

IOM/Center for Disease Dynamics, Economics & Policy (CDDEP) meeting on the Affordable Medicines Facility – malaria (AMFm)

September 17-18, 2012, The National Academies, 2101 Constitution Avenue, NW, Washington, DC



Independent Evaluation (IE) of Phase 1 of the Affordable Medicines Facility - malaria: *Key findings*

Presentation by Sarah Tougher & Kara Hanson

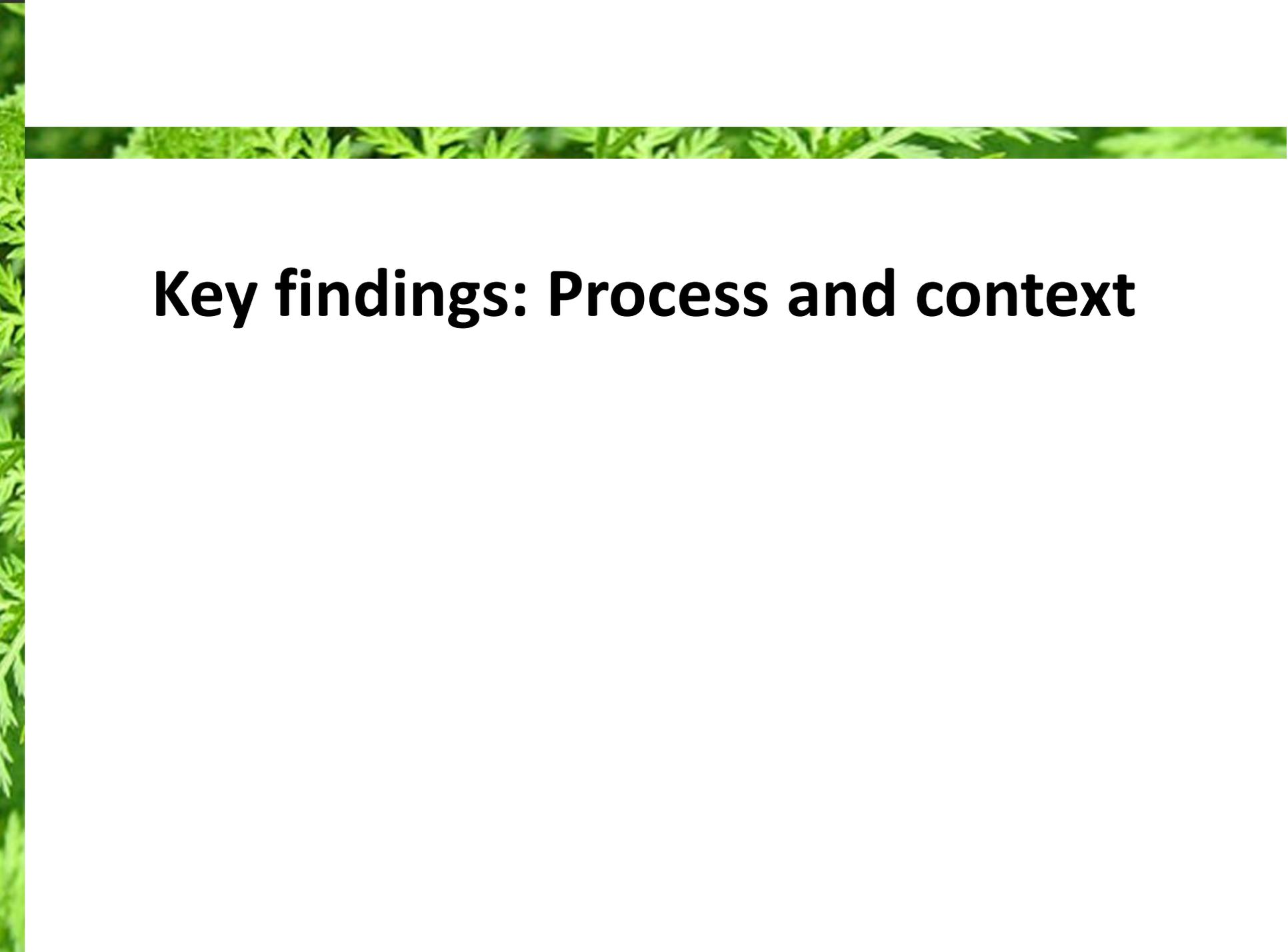
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Key findings: Process and context

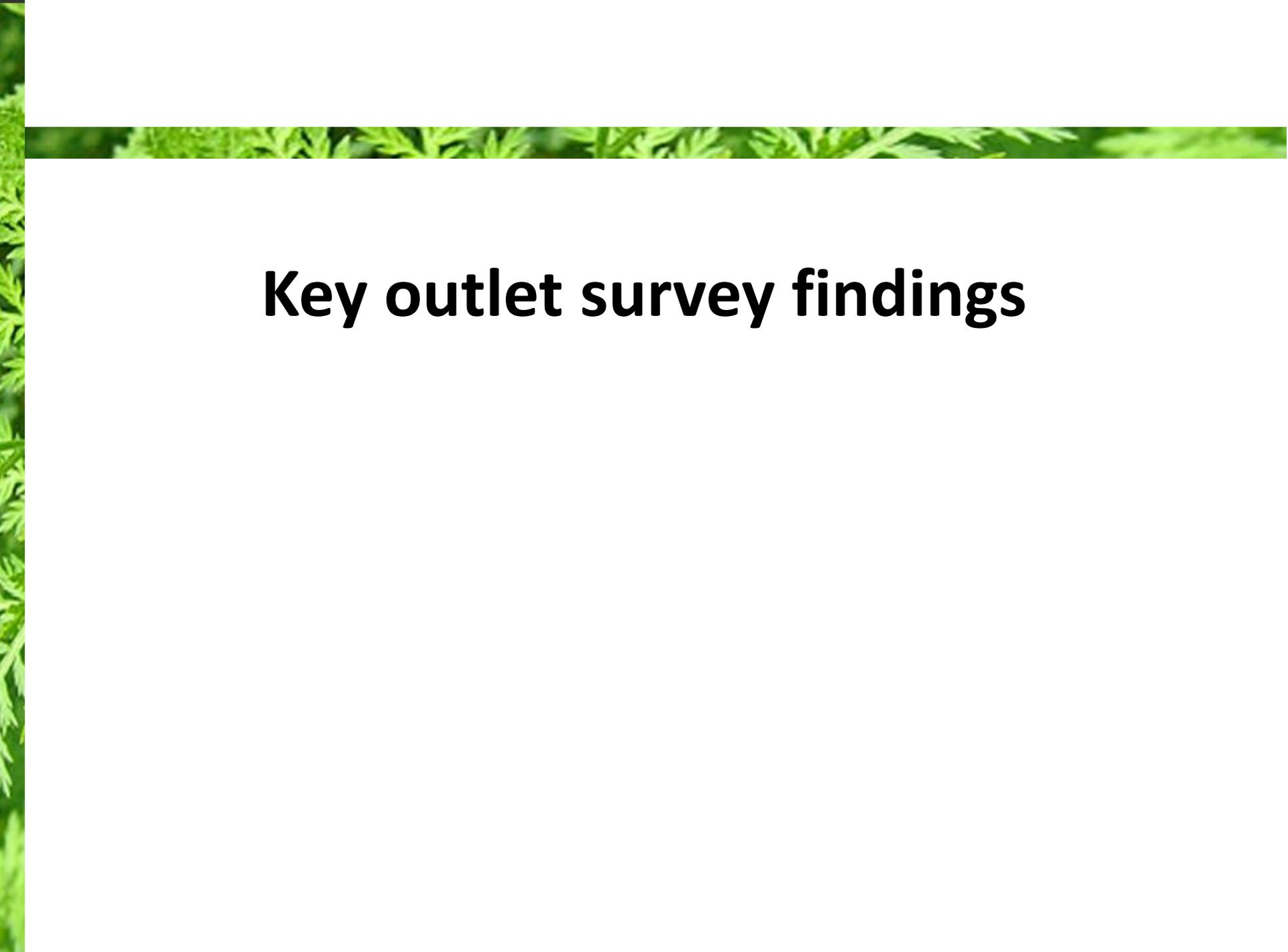
Process and context

Pilot	Ghana	Kenya	Tanzania mainland	Zanzibar
Doses of AMFm ACTs delivered per person at risk (2010-2011)	1.01	0.90	0.31	0.19
% delivered to private for-profit sector buyers	94.3%	49.6%	62.3%	62.2%
Months from arrival of AMFm ACTs to mid-point of endline survey	15-1/2	15	13-1/2	6-1/2
Months from IEC/BCC implementation at scale to mid-point of endline survey	9	9	7	5
Demand levers (2 nd half of 2011)	Yes. 27% of PFP orders approved	Yes. 56% of PFP orders approved	Yes. 90% of PFP orders approved	No
Other process and context				•Enforcement of AMT ban

Process and context (2)

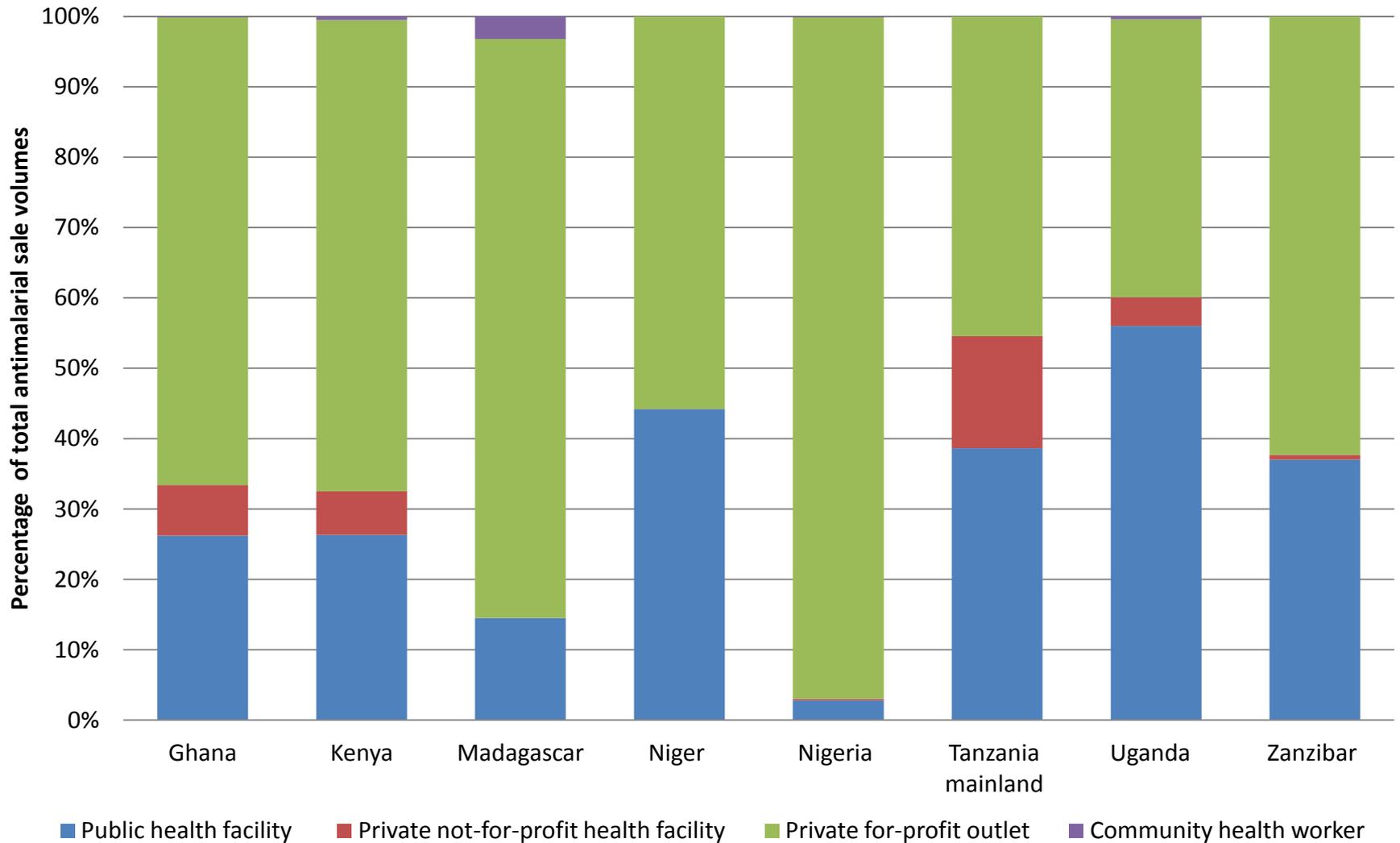
Pilot	Nigeria	Uganda	Madagascar	Niger
Doses of AMFm ACTs delivered per person at risk (2010-2011)	0.42	0.84	0.08	0.14
% delivered to private for-profit sector buyers	76.9%	24.5%	71.0%	19.8%
Months from arrival of AMFm ACTs to mid-point of endline survey	9-1/2	7	14	9-1/2
Months from IEC/BCC implementation at scale to mid-point of endline survey	3	0	*	*
Demand levers (2 nd half of 2011)	Yes. 24% of PFP orders approved	Yes. 57% of PFP orders approved	No	No
Other process and context	<ul style="list-style-type: none"> •Supporting intervention implementation constrained by suspension of grant to 1 recipient org 	<ul style="list-style-type: none"> •Small scale communication campaign only SI by end of 2011 •Delay in placement of 1st public sector order 	<ul style="list-style-type: none"> •IEC/BCC halted after 1 month •National social marketing of ACTs since 2008 •Continued political and economic impact of 2009 coup d'état 	<ul style="list-style-type: none"> •SI implementation took place for 6 months, but no activities after June 2011 due to grant suspension •Adverse weather •Difficult transportation

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

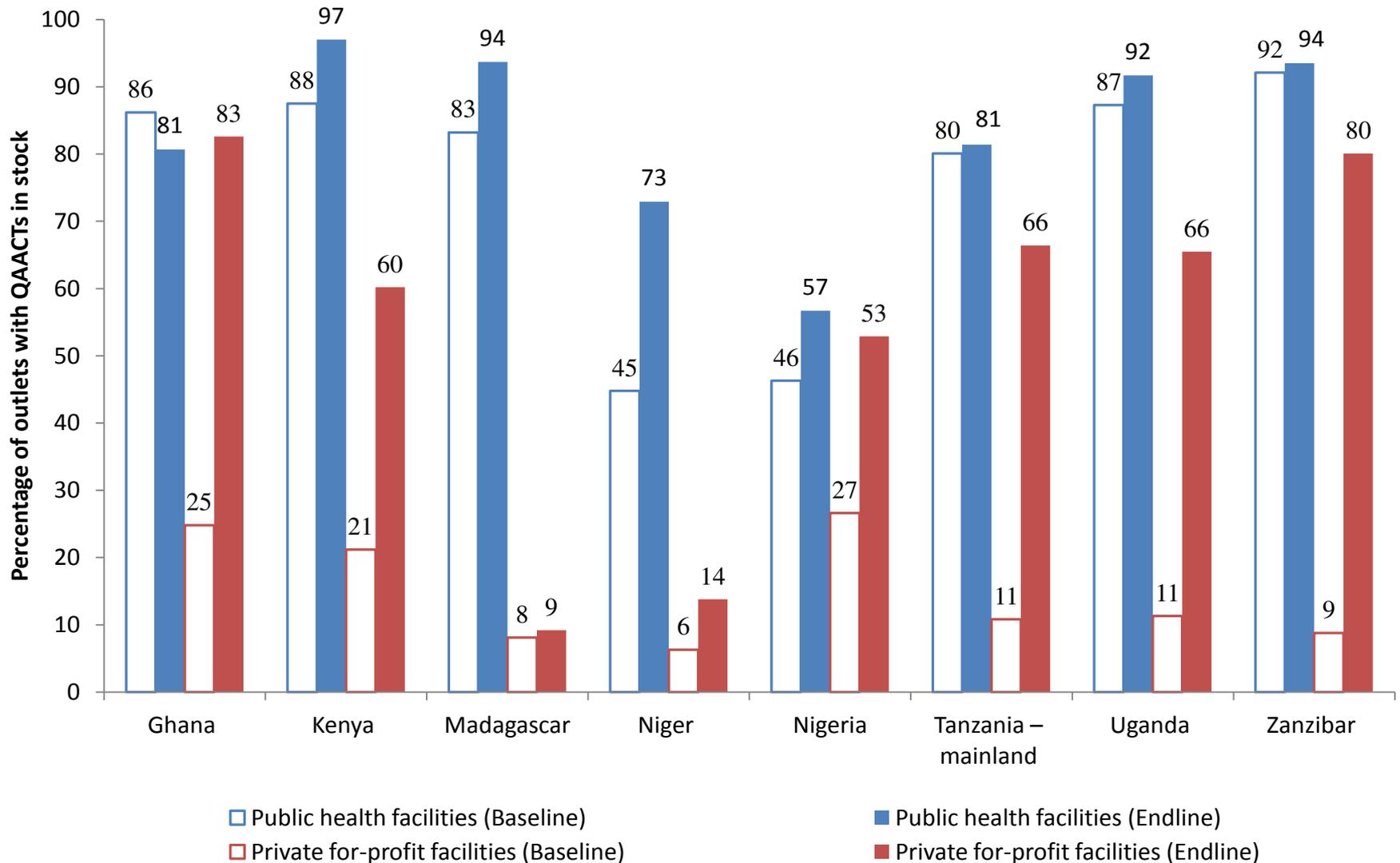
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Key outlet survey findings

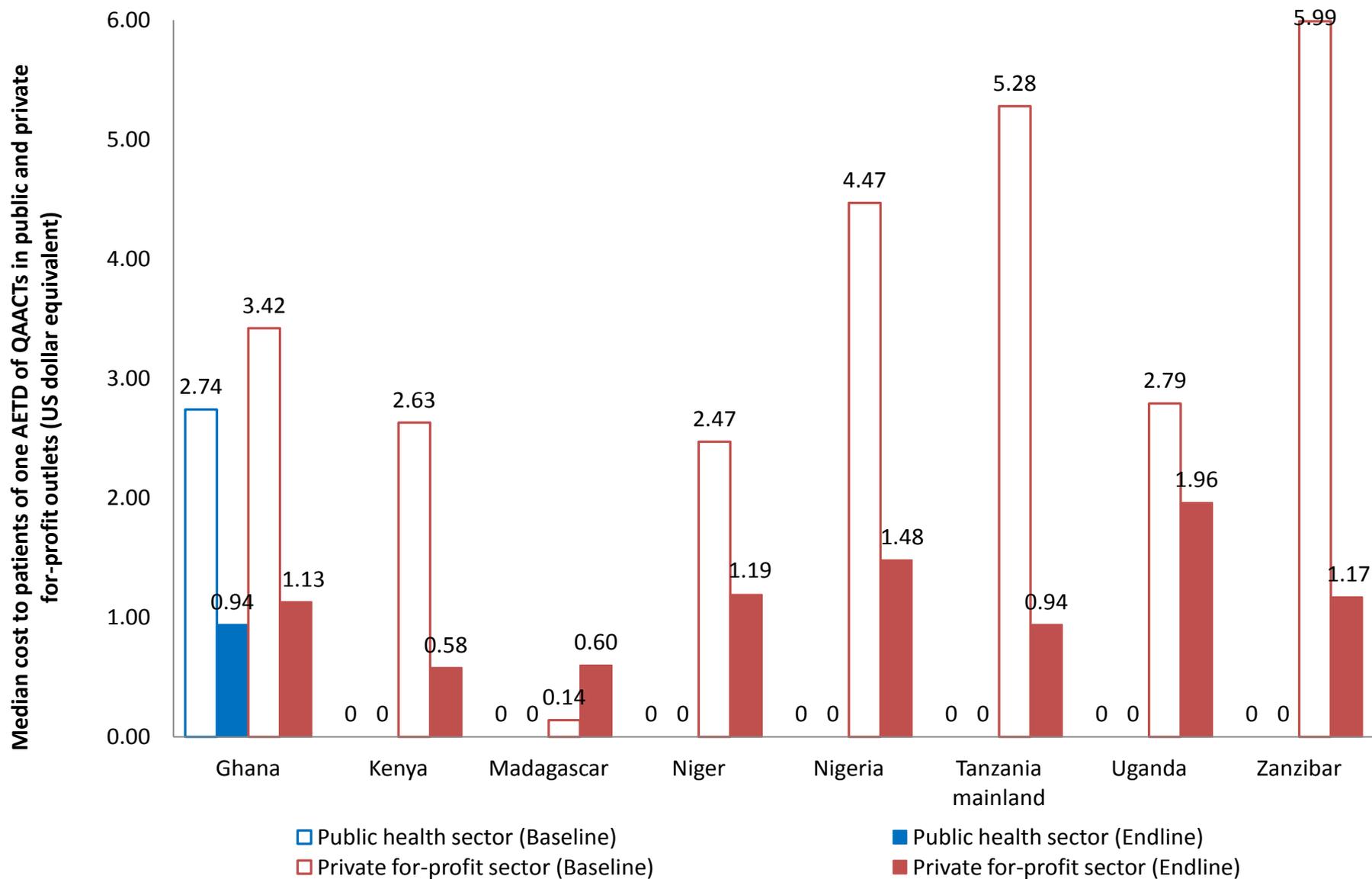
Market share by outlet type: All antimalarial categories (Baseline)



Availability of QAACTs in public health facilities and private for-profit facilities with antimalarials in stock, at baseline and endline

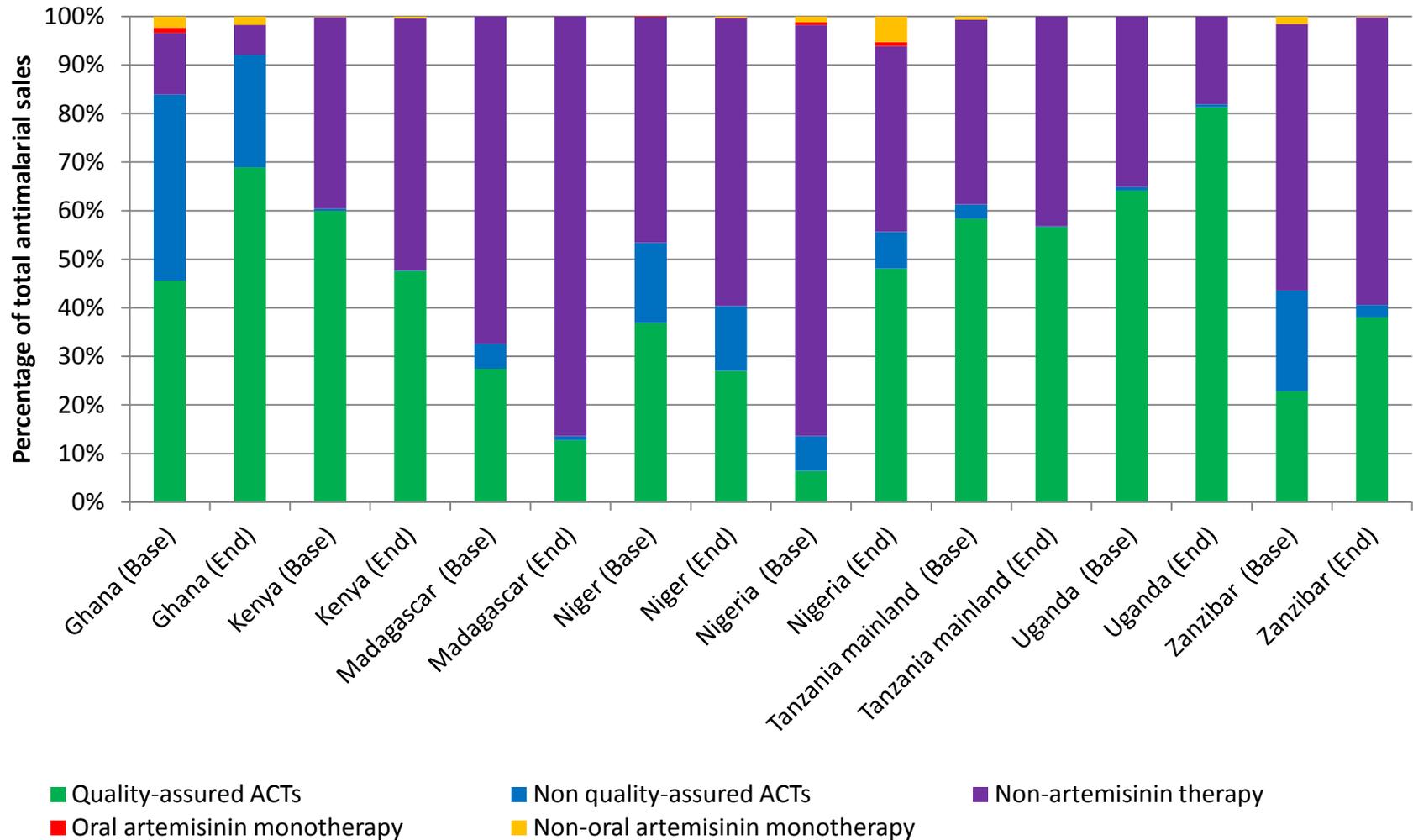


Median cost to patients of one adult equivalent treatment dose (AETD) of quality-assured ACTs (QAACT) in public and private for-profit outlets (US dollar equivalent)



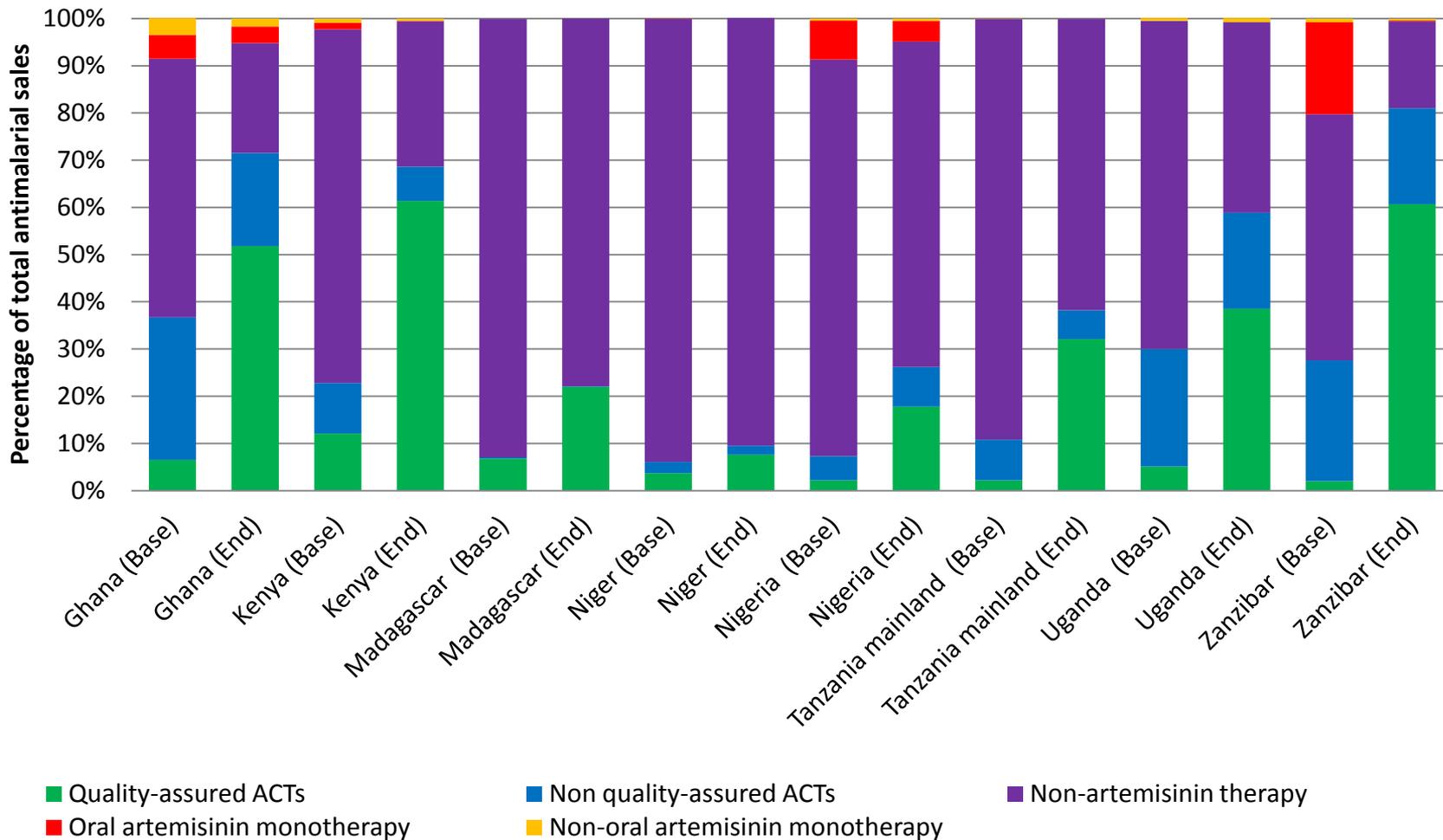
Market share by antimalarial category: Public health facilities

Percent distribution of antimalarial sales volumes by antimalarial category for public health facilities at baseline and endline



Market share by antimalarial category: Private for-profit outlets

Percent distribution of antimalarial sales volumes by antimalarial category for private for-profit outlets at baseline and endline



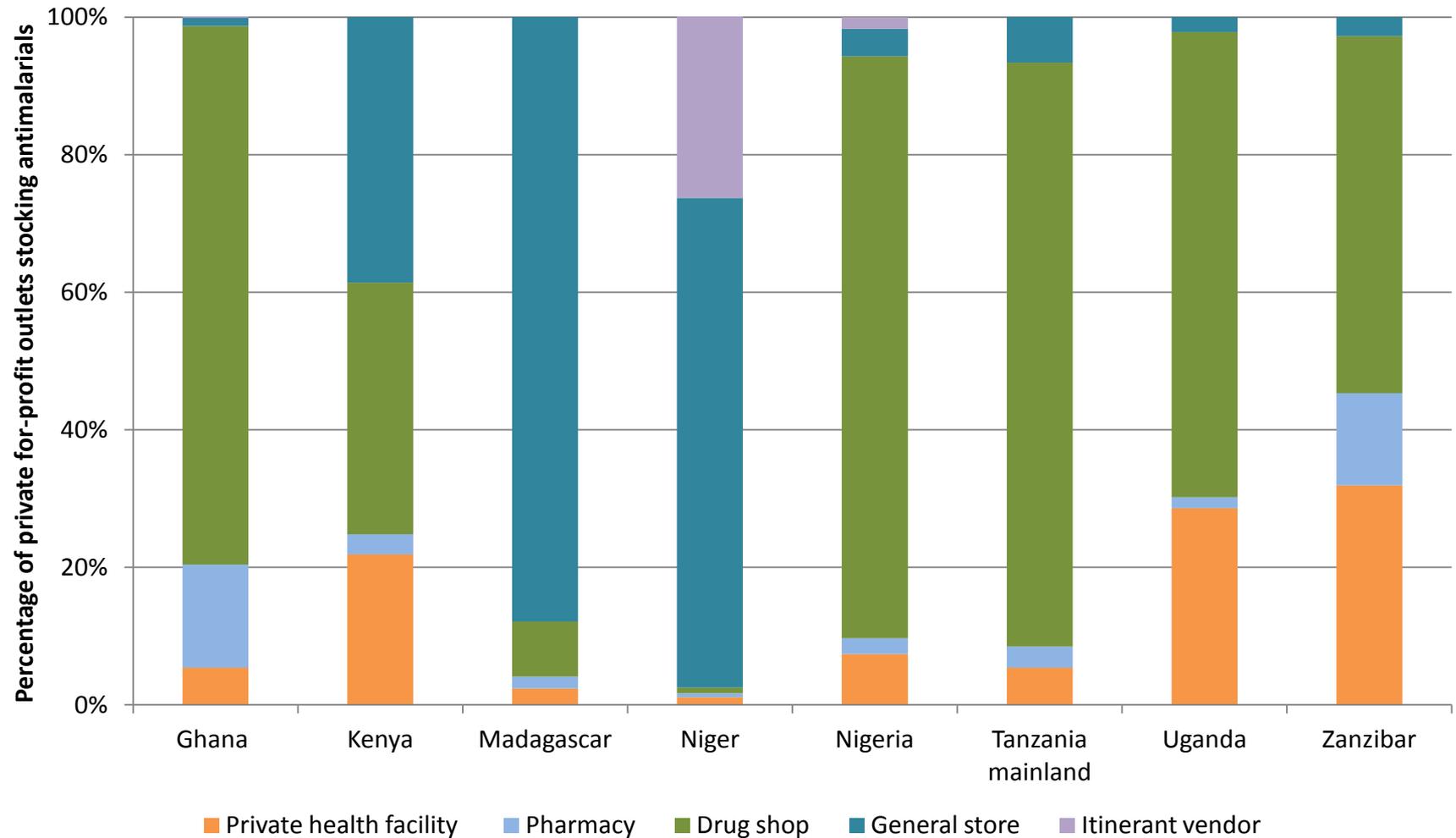
Key findings – overall performance in the private for-profit and public sectors

- AMFm has been a “game changer” in the **private for-profit sector**
 - Large changes in availability, price, market share, achieved in only a few months, similar in rural and urban areas, and considerable penetration in remote areas (where evaluated)
 - No other likely causes for these changes on this scale (aside from complementary regulatory measures in ZZB)
- AMFm led to fewer fundamental changes to **public sector** antimalarial supply
 - Increases in QAACT market share in 4 countries, but continued challenges with procurement and grant requirements

Key findings – Madagascar and Niger

- AMFm had limited impact in the private for-profit sector in Madagascar and Niger
 - Lack of full-scale mass media campaign
 - Unfavourable political/economic context
 - Structure of the for-profit antimalarial sector, with more outlets not permitted to sell QAACTs

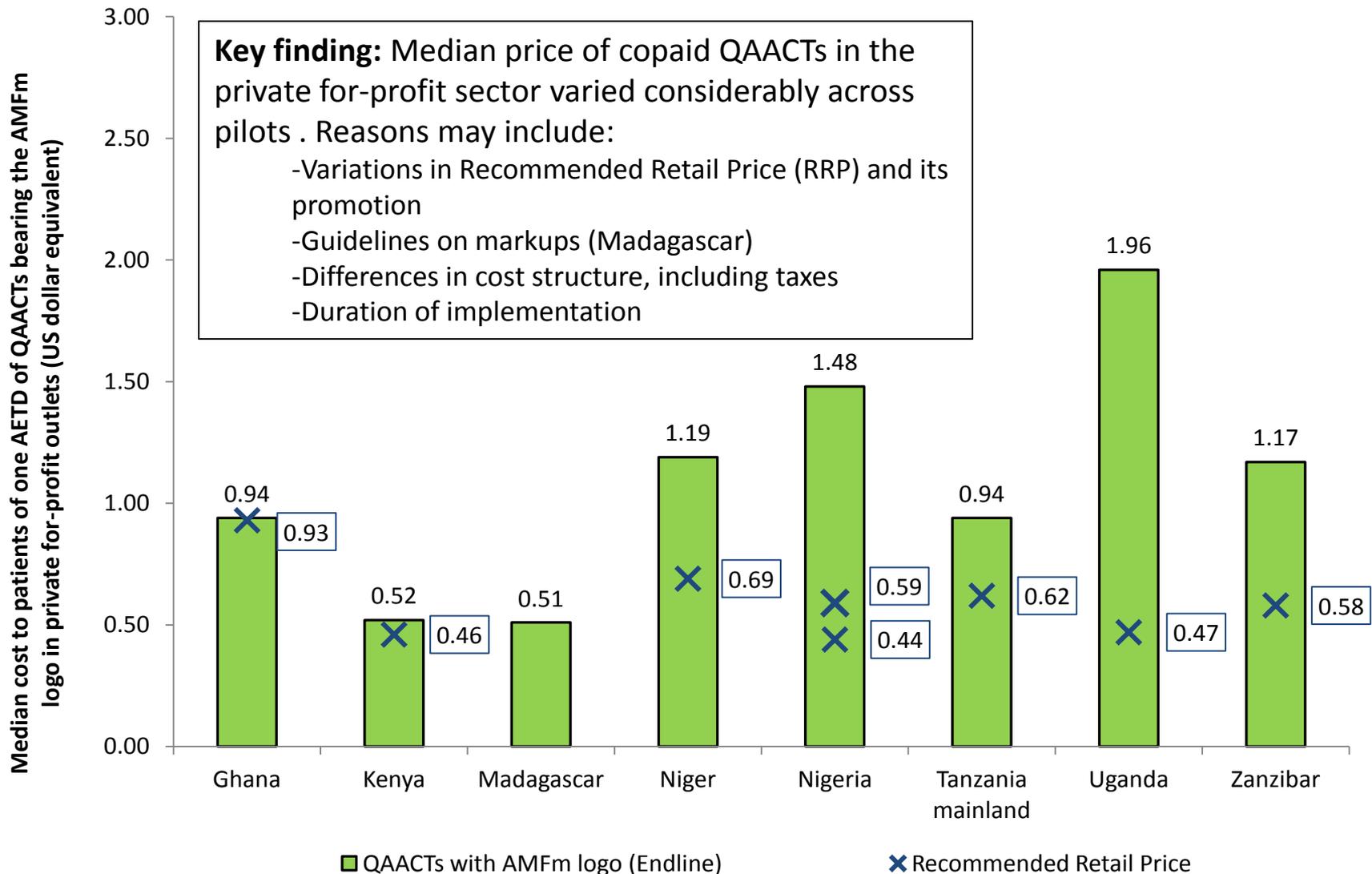
Breakdown of private for-profit sector in terms of share of outlets stocking antimalarials, at endline



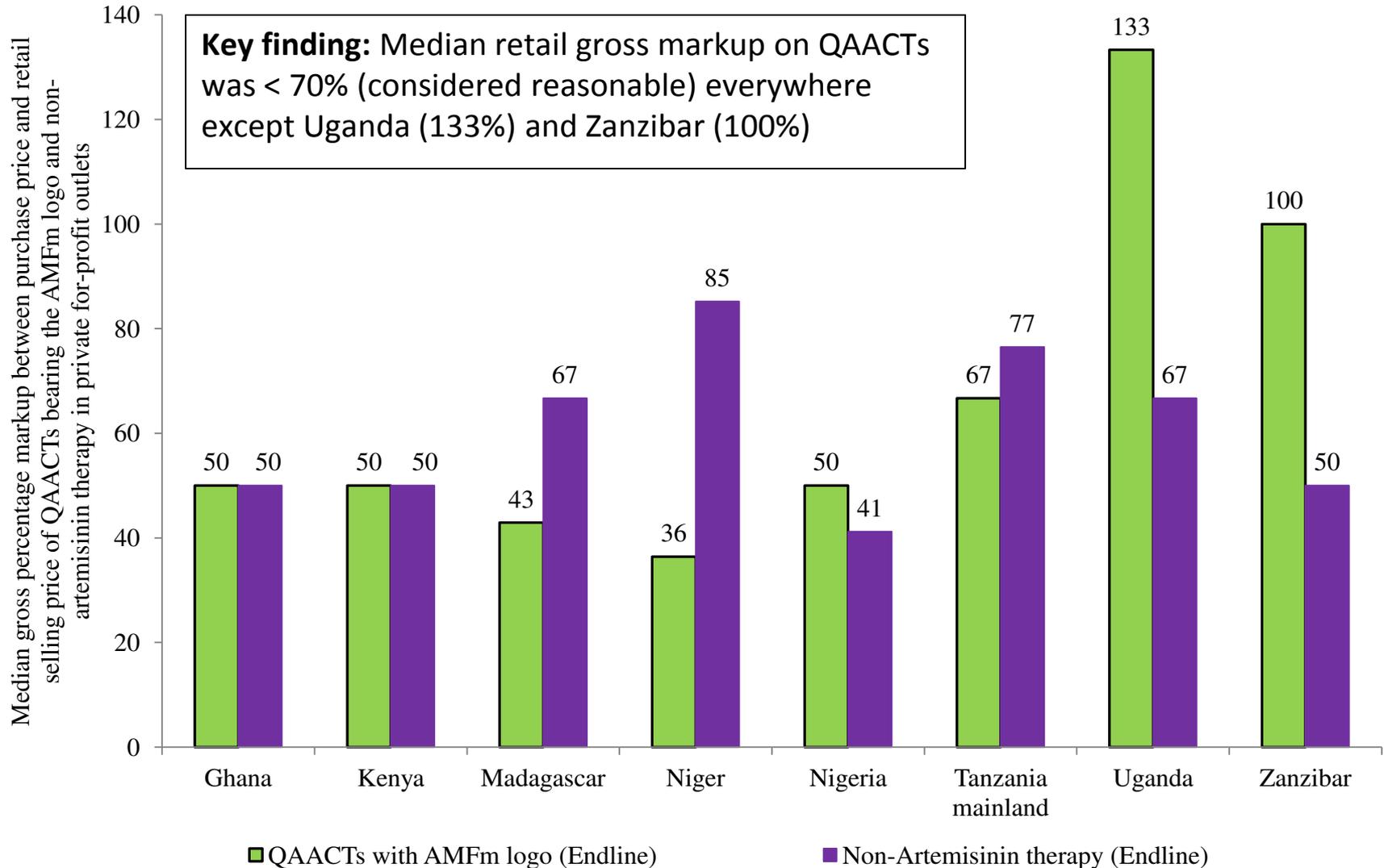
Key findings – duration of implementation

- Longer duration of implementation appears correlated with performance
 - No large-scale sustained IEC/BCC by end of 2011 in Madagascar, Niger, Uganda, which had weaker performance in some areas
 - Large improvements in Zanzibar despite short implementation, reflecting favourable implementation context and strong SIs

Key findings - Price and mark-ups: Median cost to patients of one AETD of QAACTs bearing the AMFm logo in private for-profit outlets (US dollar equivalent)



Key findings - Price and mark-ups: 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

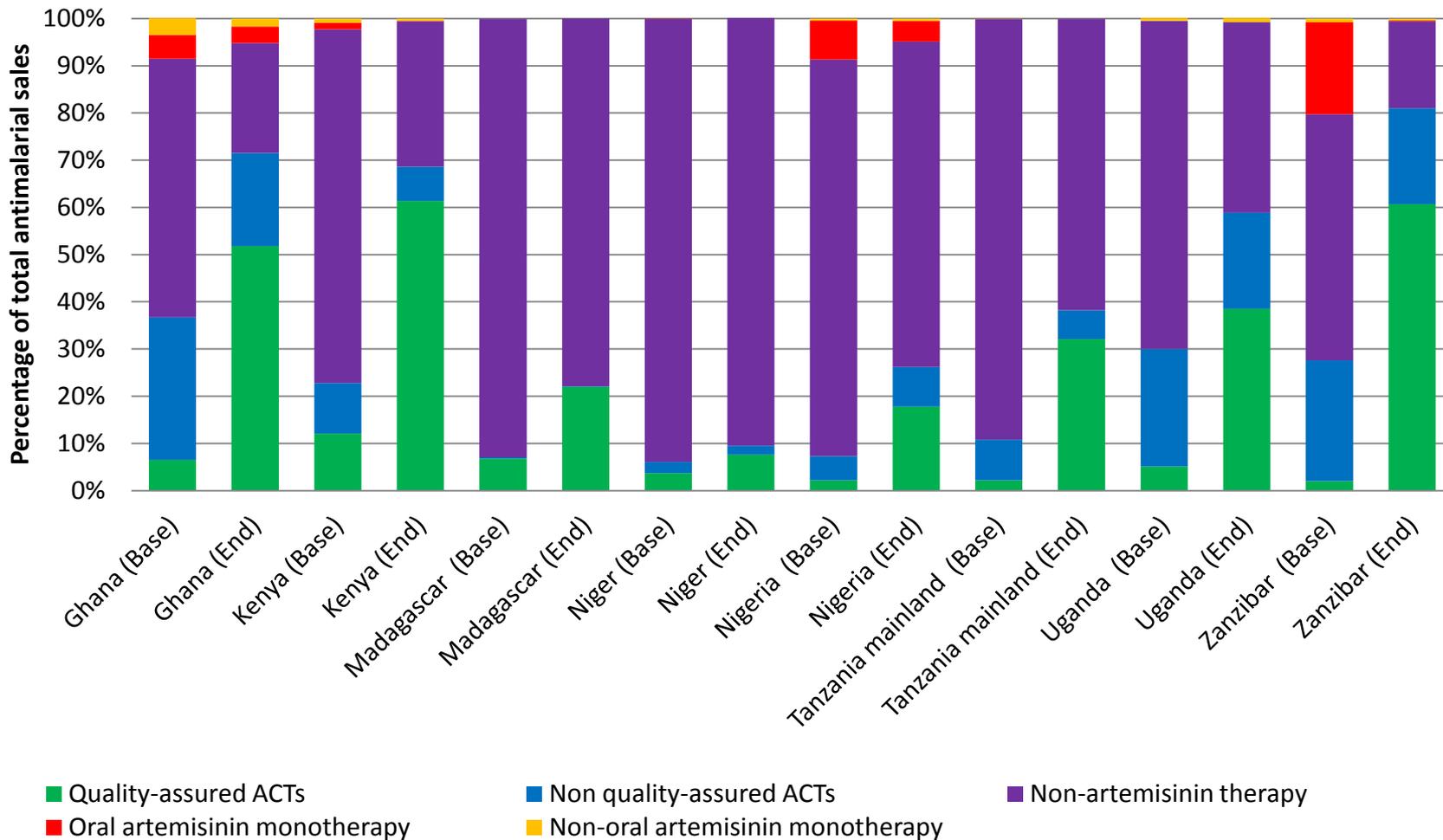


Key findings – oral artemisinin monotherapy

- Even at baseline, market share for oral artemisinin monotherapy (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

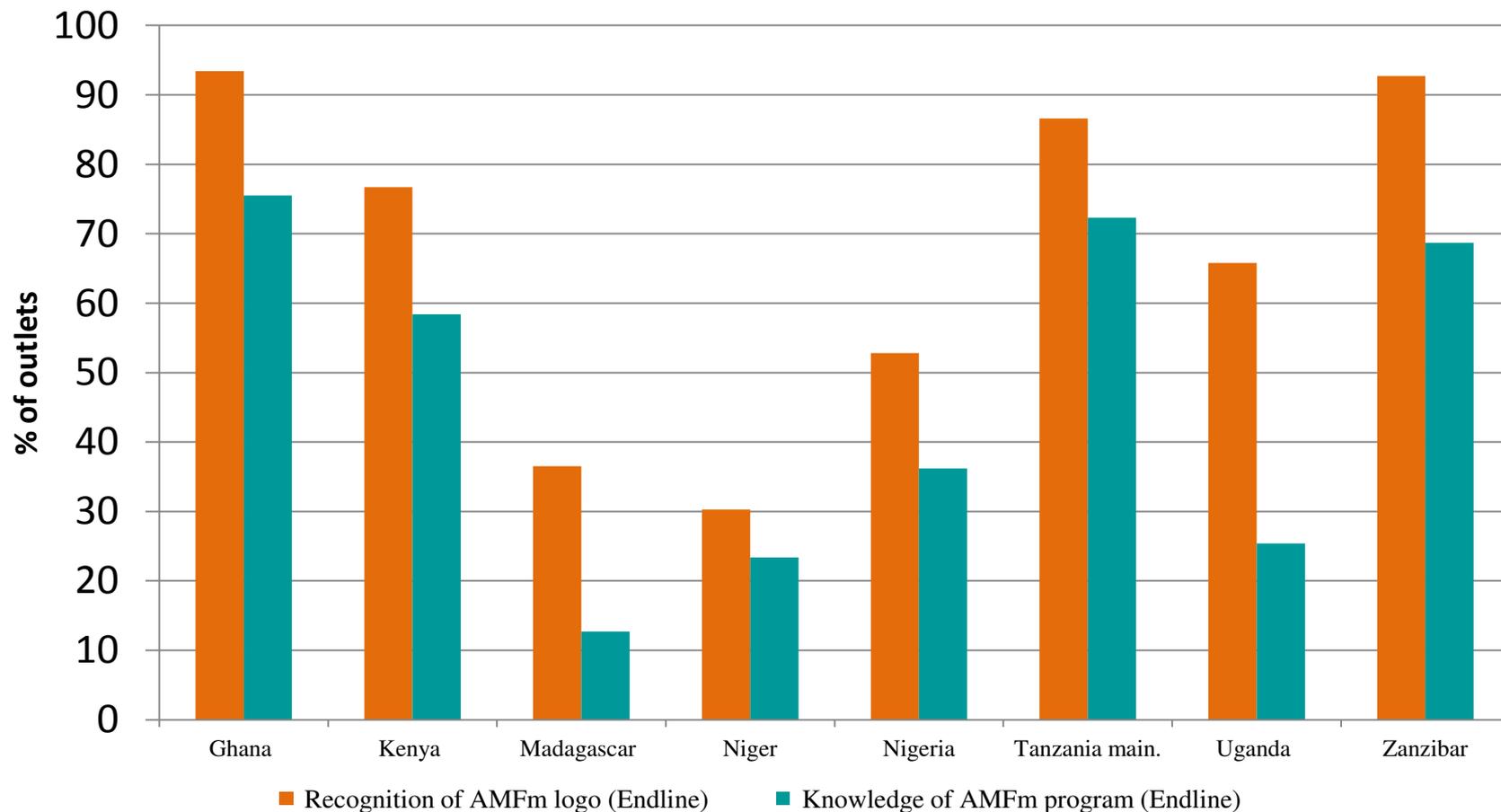
Market share by antimalarial category: Private for-profit outlets

Percent distribution of antimalarial sales volumes by antimalarial category for private for-profit outlets at baseline and endline

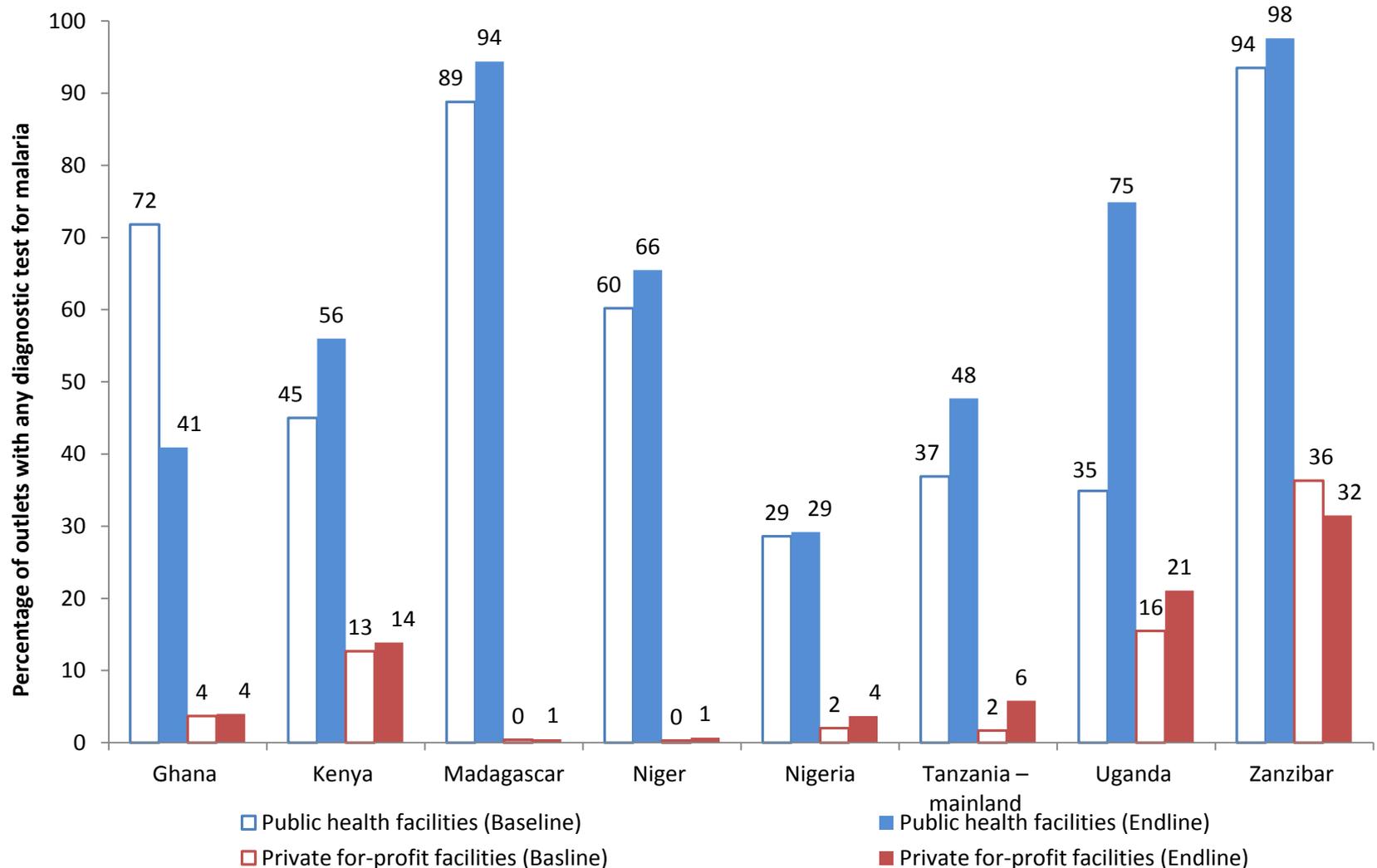


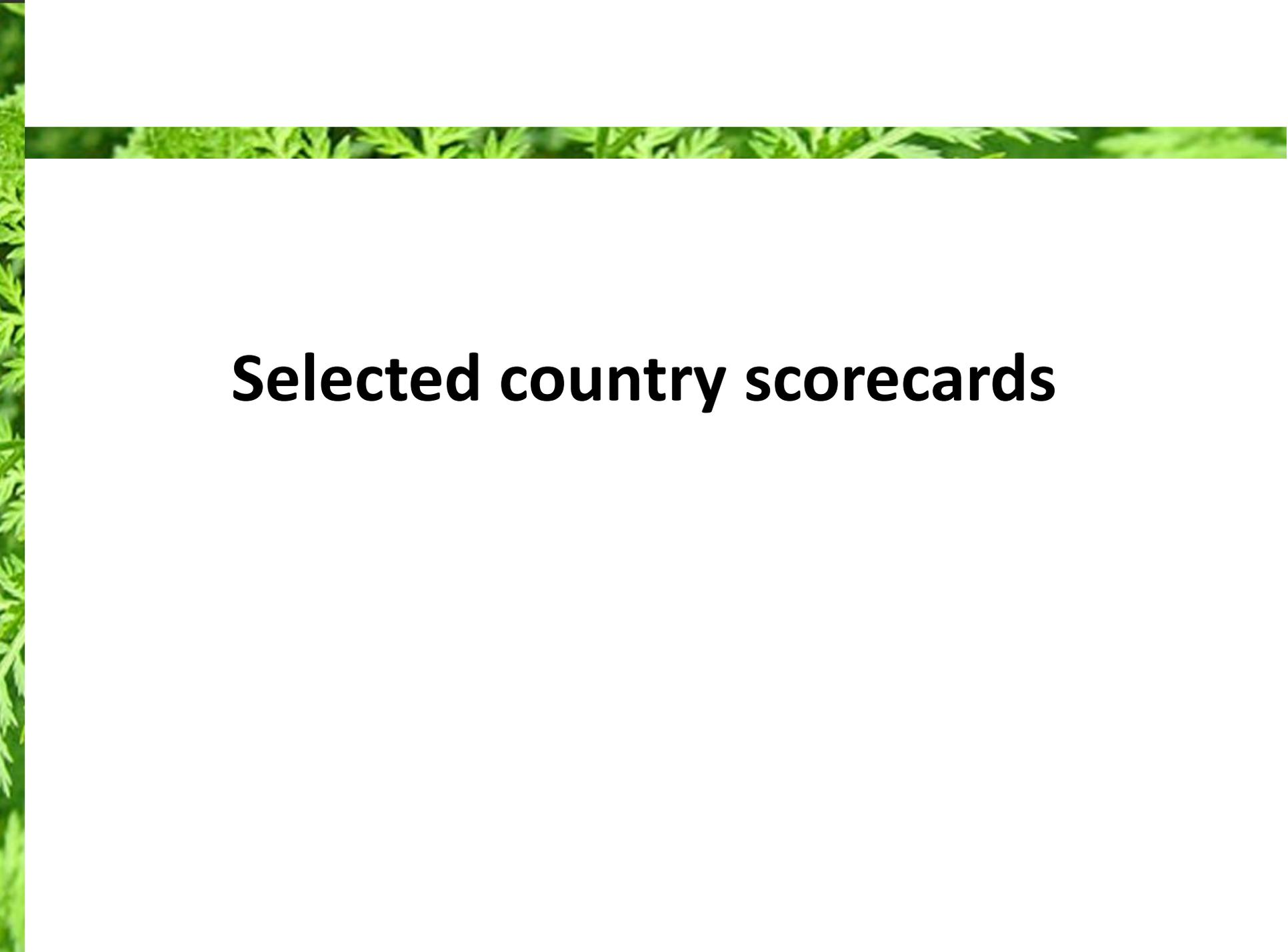
Recognition of logo and knowledge of AMFm at endline

Percentage of providers able to recognize the AMFm logo or had heard of AMFm among outlets with antimalarials in stock (at endline)



Outlets with any diagnostic test for malaria, in public health facilities and private for-profit outlets with antimalarials in stock, at baseline and endline



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Selected country scorecards

Kenya – Country scorecard

Availability	<p>Benchmark 1: QAACT availability</p> <p>Baseline: 31%</p> <p>Endline: 66%</p> <p>Change: 35 percentage points</p>	<p>Benchmark 4: Use</p> <p>Not yet available</p>	Use
	<p>Benchmark 2: QAACT price vs. most popular QAACT + L: \$0.52</p> <p>Most popular (tablets): \$0.52</p> <p>Ratio: 1</p>	<p>Benchmark 5: QAACT market share</p> <p>Baseline: 26%</p> <p>Endline: 57%</p> <p>Change: 31 percentage points</p>	
Price	<p>Benchmark 3: QAACT price vs. AMT</p> <p>QAACT + L: \$0.52</p> <p>AMT tablets: ns</p> <p>Difference : ns</p>	<p>Benchmark 6: AMT market share</p> <p>Baseline: 1%</p> <p>Endline: 0%</p> <p>Change: -1 percentage point</p>	

- Availability increased in urban and rural areas, reducing urban/rural gap at endline (72% vs. 63%)
- Private sector QAACT price fell from \$2.63 to \$0.58 (\$0.61 in urban areas, \$0.46 in rural areas)
- QAACT market share similar in urban and rural areas (60% vs. 56%)
- Decreased share of non artemisinin therapies (nAT), and some decrease in market share of non quality-assured ACTs in urban areas

Kenya - interpretation

Strength of program implementation:

- Large copaid QAACT order volumes (0.9 treatments delivered per person at risk of malaria)
- Long implementation period
 - First orders arrived August 2010 (15 months before endline)
 - SI implemented 9 months before endline
- RRP of \$0.46 widely promoted, high provider awareness of program (58%), logo (77%), RRP (72%)

Other important contextual factors

- Other factors that could have led to improvements (eg. PMI procurement and epidemic preparedness) operated mainly in the public sector, but changes were greatest among private for-profit outlets
- 1.6 million copaid treatments delivered before completion of baseline outlet survey (would lead to underestimation of impact of AMFm)

Nigeria – Country scorecard

Availability	<p>Benchmark 1: QAACT availability</p> <p>Baseline: 28% Endline: 54% Change: 26 percentage points (p=0.14)</p>	<p>Benchmark 4: Use Not yet available</p>	Use
	<p>Benchmark 2: QAACT price vs. most popular QAACT + L: \$1.48 Most popular (tablets): \$0.47 Ratio: 3.1</p>	<p>Benchmark 5: QAACT market share Baseline: 2% Endline: 20% Change: 18 percentage points</p>	
Price	<p>Benchmark 3: QAACT price vs. AMT QAACT + L: \$1.48 AMT tablets: \$2.65 Difference: < 0</p>	<p>Benchmark 6: AMT market share Baseline: 8% Endline: 4% Change: -4 percentage points</p>	

- No change in public sector availability, but private sector availability increased from 27% to 53%
- QAACTs free in public sector at baseline and endline (vs. \$0.71 for nATs)
- QAACT price in private for-profit sector fell from \$4.47 to \$1.48 (higher than RRP, set at \$0.48 and increased to \$0.62 in November 2011)
- QAACT market share increased 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%.

Nigeria - interpretation

Strength of program implementation

- 67 million copaid treatments were delivered (0.42 per person at risk of malaria)
- Less than 1 year of implementation
 - First drugs arrived 9-1/2 months before endline
 - SI grant to Yakubu Gowon suspended, led to delays in SI implementation (some BCC and mass media started as late as August/September 2011)
- Early orders processed smoothly but case study identified concern about severe delays in late 2011 (due to Global Fund demand levers), and pressure on price and availability, especially outside main urban centers; 24% of orders approved in Q3 and Q4 of 2011
- Only modest knowledge levels among outlet survey respondents (53% logo, 36% AMFm program, 15% RRP)

Other important contextual factors

- Presidential elections in April 2011, ongoing terrorist attacks

Madagascar – Country scorecard

Availability	<p>Benchmark 1: QAACT availability</p> <p>Baseline: 23%</p> <p>Endline: 28%</p> <p>Change: 5 percentage points</p>	<p>Benchmark 4: Use</p> <p>Not yet available</p>	Use
	<p>Benchmark 2: QAACT price vs. most popular QAACT + L: \$0.51</p> <p>Most popular (tablets): \$0.32</p> <p>Ratio: 1.6</p>	<p>Benchmark 5: QAACT market share</p> <p>Baseline: 12%</p> <p>Endline: 21%</p> <p>Change: 9 percentage points</p>	
Price	<p>Benchmark 3: QAACT price vs. AMT</p> <p>QAACT + L: \$0.51</p> <p>AMT tablets: ns</p> <p>Difference: ns</p>	<p>Benchmark 6: AMT market share</p> <p>Baseline: 0%</p> <p>Endline: 0%</p> <p>Change: 0 percentage points</p>	

- QAACT availability higher in private health facilities/ pharmacies, some evidence that availability increased in these outlets (from 47% to 63%); availability much higher in urban than rural areas, disparity increased since baseline
- Private for-profit sector QAACT price increased from \$0.14 to \$0.60
- No RRP
- Public sector QAACT market share at endline only 13%, compared with availability of 91%

Note that the outlet survey was not powered to detect a 10% change in market share

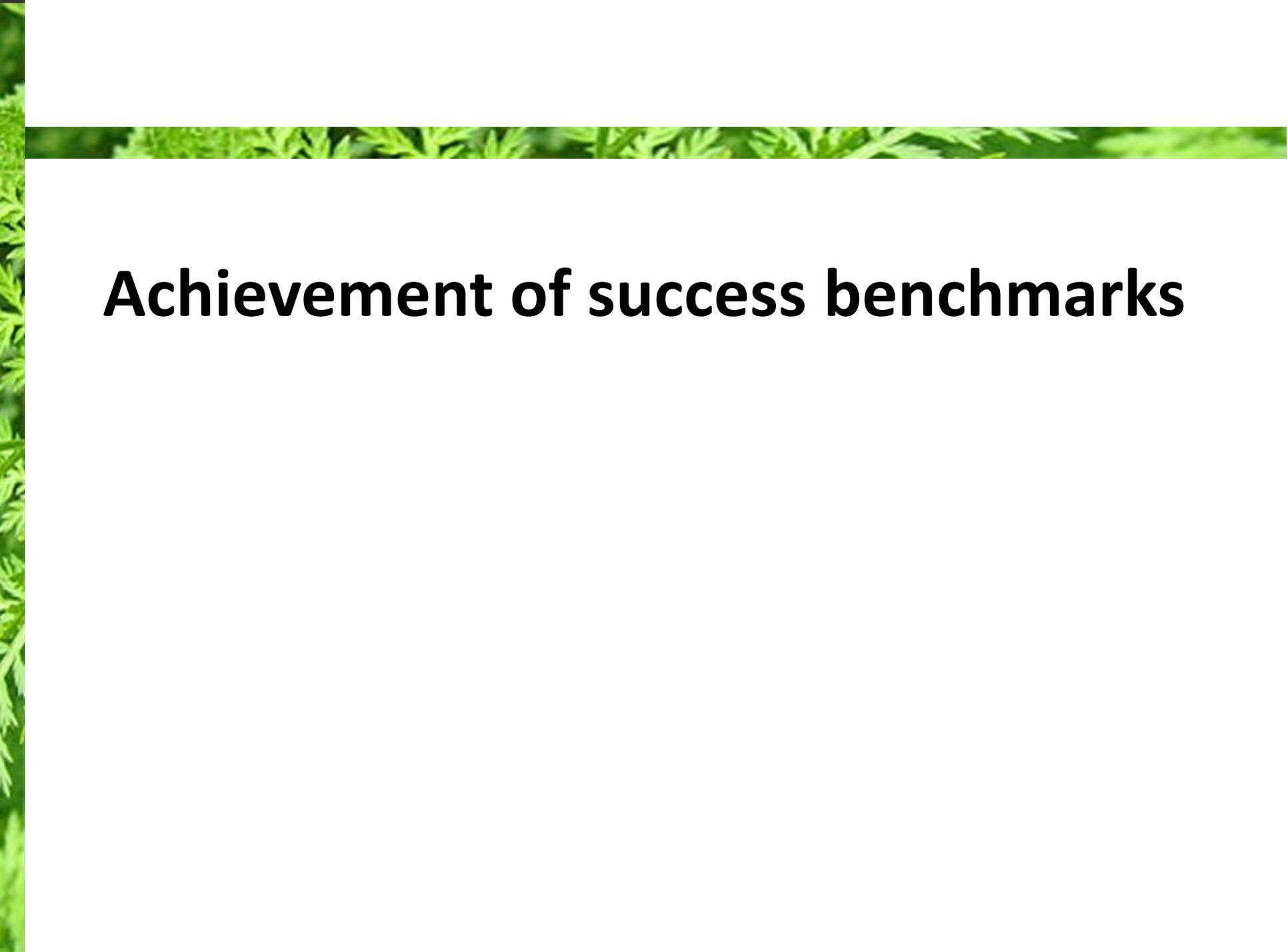
Madagascar - interpretation

Strength of program implementation

- Low copaid QAACT orders (0.09 treatments ordered and 0.08 delivered per person at risk of malaria) due to low confidence of FLBs, fear of overstocking,
- Drugs in country for over 1 year, but very limited IEC
 - First copaid drugs arrived 14 months before endline
 - SIs started January 2011, mass communications in April 2011; communications campaign terminated after 1 month because of regulatory ban on direct-to-consumer advertising
- Low knowledge of program (logo 37%, program 13%), all higher among drug stores and pharmacies/health facilities

Other important contextual factors

- ACTipal (subsidized socially marketed pediatric ACT product) at national scale since 2008
- 2009 coup d'état, deterioration of political and economic situation
- Large number of general stores stocking antimalarials, but less likely to stock QAACTs

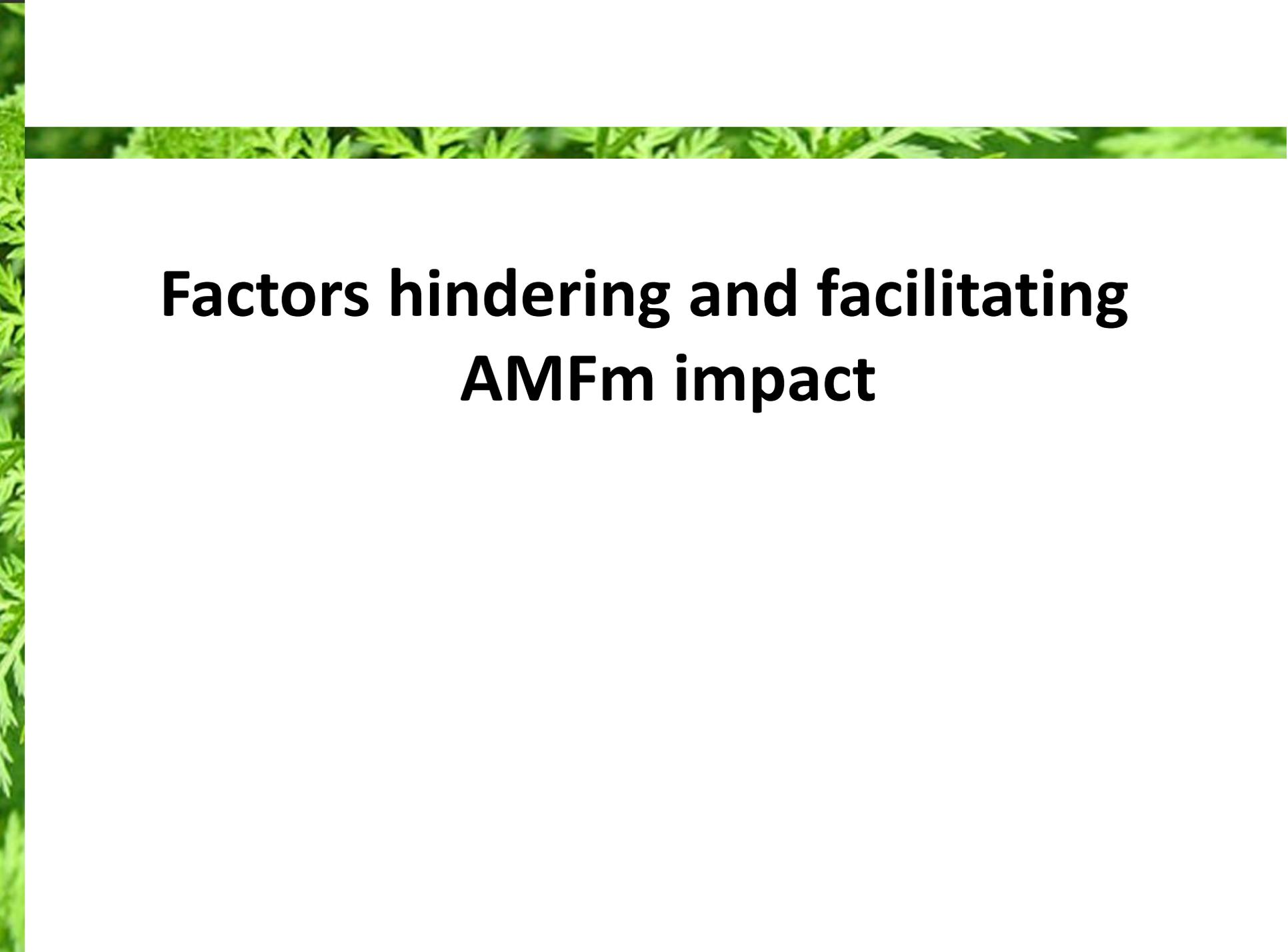
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Achievement of success benchmarks

Success metrics: Summary

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

Note that the outlet survey was not powered to detect a 10% change in market share in Madagascar, Tanzania mainland and Uganda

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Factors hindering and facilitating AMFm impact

Possible hindering factors

- Delays in public sector procurement for copaid ACTs
- Issues with Global Fund grants and delays in procurement of SIs, so that implementation lagged behind arrival of drugs
- Suspension of Global Fund disbursements or grants, interrupting implementation of SIs
- Application of demand levers
- Political and/or economic instability
- Antimalarial market dominated by highly informal outlets operating outside regulated distribution channels

Possible facilitating factors

- Strong AMFm governance structures, involvement of the private sector, TA from CHAI
- Smooth operation of the registration process for FLBs and ordering through the copayment mechanism
- Strong, large scale mass media
- Use and promotion of an RRP
- Longer duration of implementation
- Complementary regulatory changes
- AMFm training in some countries

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