline, QAACTS with the AMFm logo made up a large majority of QAACTS, with 83% of all outlets stocking QAACTs with the logo, compared with 6% stocking QAACTs without it. Availability of QAACTs with the logo was lower in urban areas (79%) than in rural areas (89%).

There was a large reduction in availability of nATs in all sectors, falling from 88% to 47% across all outlets and from 98% to 57% in private for-profit outlets. Availability of oral AMT in the private for-profit sector also fell substantially, from 30% of all outlets at baseline to only 1% at endline. Finally, the availability of non-quality assured ACTs also fell in all outlets, from 35% to 19%, but with a particularly large reduction in availability in the public sector, from 32% to 8%.

Price: Because nearly all the QAACTs at baseline were in public health facilities (and therefore free), the increased availability in the for-profit sector led to an increase in the overall median price from USD 0.00 at baseline to USD 0.58. However, there was a very substantial decrease in the median price of QAACTs in private for-profit outlets, from USD 5.99 at baseline to USD 1.17 at endline. The endline median price is 83% higher than the recommended retail price (RRP) of USD 0.58 for an adult dose. The median price per AETD of QAACTs in private for-profit outlets was similar in urban and rural areas. There was little change in the price of nATs in private for-profit outlets between baseline and endline (USD 2.54 vs. USD 2.62).

Figure 8.8.1: AMFm success metrics scorecard – Zanzibar

Availability

Benchmark 1: **20 percentage point increase from baseline in availability of all QAACTS**

Percentage point change, 95% CI for change and p-value for test that QAACT availability is at least 20 percentage points higher, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	92.1	93.5	1.5	
Private for-profit outlet	8.8	80.1	71.3	
Total*	45.8	85.1	39.3	

Price

Benchmark 2: **Median price of QAACTs with the AMFm logo is less than 3 times the median price of the most popular antimalarial that is not a QAACT, in tablet form ***

Ratio of medians, 95% CI for ratio, p-value for test that ratio is < 3, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of most popular non-QAACT	Ratio (95% CI)	p
Private for-profit outlet	USD 1.17	USD 0.79	1.5	

Benchmark 3: **Median price of QAACTs with the AMFm logo is less the median price of AMT tablets**

Difference in prices in USD (QAACT – AMT), 95% CI for difference, p-value for test that difference is negative, in private for-profit outlets only

	Median price of QAACTs with logo	Median price of AMT	Difference (95% CI)	p
Private for-profit outlet	USD 1.17	USD 7.46	-6.30	

Further results

QAACT price in the private for-profit sector fell from USD 5.99 to USD 1.17 (USD 1.17 urban, USD 0.93 rural). The price of QAACTs with the AMFm logo (USD 1.17) was higher than the RRP of USD 0.58 (2010 prices).
QAACT availability was slightly lower in urban than rural outlets at endline (82%. vs. 90%); QAACT market share was slightly higher in urban outlets (58.9%) vs. rural outlets (51.3%). The private sector share of all antimalarials distributed increased from 62% at baseline to 87% at endline.

Use

Benchmark 4: **5-10 percentage point increase from baseline in percentage of children under age 5 years with fever in the last 2 weeks who received ACT treatment**

Percentage point change and p-value for t-test that use is at least 5 percentage points higher

	Baseline (%)	Endline (%)	Change (95% CI)	p
Children under 5 years	na	na	na	na

Market share

Benchmark 5: **10-15 percentage point increase from baseline in the market share of all QAACTs**

Percentage point change, 95% CI and p-value for test that market share of QAACTs is at least 10-percentage points higher, by type of outlet

	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	22.8	38.1	15.3	
Private for-profit outlet	2.0	60.7	58.7	
Total*	9.7	57.8	48.1	

Benchmark 6: **Decrease in market share of oral AMTs**

Percentage point change in market share, 95% CI for change and p-value for test that change is negative, by type of outlet

Type of outlet	Baseline (%)	Endline (%)	Change (95% CI)	p
Public health facility	0.1	0.0	-0.1	
Private for-profit outlet	19.5	0.2	-19.3	
Total*	12.2	0.2	-12.0	

Process and context data

The AMFm agreement was signed on November 10, 2010 and the first copaid drugs arrived in April 2011 (6.5 months before endline).
Supporting interventions started in May 2011. The national launch took place in June 2011 and mass media communications commenced in July 2011 (3 months before endline). Important contextual factors included early adoption of ACTs as first-line drug (in 2003), enforcement of AMT ban, allowing ACTs to be sold in drug stores, scale up of diagnostics, IRS and distribution of LLINS, and a dramatic reduction in the number of malaria cases.

Notes: Confidence intervals and p-values are not shown for Zanzibar because a complete census of antimalarial selling outlets was undertaken; consequently, green shading = benchmark was achieved; Amber shading = benchmark was nearly, but not fully, met; Red shading = benchmark was not met ; Grey shading for Benchmarks 3 and 6 = metrics are not relevant because the number of AMT products was very low at baseline; ACT = Artemisinin-based combination therapy; AMT = Artemisinin monotherapy; CI = Confidence interval; RRP = Recommended retail price; na = not available; QAACT =Quality-assured artemisinin-based combination therapy; SI = Supporting intervention; * Total includes CHWs and private not-for-profit facilities that are not shown separately; ** The most popular antimalarial in tablet form that was not a QAACT in the private for-profit sector in Zanzibar was amodiaquine.

The median price of QAACTs with the AMFm logo in private for-profit outlets at endline was USD 1.17 per AETD. This is 1.48 times the price of the most popular antimalarial which is not a QAACT in tablet form which in Zanzibar was amodiaquine (with a price of USD 0.79 per AETD). Zanzibar has therefore clearly met Benchmark 2, which states that the ratio of median prices should be less than 3. The median price of QAACTs with the logo was also much lower than the price of AMT tablets (USD 7.46) so Benchmark 3 was also met.

At endline, the gross percentage markup on QAACTs in private for-profit outlets was 100%. This is higher than the median markup on nAT in private for-profit outlets, which was 50% at endline. However, as the median price of QAACTs (USD 1.17) is much lower than that of nATs (USD 2.62) this amounts to a smaller absolute markup on QAACTs. The total gross markup from the first line buyer price to retail price in private for-profit outlets was $1.11.

Market share: Zanzibar has seen a nearly six-fold increase in the market share of QAACTs from baseline to endline, from 10% of all antimalarial AETDs sold/dispensed at baseline to 58% at endline. Benchmark 5 of a 10% increase in QAACT market share has therefore been easily achieved. In public sector outlets, the QAACT share has increased by 15 percentage points, from 23% to 38%, with the main shift being away from non-quality-assured ACTs, from 21% at baseline to only 3% at endline. In private for-profit sector outlets, the increase in QAACT market share is even more dramatic, with a 59 percentage point increase, from 2% at baseline to 61% at endline. In the private for-profit sector, the increase in QAACT market share has been accompanied by a decrease in the market share of nATs, from 52% at baseline to 18% at endline. QAACTs with the logo make up 96% of total QAACT volume in all outlets combined and among private for-profit outlets. QAACTs with the AMFm logo are now over half of antimalarial sales, while QAACTs without the logo make up only 3%.

Benchmark 6 has also been achieved, with the market share of AMTs measured in all outlets falling by 12 percentage points from 12% to nearly 0 at endline. The largest decrease was seen among private for-profit outlets, where the oral AMT share decreased from 20% at baseline to a negligible 0.2% at endline. These results suggest that improved availability of QAACTs is achieving both the AMFm objectives of increasing use of effective antimalarial medicines and decreasing use of AMT.

Between baseline and endline there has been quite a substantial reduction in the relative importance of the public sector as a source of antimalarials, as evidenced by its share of all antimalarials sold, from 37% at baseline to 13% at endline. This was accompanied by an increase in the share sold by for-profit outlets (from 62% at baseline to 87% at endline). Although the public sector is more important in rural areas, its share there has also fallen substantially, from 77% at baseline to 48% at endline.

8.8.2   Supply of AMFm copaid drugs

Because Zanzibar is a small country and the prevalence of malaria is low, it was agreed at the start of AMFm that only one private for-profit FLB should be registered. In the public sector, the Ministry of Health (through the ZMCP) is responsible for forecasting, quantification, and procurement of all drugs, including copaid ACTs. Ordering of copaid ACTs is done through the Global Fund's Voluntary Pooled Procurement (VPP) system. The process of selecting the private sector FLB was reported to have been smooth.

The first order of copaid QAACTs was placed by the private for-profit FLB in February 2011 and these drugs were delivered in April 2011. A public sector order was placed in July 2011 and delivered in September 2011. By the end of 2011, a total of 241,075 treatments had been delivered, amounting to 0.19 treatments per capita (the whole population of Zanzibar is considered at risk of malaria). A request from the private sector FLB in August 2011 (after the introduction by the Global Fund of its demand management procedures) to purchase 47,000 units of the alternative first line treatment artemether-lumefantrine was not approved by the Global Fund on the grounds that it was not warranted by the level of malaria incidence in Zanzibar. Artemether-lumefantrine is recommended for patients who cannot tolerate artesunate-amodiaquine.

The outlet survey recorded a decrease in availability of QAACTs among all public health facilities (including those without antimalarials in stock on the day of the interview) between baseline and endline, from 84% to 73%. This may have captured residual problems of stockouts in public health facilities that were reported to have occurred in August/ September 2011, due to delays in procurement by the Central Medical Store. Endline country fieldwork took place during October and November 2011.

Only 6.5 months elapsed between the arrival of the first copaid drugs in Zanzibar (April 2011) and the midpoint of endline outlet survey fieldwork (October 2011).

8.8.3   Implementation of supporting interventions

Approximately USD 585,000 was available through the Global Fund for supporting interventions at the time of grant signing, and as of November 2011, USD 150,000 had been disbursed, giving a per capita disbursement on Global Fund-supported SIs of USD 0.11. Some sensitization of key stakeholders including pharmacy owners and the Ministry of Health took place before the official launch in June 2011. The main supporting interventions began about one month after the arrival of the first copaid drugs in Zanzibar, in May 2011, giving only 5.5 months of SI implementation before the midpoint of the endline outlet survey. Communications activities included a national launch (in June 2011), a media campaign focusing on availability and price of copaid ACTs (starting in July 2011) and community meetings. Relatively little training took

place before the endline outlet survey. It was reported that 75 health providers received training on drugs and adverse effects, and 13 pharmacists were being trained on monitoring and evaluation. Training activities were said to be limited because they had not been included in the original budget for SIs. Public and private providers also received some training in pharmacovigilance and reporting of adverse drug reactions.

The RRP of USD 0.58 for an adult dose and USD 0.47 for a child's dose did not appear on the packaging of copaid ACTs, but the RRP was promoted through banners, billboards, stickers and radio/TV messages.

Provider knowledge of the first-line drug was already high at baseline (85% overall), but knowledge increased to 94% at endline. There was a larger increase in provider knowledge among private for-profit providers, from 77% at baseline to 92% at endline. Knowledge of the AMFm logo was very high at endline (93%), was high in all sectors, and most respondents associated the logo with effective, quality or subsidized antimalarials, or that the logo meant an ACT. Only 13% of respondents did not know what the logo meant. Knowledge of the AMFm program was quite a bit lower (69%). Eighty percent of providers were aware of the RRP (85% in urban areas, 73% in rural areas) and among those familiar with the RRP, there was nearly universal knowledge of the correct RRP for adults (98%). Given the limited provider training, it seems likely that the high level of knowledge was the result of the mass media campaign and other communications activities.

Although there has been a ban on use of AMT and SP for malaria treatment since 2008, there seems to have been an intensification of its enforcement as a consequence of AMFm. The AMFm Coordination Body and Task Force worked with the Zanzibar Food and Drugs Board (ZFDB) to impose new by-laws banning the importation of artemisinin monotherapies, and all pharmaceutical importers, distributors and retailers were notified by ZFDB about the new by-laws in June 2011.

8.8.4 Context

Zanzibar has seen a dramatic decrease in malaria incidence since around 2003 (Aregawi et al. 2011). This is a consequence of intensified control efforts including an early shift to ACTs as the first-line drug for case management (in 2003); expanded coverage of vector control interventions, including free mass distribution of LLINs and use of indoor residual spraying; and scaling up of malaria diagnosis through the procurement and distribution of RDTs and strengthening the quality of microscopy services. Since 2009, 8 million RDTs and 110 microscopes have been procured and distributed, supported by relevant training of health workers. At endline, 98% of public health facilities with antimalarials in stock had some diagnostic capacity, and 85% had RDTs. Availability of diagnostics in the private for-profit sector is more variable, with 65% of private health facilities/pharmacies having any test

available, and only 3% of drug stores having any test available. At the time of the country case study the introduction of RDTs in the private sector was being piloted. Over-the-counter medicine sellers are allowed to stock and sell ACTs, a factor which has likely had an important influence on increased availability of QAACTs in the private for-profit sector.

8.8.5 Summary

Zanzibar has met with all of the Success Benchmarks that could be assessed. These very substantial improvements in QAACT availability and market share, reductions in QAACT prices, and the reductions in availability and market share of nATs, AMTs and non-quality-assured ACTs have occurred despite less than 7 months of effective implementation of AMFm, and with a relatively limited flow of copaid antimalarials into the country (0.19 treatments per capita delivered as of the end of 2011). It seems appropriate to conclude, therefore, that in Zanzibar AMFm has met with a highly supportive and conducive environment. Key regulatory steps to support OTC sales of QAACTs and to intensify enforcement of the ban on AMT are likely to have played an important role in the achievement of the benchmarks, in addition to core AMFm interventions of the supply of copaid QAACTs and the strong communication campaign. Although information on appropriate use of ACTs is not collected as part of the IE, the relatively high availability of diagnostic testing in the public sector should contribute to rational use of QAACTs, providing another supporting contextual factor. In this light, the shift in market share toward the private for-profit sector, where diagnostic testing is not universally available, should be seen with some concern, and efforts to improve availability of RDTs especially in drug stores are needed.

9   Conclusion

A number of key findings can be distilled on the process and impact of AMFm:

1. **Achievement of success benchmarks** – Figure 9.1.1 provides an overview of the performance of each pilot against the AMFm success benchmarks. Of the 8 pilots, success benchmarks were clearly met in 5 pilots for availability, 5 pilots for QAACT price relative to the most popular antimalarial that is not a QAACT, and 4 pilots for QAACT market share (all shaded green). It is also possible that benchmarks were met in a one additional pilot for availability and price, and in 3 additional pilots for market share, although the evidence is not as strong (shaded amber). The success benchmarks related to AMT price and market share were met in all pilots with sufficient AMTs in the market to make these benchmarks relevant.

2. **AMFm and the private for-profit sector** – AMFm has been a "game changer" in the private for-profit sector for all pilots except Niger and Madagascar, with a dramatic impact on the antimalarial market, through large increases in QAACT availability, decreases in QAACT prices, and increases in QAACT market share. These changes were substantial and achieved in only a few months, demonstrating the power of tapping into the distributional capacity of the private sector. The changes are very likely to be largely attributable to AMFm. The private for-profit sector response was similar in rural and urban areas, in some cases reducing or closing a rural-urban gap in availability and market share. There was considerable penetration of copaid QAACTs even in remote areas in Ghana and Kenya, where this was evaluated.

3. **AMFm and the public sector** – AMFm led to fewer fundamental changes to public sector antimalarial supply, where QAACT supply continued to be hindered by problems with procurement and grant requirements, leading to substantial delays in ordering. Increases in QAACT market share were seen in the public sector in four pilots (Ghana, Nigeria, Uganda and Zanzibar), although in Nigeria most QAACTs distributed through the public sector were not copaid. QAACTs were available in less than 80% of all public facilities at endline in five pilots, and there was generally no change in public sector QAACT prices as most countries already provided QAACTs for free at baseline (except Ghana where public sector QAACT prices fell).

4. **Limited impact in Madagascar and Niger** – The impact of AMFm on the private for-profit sector was limited in Madagascar and Niger, where orders of copaid ACTs were very low. Explanations may include (i) the lack of full-scale mass media campaigns; (ii) the structure of the private for-profit antimalarial sector, which had a much higher proportion of general stores, and in Niger itinerant vendors, who are not allowed to stock QAACTs; and (iii) an unfavourable context of political and/or economic instability and severe weather conditions.

5. **Effect of duration of implementation** – Longer duration of implementation appears to be positively correlated with performance, if the combined presence of copaid ACTs and the operation of a large-scale sustained IEC/BCC campaign is considered a proxy for full AMFm implementation. With the exception of Zanzibar, pilots with earlier start dates achieved more success benchmarks. No large-scale sustained IEC/BCC campaign was in place by the end of 2011 in Madagascar, Niger or Uganda, and these pilots achieved fewer benchmarks. However, it is possible that delayed start dates reflect weaker implementation capacity in general, and therefore one should be cautious in attributing performance to duration of implementation alone.

6. **Prices and markups in the private for-profit sector** – The price of copaid QAACTs in the private for-profit sector at endline was very variable across pilots, ranging from USD 0.51 in Madagascar to USD 1.96 in Uganda. Reasons for this variability are unclear but may include (i) variations in the RRP and its promotion through national IEC/BCC campaigns; (ii) guidelines on markups (in Madagascar); (iii) differences in cost structure including tax components; and (iv) time since copaid ACTs first arrived in each country. The median retail gross markup on copaid QAACTs was less than 70% in all pilots (which can be considered reasonable for the retail sector), except Uganda (133%) and Zanzibar (100%).

7. **Crowding out oral artemisinin monotherapy** – Even at baseline, the market share for oral AMT was less than 4% in Ghana and less than 1% in Kenya, Madagascar, Niger, Tanzania Mainland and Uganda. In Nigeria and Zanzibar, where oral AMT market share was somewhat higher at baseline, large and significant falls were observed, likely reflecting a combination of the AMFm subsidy and complementary regulatory measures with particularly strong enforcement of the latter in Zanzibar.

8. **Availability of non-artemisinin therapies** – nAT availability fell in some countries, but remained very high in most countries. However, most of the increase in QAACT market share was at the expense of nAT market share.

9. **Market structure** – The private sector was a major player in the antimalarial market in all pilots, accounting for between 40% and 97% of antimalarial sales volumes at baseline, and between 49% and 92% at endline. There was no clear pattern across pilots in the change in private for-profit market share between baseline and endline.

10. **Availability of malaria diagnosis** – Diagnostic availability (RDT or microscopy) varied substantially in the public sector, from 29% in Nigeria to 98% in Zanzibar at endline. However, in private for-profit outlets, only three pilots had substantial availability at endline (Kenya - 14%, Uganda – 21%, Zanzibar - 32%). In this sector, health facilities/pharmacies have higher availability of diagnostics than drug and general stores.

11. **Results of operational research** – Results from studies of interventions to enhance the implementation of antimalarial subsidies by improving targeting and/or drug use show that implementation of such interventions is feasible on a small scale, but more evidence on effectiveness and cost-effectiveness of large-scale programs is needed to inform policy.

12. **Issues not covered by the Independent Evaluation** – A number of important issues related to AMFm policy decisions were beyond the scope of the Independent Evaluation, including the impact on targeting copaid ACTs to persons with parasitemia; advice provided to patients; adherence to dosing regimens; global artemisinin supply and prevalence of counterfeit products.

13. **Possible hindering factors for AMFm in some countries include:**
   - Delays in the public sector procurement process for copaid ACTs
   - Issues with Global Fund grants and delays in procurement of supporting interventions, meaning that implementation of most SIs lagged behind the arrival of copaid ACTs by several months
   - Suspension of Global Fund disbursements or grants interrupting implementation of supporting interventions
   - Application of Global Fund demand levers to ration orders
   - Political and/or economic instability
   - An antimalarial provider market dominated by highly informal outlets operating outside of regulated distribution channels (in Madagascar and Niger)

14. **Possible facilitating factors for AMFm in some countries include**:
   - Strong AMFm governance structures (including steering committees), involvement of the private sector and technical assistance from the Clinton Health Access Initiative
   - Generally smooth operation of the registration process for first-line buyers and ordering through the copayment mechanism
   - Strong, large-scale mass media campaigns, including promotion of the AMFm logo
   - Longer duration of implementation
   - Establishment and promotion of an RRP set at an appropriate level
   - Complementary regulatory changes, such as giving ACTs over-the-counter status, and implementation of the AMT ban
     - AMFm training in some countries (although only Ghana and Zanzibar had over 20% training coverage)

Figure 9.1.1: Overview of the achievement of the AMFm Success Benchmarks by county, indicating benchmarks achieved (in green), nearly or possibly achieved (in amber) and not achieved (in red), (point estimate, and p-value for statistical test of whether the level stated in the benchmark was achieved)

Benchmark	Ghana	Kenya	Madagascar	Niger	Nigeria	Tanzania mainland	Uganda	Zanzibar*
1. 20 percentage point increase in QAACT availability	52 (*p*<0.01)	35 (*p*<0.01)	4.6 (*p*=0.99)	10 (*p*=0.99)	26 (*p*=0.14)	44 (*p*<0.01)	46 (*p*<0.01)	39
2. Median price of QAACTs with AMFm logo is <3 times the median price of the most popular antimalarial in tablet form that is not a QAACT (ratio)	3.0 (*p*=0.81)	1.0 (*p*<0.01)	1.6 (*p*<0.01)	2.5 (*p*<0.01)	3.1 (*p*=0.99)	1.0 (*p*<0.01)	3.3 (*p*=0.99)	1.5
3. Median price of QAACTs with AMFm logo is less than the median price of AMT tablets (difference, QAACT – AMT)	-0.94 (*p*<0.01)				-1.17 (*p*<0.01)			-6.3
4. 5 percentage point increase in percentage of children with fever who received ACT treatment	na	na	na	na	na	na	na	na
5. 10 percentage point increase in market share of QAACTs	40 (*p*<0.01)	31 (*p*=0.01)	8.6 (*p*=0.61)	-8.8 (*p*=0.99)	18 (*p*<0.01)	16 (*p*=0.23)	17 (*p*=0.08)	48
6. Decrease in market share of oral AMTs (percentage point change)					-3.9 (*p*=0.03)			-12

Notes: Green shading = the benchmark was achieved, with strong statistical evidence (generally *p*<0.01); Amber shading = either the benchmark was nearly, but not fully, met, or the evidence that the change seen was unlikely to be due to chance is weak (*p*≥0.05). However, the power to detect a 10 percentage point increase in market share was only 35% in Tanzania, 66% in Uganda and 70% in Madagascar, compared with the usual minimum standard of 80%; therefore, *p*-values should be interpreted with caution. Red shading = the benchmark was not met; Grey shading for Benchmarks 3 and 6 = not relevant because the number of AMT products was very low at baseline. * *p*-values not shown for Zanzibar because a complete census of antimalarial stocking outlets was undertaken; na = not available; ACT= artemisinin-based combination therapy; AMT= artemisinin montherapy; QAACT= quality-assured artemisinin-based combination therapy

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11 Acknowledgements

12 Appendices

[The appendices are included in a separate file that accompanies this file]