

Medicine Price Monitor

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HEALTH ACTION INTERNATIONAL
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**Goal of the
Collaboration**

Improve equitable
and sustainable
access to medicines

1. INTRODUCTION

Ministry of Health, in collaboration with the World Health Organisation (WHO) and Health Action International Africa (HAI-Africa) represented by the Coalition for Health Promotion and Social Development (HEPS-Uganda), has since 2006 conducted medicines prices and availability monitoring in all the four major regions of Uganda. This is part of monitoring the ongoing interventions by the Ministry of Health within the Health Sector Strategic Plan to increase access to essential medicines by all Ugandans.

The purpose of this activity is:

- Show trends in the availability of essential medicines
- The prices (to consumers) of these medicines
- The affordability of these medicines

The Medicines Transparency Alliance (MeTA) in Uganda has supported the further development of this activity with additional funding.

This is the report for the survey conducted for the second quarter (April- June) of 2010.

KEY FINDINGS: OVERALL

- Although, there was a slight increase in availability of medicines, overall availability of medicines remained low despite policy changes in 2009 to improve efficiency of the National Medical Stores. Compared to the previous survey (July-Sept 2009) there was an increase of 9% (to 59%) in the public sector; an increase of 6% (to 73%) in private sector and an increase of 3% (to 78%) in mission sector.
- Availability remained lower in rural facilities compared to urban facilities. The persistent marked difference in availability of medicines between the urban and rural facilities in the public, private and mission sectors (presently at 16%, 22% and 8% respectively) invariably affects rural communities.
- Availability of Artemether/Lumefantrine (A/L) tablets 20/120mg in the Public sector facilities declined from 93% in the quarter July-September 2009 to 68% in the April-June 2010 survey. Availability of A/L in the Mission sector dropped from 73% to only 56% percent and in the private sector, availability of A/L rose by only 2% to 50%. The availability of the Pyrimethamine /Sulphadoxine (SP) tablets 25/500mg in public facilities, for prophylaxis of malaria in especially pregnant women, also decreased from 70% to 57%.
- A comparison between private and mission sector medicine prices showed 25% higher for private compared to mission in the urban areas whereas there was no difference in the rural areas.
- Prices of anti-malarials in the private sector have shown an increase since October-December 2008

2. METHODOLOGY

The survey was conducted using the standard WHO/HAI Medicine Prices Monitoring Tool¹. Forty key (regularly prescribed and dispensed) medicines were selected for price and availability survey. The medicines, priced lowest to consumers were considered. The survey was carried out in the public, private and mission facilities.² In the public facilities sections that provide

¹ www.haiweb.org/medicineprices

² According to this survey, Private sector refers to Private for Profit and Mission sector refers to Private Not for Profit

medicines free of charge to patients were chosen and in mission facilities the survey was only carried out in facilities where medicine prices could be disaggregated (i.e. where there were set prices for medicines). The data was collected from randomly sampled 93 facilities as shown in Table 1.

Table 1: Distribution of facilities that were surveyed

	Northern	Eastern	Western	Central	Total	
Public rural	5	4	3	3	15	28
Public urban	1	5	4	3	13	
Private rural	4	3	2	4	13	32
Private urban	5	4	5	5	19	
Mission rural	2	2	1	1	06	18
Mission urban	3	3	3	3	12	

3. RESULTS AND DISCUSSION

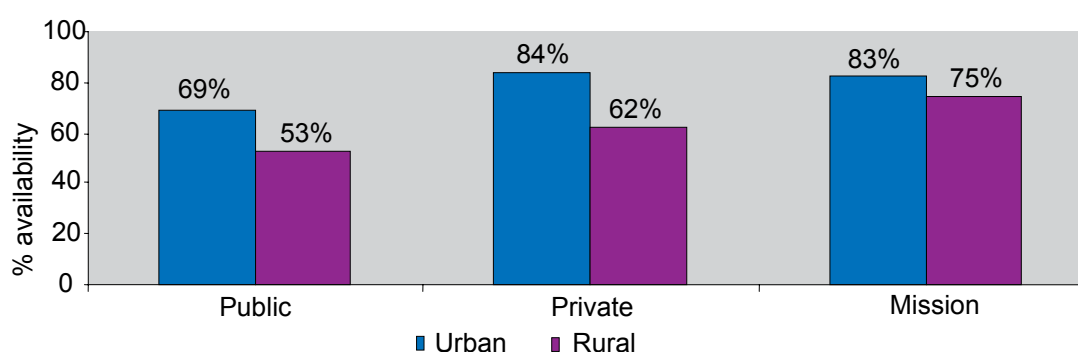
a) Key findings: Availability

Table 2: Overall availability of medicines in the surveyed facilities

Sector		No. of facilities	Median availability
Public	Overall	28	59%
	Urban	13	69%
	Rural	15	53%
Private	Overall	32	73%
	Urban	19	84%
	Rural	13	62%
Mission	Overall	18	78%
	Urban	12	83%
	Rural	06	75%

Overall, availability of the surveyed medicines was highest in the Mission sector at 78% followed by the Private sector at 73% and lowest in the Public sector at 59%.

Fig 1: Availability in Urban Versus Rural Facilities Apr-Jun 2010



This survey has shown a marked difference in availability of medicines between the urban and rural facilities in the public, private and mission sectors (at 16%, 22% and 8% respectively) as the trend has been from previous studies, invariably affecting rural communities. Generally, availability in public facilities of 53-69% was not good.

MOH should do more to increase availability of essential medicines in the Public facilities but also continue to explore Public-Private Partnerships to increase availability of essential medicines

Table 3: Availability of 40 essential medicines across sectors April-June 2010

MEDICINE	PUBLIC SECTOR Availability %	PRIVATE SECTOR Availability %	MISSION SECTOR Availability %
Aciclor tab 200mg	64%	66%	72%
Albendazole tab 200mg	82%	72%	50%
Amitriptyline tab 25mg	82%	81%	78%
Amoxicillin cap/tab 250mg	71%	84%	94%
Amoxicillin susp 250mg/5ml	25%	38%	17%
Artemether/Lumefantrine tab 20/120mg	68%	50%	56%
Bendrofluazide tab 5mg	36%	53%	67%
Betamethasone cream/ointment 1%w/v	21%	72%	50%
Carbamazepine tab 200mg	75%	56%	89%
Ceftriaxone 1g powder for inj'n	46%	66%	78%
Cimetidine tab 400mg	21%	75%	50%
Ciprofloxacin tab 500mg	71%	91%	100%
Co-trimoxazole susp 8/40 mg/ml	18%	84%	67%
Co-trimoxazole tab 400+80 mg	93%	91%	100%
Dextrose 5% inj	82%	75%	94%
Diazepam tab 5mg	36%	84%	100%
Diclofenac tab 50mg	46%	97%	89%
Doxycycline cap/tab 100mg	71%	81%	100%
Erythromycin tab 250mg	61%	72%	89%
Fluconazole tab /cap 200mg	61%	50%	61%
Furosemide tab 40mg	36%	69%	78%
Gentamycin inj 80mg/ml	79%	78%	100%
Glibenclamide tab 5mg	68%	72%	78%
Mebendazole tab 100mg	46%	91%	78%
Metformin tab 500mg	25%	63%	72%
Methyergometrine inj 200ug/ml	57%	38%	67%
Metronidazole susp 200mg/5ml	18%	81%	61%
Metronidazole tab 200mg	75%	94%	100%
Nifedipine retard tab 20mg	36%	66%	89%
Nystatin pessaries 100000iu	21%	72%	67%
Omeprazole cap 20mg	32%	97%	83%
Oral Rehydration Salt (ORS)	82%	88%	100%
Paracetamol tab 500mg	75%	97%	100%
Phenytoin tab 100mg	75%	44%	67%
Prednisolone tab 500mg	54%	91%	89%
Pyrimethamine /sulfadoxide (SP) tab 25/500mg	57%	63%	72%
Propranolol tab 40mg	7%	13%	28%
Quinine inj 300mg/5ml	93%	78%	89%
Salbutamol inhaler 0.1mg(100mcg)/dose	25%	47%	39%
Tetracycline eye ointment 1%	71%	84%	100%

In the private sector, nine medicines were available in more than 75% of facilities in April-June 2010 compared to six in July-September 2009. Also the number of medicines in less than 50% of facilities reduced from 17 to 14. This implies that there was an increase in availability of medicines in the private sector. *More information on Annex 1.*

Availability of Artemether/Lumefantrine (A/L) tablets 20/120mg in the Public sector facilities declined from 93% in the quarter July-September 2009 to 68% in the April-June 2010 survey. Availability of A/L in the Mission sector dropped from 73% to only 56% in this survey. This may be due to the decision by National Medical Stores (NMS) to reverse the policy of giving 20% of the MoH procured A/L to the Mission sector through Joint Medical Stores (JMS). In the private sector, availability of A/L rose by only 2% to 50%. The availability of the Pyrimethamine / Sulphadoxine (SP) tablets 25/500mg in public facilities, for prophylaxis of malaria in especially pregnant women, also decreased from 70% to 57%. The decreased availability of antimalarials is putting the population at the risk of the county's number one killer, malaria.

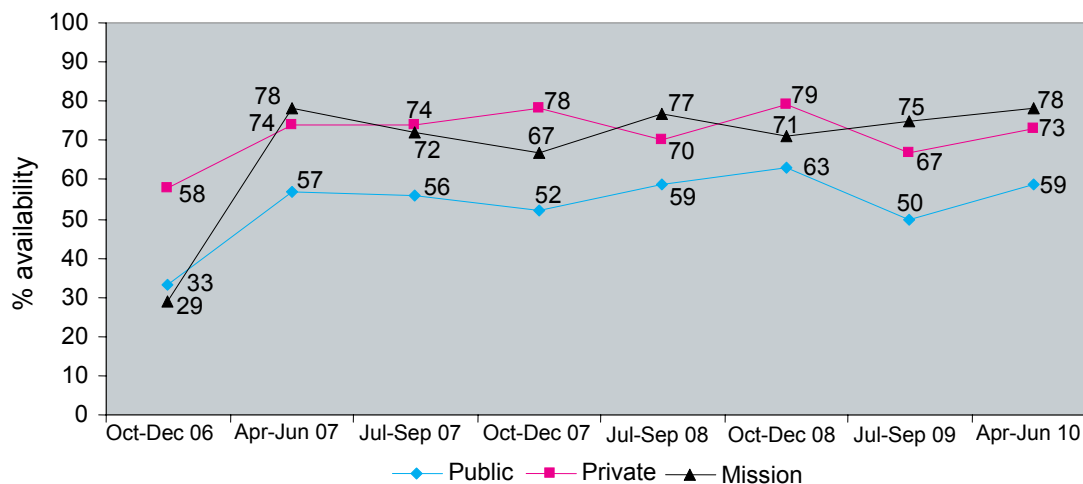
Availability of medicines for non-communicable diseases has continued to be a challenge in the public sector. Anti-diabetic medicines Glibenclamide 5mg tab and Metformin tab 500mg was respectively 68% and 25% while medicines for hypertension, Nifedipine and Propranolol were available in only 36% and 7% of Public sector facilities, respectively.

Paediatric formulations were poorly stocked in public sector: Amoxicillin Suspension 250mg/5ml at 25%; Cotrimoxazole suspension 8/40 mg/ml at 18%, and Metronidazole suspension at 18%. The low availability of child friendly medicines for leading killers such as malaria and pneumonia has negative consequences for quality of care for children.

Ministry of Health should retrace its strides made in the fight against malaria by ensuring continuous availability of anti-malarials. A focus should also be put on stocking of paediatric formulations and medicines for non-communicable diseases

b) Key findings: Trends in availability

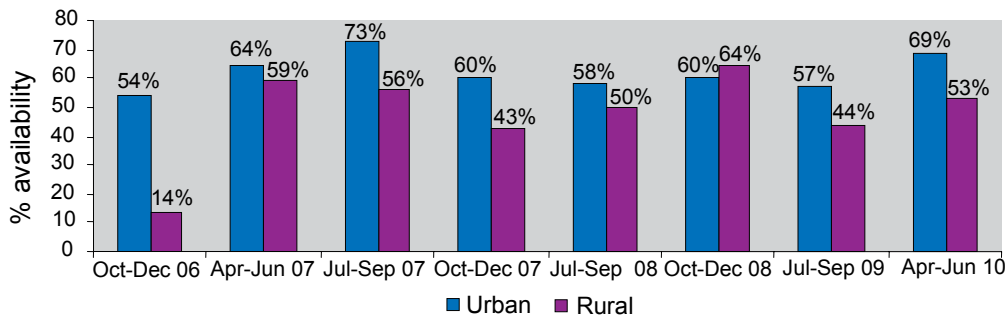
Fig 2: Overall availability of 40 key medicines across sectors 2006-2010



Although availability of medicines has continued to be lowest in the public sector, the latest survey (April – June 2010) showed an increase of 9% from the survey conducted in July-September 2009. Medicine availability in mission facilities increased from 75% in the quarter July-September 2009 to 78% in April-June 2010. In the private sector, availability of essential medicines increased slightly from 67% (in July-Sept 2009) to 73% (in April- June 2010), although the disparity between urban and rural facilities remained large (at 22%) as depicted in Fig.2. Although the trend shows increases, these are very modest.

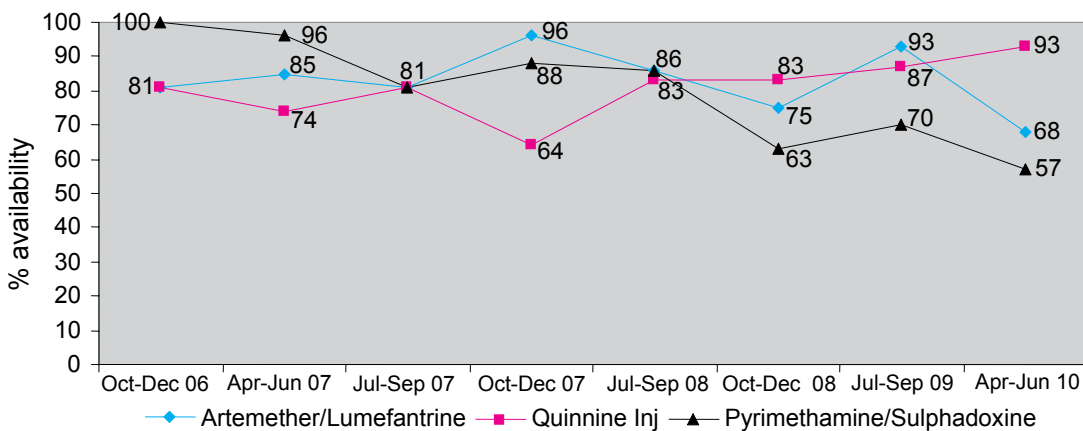
The challenge of availability of essential medicines has still remained a major problem especially in the public sector despite efforts to improve the capacity and efficiency of the National Medical Stores. MoH should increase efforts to build capacity of lower public health facilities to reduce stock-outs

Fig 3: Overall availability of 40 key medicines across Urban and Rural facilities in Public sector 2006-2010



Availability of medicines has remained consistently higher in public urban facilities compared to rural facilities where the most poor and vulnerable seek care.

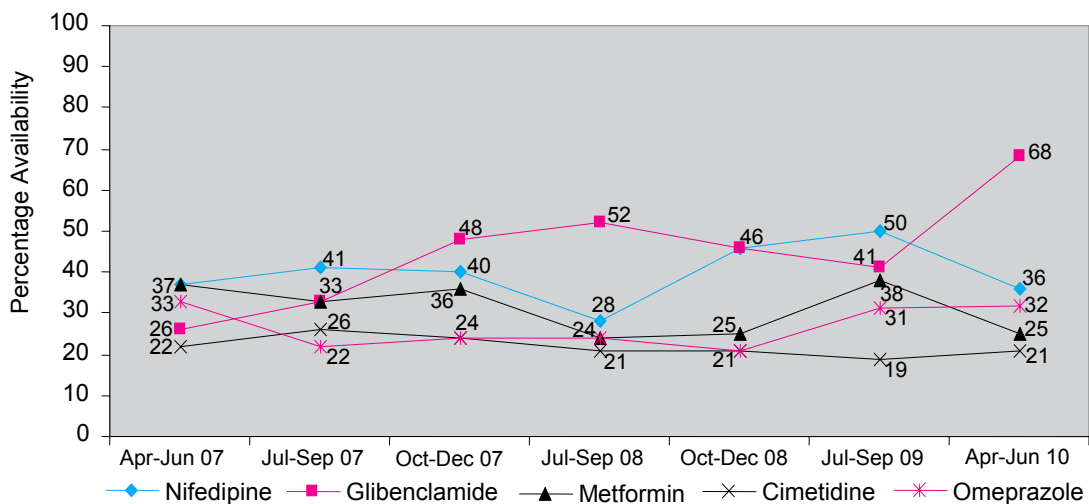
Fig 4: Trend in availability of key antimalarial medicines 2006-2010 in public sector



In the public sector, the availability of Artemether /Lumefantrine, the first line Antimalarial has seen a sharp decline of 25% between July-Sept 2009 and April –June 2010. Availability of the second line treatment for malaria of Quinine injection has continued to rise since October- December 2007 and April- June 2010 (by 29%). However, availability of Pyrimethamine/ Sulphadoxine used for prophylaxis in especially pregnant mothers has reduced by 43% since 2006.

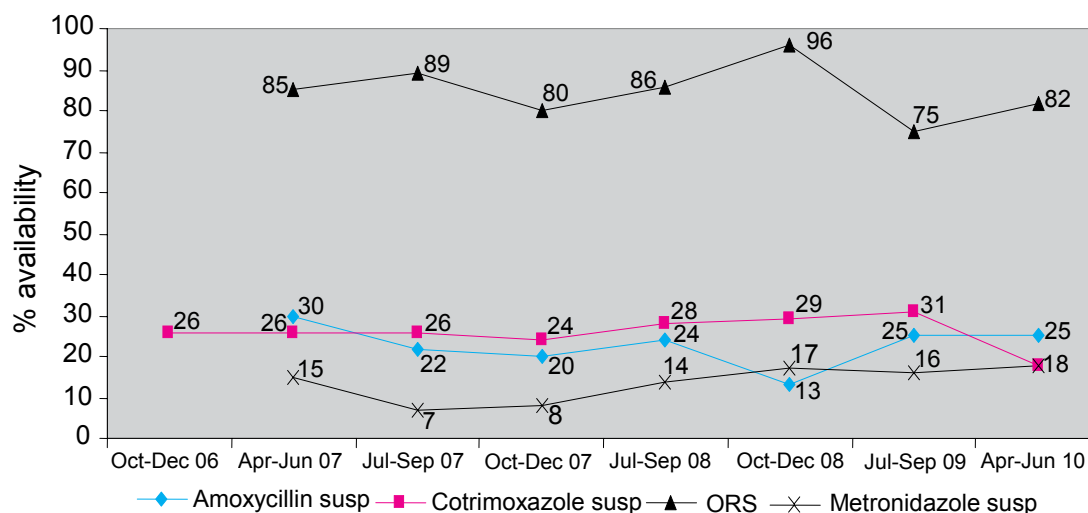
Availability of antimalarials should be re-emphasized by Ministry of Health to maintain adequate management of malaria

Fig 5: Trend in availability of 5 key medicines for chronic diseases 2006-2010 in public sector



Management of non-communicable diseases still remains a big challenge, although availability of antidiabetic Glibenclamide rose by 17% to 68%, medicines for hypertension (Nifedipine), diabetes (Metformin) and ulcers (Cimetidine and Omeprazole) remain very poorly stocked.

Fig 6: Trend in availability of 4 key paediatric medicines 2006-2010 in public sector



Paediatric formulations were poorly stocked in public sector: Amoxicillin Suspension 250mg/5ml remained at 25% from previous survey (July-September 2009); Cotrimoxazole suspension 8/40 mg/ml reduced by 13 percent to 18%; Metronidazole suspension increased by 2% to 18%. However, ORS availability rose from 75% to 82% showing better management of diarrhoea in children.

Ministry of Health should prioritize stocking of pediatric formulations to improve management of diseases in infants and children

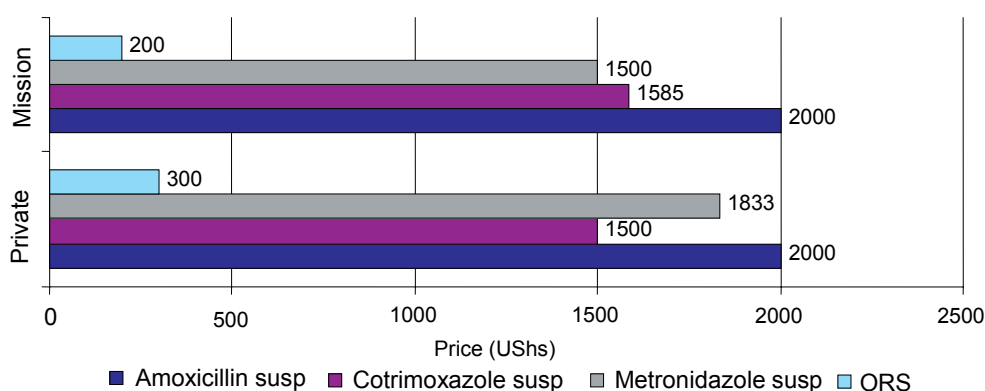
c) Key findings: Medicine prices

Table 4: Comparison of medicine median price ratios between and within private and mission sectors

	PrivUrb/PrivRural	MisUrb/MisRural	PrivUrb/MisUrb	PrivRural/MisRural
No. of times more expensive	1.00	0.95	1.25	1.00
No. of Pairs Compared	24	34	27	30

Similar to previous survey, prices charged to consumers for medicines in Private facilities were comparable across urban and rural facilities (ratio 1:1). In the Mission sector, medicines in the urban and rural facilities were also almost comparable. A comparison between the Private sector and the Mission sector showed that medicines were 25% more costly in private urban facilities than mission urban but prices in the rural facilities were comparable.

Fig 7: Median prices of pediatric formulations in private and mission facilities



Median price of ORS sachet was 50 percent higher in private sector than mission sector. Amoxicillin suspension (used for acute respiratory tract infection) was comparable in private and mission sectors; Cotrimoxazole suspension was US\$. 85 higher in the Mission sector than private but Metronidazole suspension cost higher in the private sector by US\$.333.

Discussion: Medicine prices

Table 5: Median consumer prices per unit of selected medicines in Private and Mission facilities

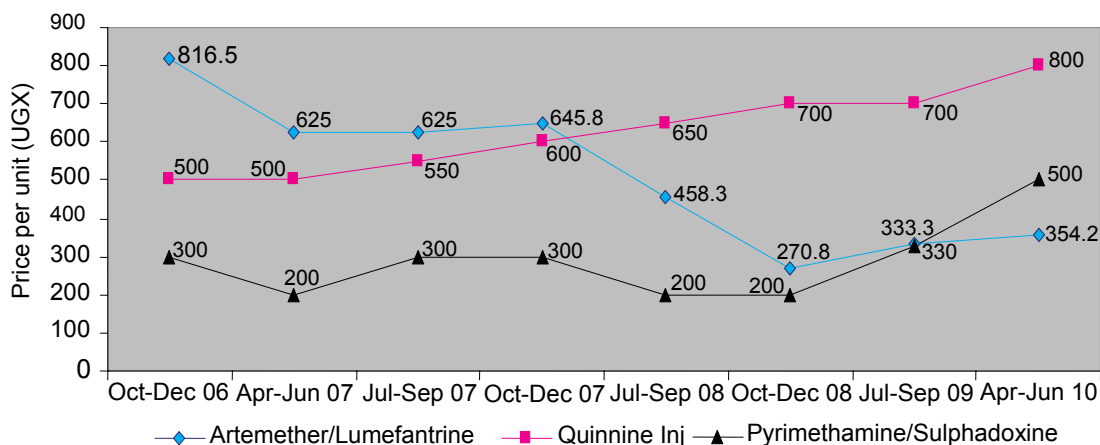
MEDICINE	PRIVATE SECTOR	MSSION SECTOR
Albendazole tab 200mg	500.00	200.00
Amitriptyline tab 25mg	100.00	50.00
Artemether/Lumefantrine tab 20/120mg	354.17	204.17
Ceftriaxone 1g powder for inj'n	3000.00	3500.00
Ciprofloxacin tab 500mg	250.00	175.00
Co-trimoxazole susp 8/40 mg/ml	31.65	20.00
Fluconazole tab /cap 200mg	1000.00	475.00
Metformin tab 500mg	200.00	100.00
Methyergometrine inj 200ug/ml	1000.00	500.00
Nifedipine retard tab 20mg	100.00	100.00
Nystatin pessaries 100000iu	200.00	125.00
Omeprazole cap 20mg	200.00	200.00
Oral Rehydration Salt (ORS)	300.00	200.00
Pyrimethamine /sulfadoxine (SP) tab 25/500mg	500.00	300.00
Quinine inj 300mg/5ml	800.00	950.00

Marked price differences of more than 50% between prices in the private and mission sector were noted for Albendazole tab, Artemether/Lumefantrine tab, Fluconazole tab /cap, Metformin tab 500mg, Methyergometrine inj, Oral Rehydration Salt. *More information on Annex 3.*

In order to increase access to medicines, the Ministry of Health should devise a mechanism to control prices of medicines especially in the private sector

d) Key findings: Price trends

Fig 8: Price trends of key antimalarial medicines in the private sector 2006-2010



Prices of all anti-malarials in the private sector have shown an increase since Oct-Dec 2008. In this survey, the price of a tablet of Pyrimethamine /sulfadoxine (SP) rose by Ushs. 170. This rise in price may negate gains in access to medicines made by introduction of especially generic versions of A/L which saw drastic fall in prices in 2007.

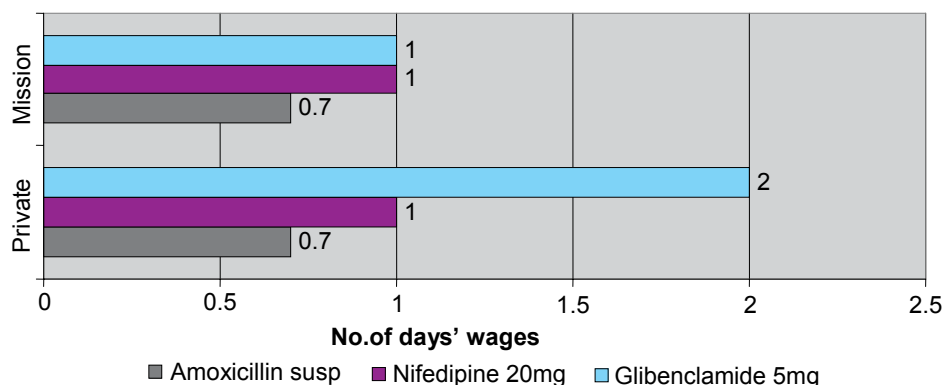
Increase of prices for all antimalarials in the private sector could be closely related to increased stock-outs in the public sector

e) Key findings: Affordability

Affordability is calculated as the number of days the lowest paid government worker would have to work to pay for one treatment course of an acute condition or one month's treatment of a chronic condition. Treatments less than or equal to one day's wages are considered affordable. The daily wage of the lowest paid government worker is at UShs 3,000 (1.714 US\$) as per the 2006/07 Government of Uganda salary structure.

Treatments costing more than a day's wages included medicines for: acute conditions like malaria and respiratory infections; and for chronic conditions like diabetes, hypertension and ulcers. See Annex 2.

Fig 9: Affordability of treatment for diabetes, hypertension and pediatric acute respiratory tract infection



An illustrative example above is of a family having a diabetic father on Glibenclamide 5mg, a hypertensive mother on Nifedipine 20mg and a child with an acute respiratory tract infection on Amoxicillin 125mg/5ml suspension. For this family, it would require close to 3.7 days wages (up from 3.2 days in July-Sept 2009) for treatment in the private and 2.7 days' wages (up from 2.2) in mission sector. Using this measure, the 31% of families in Uganda who live below a dollar a day would have problems affording such treatment.

4. CONCLUSION

The surveys carried out were using a selection of medicines as a proxy. They indicate that availability and prices of medicines are still a major hindrance to access to essential medicines for the general public, particularly those living in rural areas. Government needs to work with the Private and Mission sectors in partnership to address this important issue.

ANNEX I: AVAILABILITY OF MEDICINES IN BY SECTOR

AVAILABILITY IN THE PUBLIC SECTOR		
14 medicines that were found in less than 50% of the facilities	MEDICINES	
	Amoxicillin susp 125mg/5ml	Metformin tab 500mg
	Betamethasone cream 1%/w/v	Metronidazole susp 200mg/5ml
	Bendrofluazide tab 5mg	Nifedipine 20mg
	Ceftriaxone inj 1g vial	Nystatin pessaries 100000iu
	Cimetidine tab 400mg	Omeprazole cap 20mg
	Cotrimoxazole paed susp 8+40mg/ml	Propranolol tab 40mg
	Mebendazole 100mg	Salbutamol inhaler 0.1mg/dose
9 medicines that were found in over 75% of the facilities	Albendazole tab 200mg	Oral Rehydration Salt (ORS)
	Amitriptyline tab 25mg	Paracetamol tab 500mg
	Cotrimoxazole tab 80+400mg	Phenytoin tab 100mg
	Dextrose 5% inj 500ml	Quinine inj 300/5ml
	Gentamycin inj.80mg/ml	
AVAILABILITY IN THE PRIVATE SECTOR		
Only 5 medicines were found in less than 50% of the facilities	MEDICINES	
	Amoxicillin suspension 125mg/ml	Phenytoin tab 100mg
	MethylErgometrine inj 200ug/ml	Salbutamol inhaler 0.1mg/dose
	Propranolol tab 40mg	
18 medicines were found in more than 75% of the facilities	Amitriptyline tab 25mg	Gentamycin inj 40mg/ml
	Amoxicillin cap 250mg	Mebendazole tab 100mg
	Cimetidine 400mg	Metronidazole susp 200mg/5ml
	Ciprofloxacin tab 500mg	Metronidazole tab 200mg
	Cotrimoxazole tab 400+80 mg	Paracetamol tab 500mg
	Dextrose 5% inj	Prednisolone tab 5mg
	Diazepam tab 5mg	Quinine inj 300mg/ml
	Diclofenac tab 50mg	Tetracycline eye ointment 1%
	Doxycycline cap 100mg	
AVAILABILITY IN THE MISSION SECTOR		
3 medicines were found in less than 50% of the facilities	MEDICINES	
	Amoxicillin suspension 125mg/ml	Salbutamol inhaler 0.1mg/dose
	Propranolol tab 40mg	
23 medicines were found in over 75% of the facilities	Amitriptyline 25mg	Furosemide tab 40mg
	Amoxicillin tab 250mg	Gentamycin inj 40mg/ml
	Carbamazepine tab 200mg	Glibenclamide tab 5mg
	Ceftriaxone 1g inj	Mebendazole tab 100mg
	Ciprofloxacin tab 200mg	Metronidazole tab 200mg
	Co-trimazole tab 400+80mg	Nifedipine 20mg
	Dextrose inj 5% 500ml	Omeprazole 20mg
	Diazepam tab 5mg	Oral Rehydration salt (ORS)
	Diclofenac 50mg	Paracetamol tab 500mg
	Doxycycline cap/tab 100mg	Prednisolone tab 5mg
	Erythromycin tab 250mg	Quinine inj 300mg/ml
		Tetracycline eye ointment 1%

Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Co-trimoxazole suspension	8+40 mg/ml	millilitre	7	70	Brand	2215.00	0.7	1400.00	0.5
					Lowest Price				
ADULT RESPIRATORY INFECTION									
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Amoxicillin	250mg	cap/tab	7	42	Brand	4200.00	1.4	3360.00	1.1
					Lowest Price				
ADULT RESPIRATORY INFECTION									
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Ceftriaxone injection	1 g/vial	vial	1	1	Brand	3000.00	1.0	3500.00	1.2
					Lowest Price				
ANXIETY									
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Diazepam	5 mg	cap/tab	7	7	Brand	350.00	0.1	280.00	0.1
					Lowest Price				
ARTHRITIS									
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Diclofenac	50 mg	cap/tab	30	60	Brand	3000.00	1.0	3000.00	1.0
					Lowest Price				
PAIN/INFLAMMATION									
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Paracetamol	500 mg	cap/tab	3	18	Brand	360.00	0.1	405.00	0.1
					Lowest Price				
ULCER									
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Omeprazole	20 mg	cap/tab	30	30	Brand	6000.00	2.0	6000.00	2.0
					Lowest Price				

ANNEX III: MEDIAN PRICES (UG SHS) OF MEDICINES IN THE PRIVATE AND MISSION SECTORS

MEDICINE	PRIVATE SECTOR Median Unit Price	MISSION SECTOR Median Unit Price
Aciclor tab 200mg	300.00	200.00
Albendazole tab 200mg	500.00	200.00
Amitriptyline tab 25mg	100.00	50.00
Amoxicillin cap/tab 250mg	100.00	80.00
Amoxicillin susp 250mg/5ml	17.50	
Artemether/Lumefantrine tab 20/120mg	354.17	204.17
Bendrofluazide tab 5mg	50.00	50.00
Betamethasone cream/ointment 1%w/v	133.33	133.33
Carbamazepine tab 200mg	150.00	100.00
Ceftriaxone 1g powder for inj'n	3000.00	3500.00
Cimetidine tab 400mg	150.00	120.00
Ciprofloxacin tab 500mg	250.00	175.00
Co-trimoxazole susp 8/40 mg/ml	31.65	20.00
Co-trimoxazole tab 400+80 mg	50.00	50.00
Dextrose 5% inj	2000.00	2000.00
Diazepam tab 5mg	50.00	40.00
Diclofenac tab 50mg	50.00	50.00
Doxycycline cap/tab 100mg	100.00	100.00
Erythromycin tab 250mg	100.00	100.00
Fluconazole tab /cap 200mg	1000.00	475.00
Furosemide tab 40mg	50.00	30.00
Gentamycin inj 80mg/ml	500.00	500.00
Glibenclamide tab 5mg	100.00	50.00
Mebendazole tab 100mg	30.00	30.00
Metformin tab 500mg	200.00	100.00
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Oral Rehydration Salt (ORS)	300.00	200.00
Paracetamol tab 500mg	20.00	22.50
Phenytoin tab 100mg	50.00	50.00
Prednisolone tab 500mg	50.00	35.00
Pyrimethamine /sulfadoxide (SP) tab 25/500mg	500.00	300.00
Propranolol tab 40mg	50.00	50.00
Quinine inj 300mg/5ml	800.00	950.00
Salbutamol inhaler 0.1mg(100mcg)/dose	42.50	31.50
Tetracycline eye ointment 1%	285.71	285.71

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