Republic of Kenya
Ministry of Health

MEDICINE PRICE MONITOR

January 2007

1. Introduction

Price continues to be a major barrier to reliable access to medicines in Kenya. To help address this issue, the MOH conducts surveys on a quarterly basis to monitor medicine prices. Information is collected and widely disseminated on availability, affordability, and price variation of a basket of medicines in the public, private and mission sectors.

A total of 63 urban and rural facilities, in four provinces (Central, Coast, Eastern and Nairobi) were surveyed, including 22 facilities in the public sector, 23 facilities in the private sector, and 18 facilities in the mission sector.[1] Thirty-two commonly prescribed and dispensed medicines were monitored, 28 of which are on Kenya's Essential Medicines List (KEML 2003[2]). The prices are recorded for the lowest-priced product available on the day of data collection.

This report highlights the findings of the survey, based on data collected in January 2007. Comparisons are also highlighted between data for January 2007 and previous months (April, July and October 2006) for some key findings of the survey.

The findings for January 2007 show a marginal *decrease* in availability[3] of the surveyed medicines in the public sector, and an overall *decrease* in the patient price for most medicines in all three sectors. In general, prices were lowest in the public sector. The pricing practices in the mission and public sector are not uniform; some facilities charge for medicines and some provide medicines free of charge to the patient.

2. Availability

Key Findings: Availability

1. Eight common medicines (i.e. recommended in national standard treatment guidelines (STGs)) were available in more than 75% of the public sector facilities.
2. The two ARVs surveyed, AZT/3TC and 3TC/d4T/NVP, were available in 64% and 55%, respectively, of the public health facilities surveyed.
3. Sulphadoxine/Pyrimethamine was available in more than 80% of the facilities in all the three sectors. The first line antimalarial, Artemether/Lumefantrine, had higher availability in the public health facilities (91%), as compared to the private pharmacies (74%) in the private pharmacies and the mission facilities (61%).

Table 1: Availability of medicines in the three sectors

Sector		No. of facilities	Median availability
Public	Overall	22	57%
	Urban	12	67%
	Rural	10	50%
Private	Overall	23	83%
	Urban	12	88%
	Rural	11	73%
Mission	Overall	18	50%
	Urban	6	58%
	Rural	12	50%

[1] See **Annex 1** for a break-down of the facility types surveyed
[2] The KEML (2003) is the most current national EML **in print.** However in practice, more updated disease-specific STGs are in use, and the EML is currently under review to incorporate these recommended treatments. This survey has focused on medicines in the current STGs (where they exist).
[3] Percentage availability is expressed in terms of the number of facilities in which the medicines were found at the time of data collection. **75%** is used as a benchmark for measuring a minimum, acceptable level of availability.

The private sector had the highest median availability of the surveyed medicines (83%) followed by the public sector (57%) and the mission sector (50%). Overall, the availability of medicines in all three sectors was marginally lower in January 2007 as compared to October 2006.

The figures below show the trends in percentage availability between April, July, October 2006 and January 2007 for seven selected medicines in the public and mission sectors.

Fig 1. Trends in availability April, July, October 2006 and January 2007 in the public sector facilities surveyed

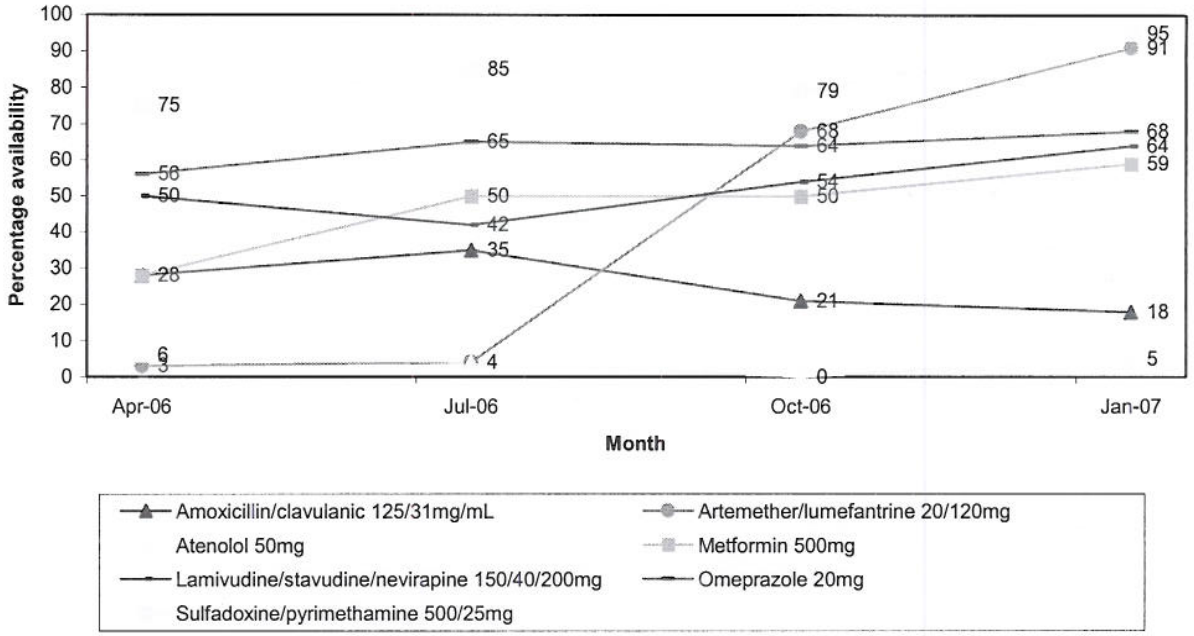
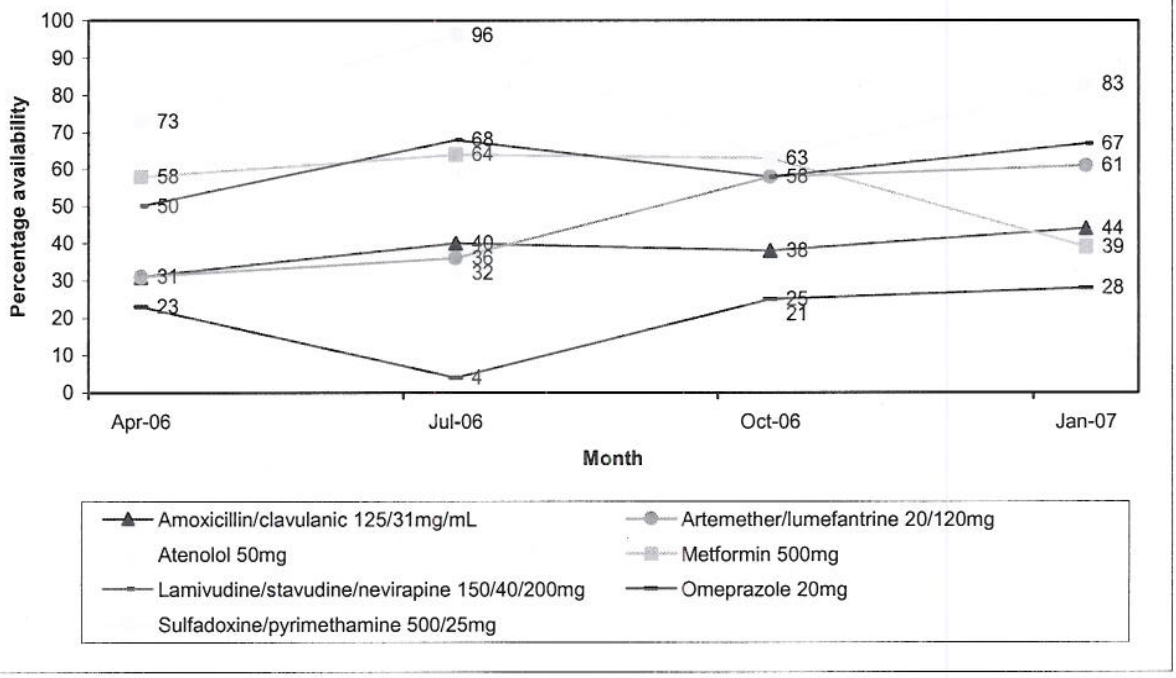


Fig. 2 Trends in availability April, July, October 2006 and January 2007 in the mission sector facilities surveyed



The seven medicines were chosen with a focus on the recommended treatments for prevalent diseases in Kenya. For these medicines, there was an overall increase in the percentage availability in public sector facilities in January 2007 compared with the previous periods of April, July and October 2006.

In line with the country's change of malaria treatment policy to Artemether/Lumefantrine (AL), the public sector median availability of this medicine increased from 4% in July 2006, to 68% in October 2006 and 91% in January 2007. Although Sulphadoxine/Pyrimethamine (SP) ceased to be the first line antimalarial in the new policy, its availability has remained high in the public sector, being 79% in October 2006, and 95% in January 2007. The availabilities of both antimalarials also increased in the mission sector, although not as dramatically.

In both sectors, the availability of the two antiretroviral medicines (ARVs) surveyed, progressively increased from April 2006 to January 2007: from 50% to 67% in the mission sector, and from 50% to 64% in the public sector facilities surveyed. This may be the result of ongoing MOH Rapid Results Initiatives (RRI) in the second half of 2006, one of which focussed on rapid scale-up of ARV uptake in the country.

3. Medicine Prices

Key Findings: Medicine Prices

For the same medicines in the different sectors:

1. Overall private sector medicines prices were 36% higher than prices in the public health facilities, while overall mission sector prices were 31% higher than those in the public sector.
2. Urban vs. rural comparisons revealed the following:
   - Prices in urban mission facilities were 50% higher than those in rural mission facilities
   - Prices in rural private pharmacies were 35% higher than those in rural mission facilities
   - Prices in urban private pharmacies were 20% higher than those in urban public facilities
   - Prices in urban mission facilities were 20% higher than those in urban public facilities

Table 2 below shows a summary of the comparisons of prices within and between sector

Table 2. Median of MPRs[4] - Comparison between and within sectors

	Overall Private / Public	**Overall** Mission / Public	**Overall** Private / Mission	**Public:** Urban / Rural	**Private:** Urban / Rural	**Mission:** Urban / Rural	**Urban:** Private / Mission	**Rural:** Private / Mission	**Urban:** Private / Public	**Rural:** Private / Public	**Urban:** Mission / Public	**Rural:** Mission / Public
Number of times more expensive	1.36	1.31	1.14	-	0.95	1.5	0.67	1.35	1.2	-	1.2	-
# of pairs compared	15	14	26	3[5]	20	7	7	24	11	3	14	2

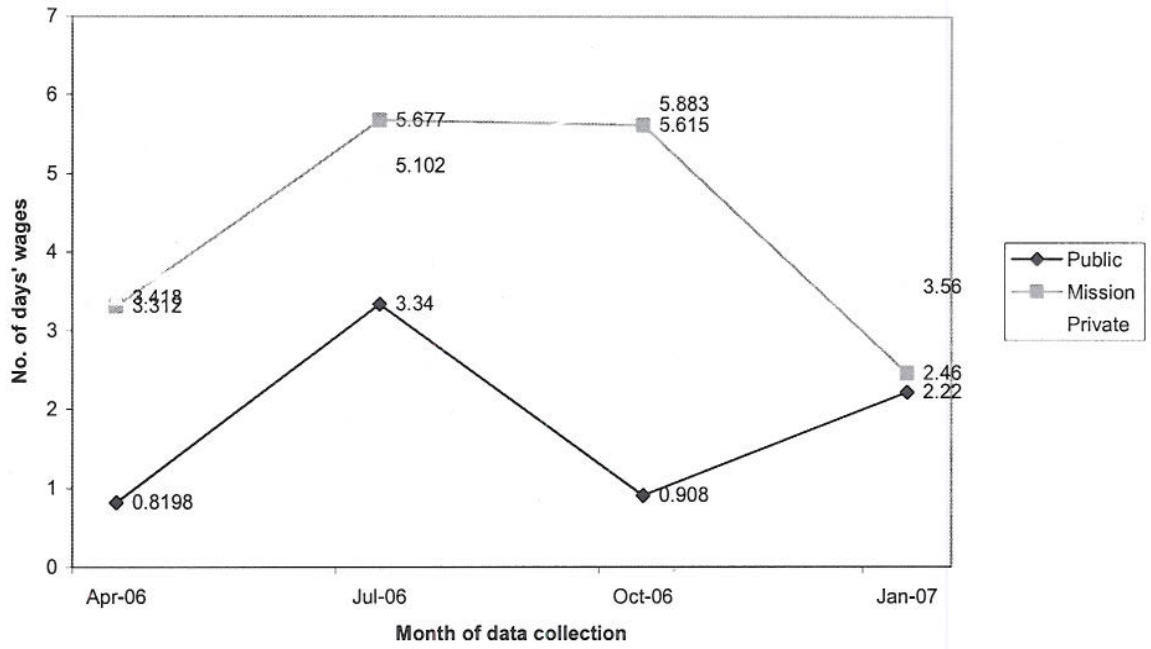
4. Affordability

Affordability is calculated as the number of days' wages required to pay for a specific medicine or a course of therapy, based on the wages of the lowest paid government worker (US$2.33 or 167KSh per day in Kenya). For example, in a family with a father on Glibenclamide for diabetes, a mother on Atenolol for hypertension, and a child on Co-trimoxazole for acute respiratory tract infection, it can be noted that these medicines would be unaffordable in all sectors for this worker. Figure 3 below illustrates this example.

[4] Comparing the Median Price Ratios (MPRs) of the same medicines in the three sectors. The MPR is a ratio of the local price divided by an international reference price (IRP) converted into the same currency. An MPR of 2 means the price in Kenya is twice the IRP; an MPR of 0.5 means the price in Kenya is half the IRP.

[5] No comparison was made with *less than or equal to* three facilities to compare.

Fig 3. Trends in affordability of monthly treatments for adult hypertension, adult diabetes, and paediatric acute upper respiratory tract infection within one family



Significant month-to-month variations in prices have also been noted in all the sectors as shown in Figure 3 above. For example, the family expenditure for the 3 medicines highlighted above (Glibenclamide, Atenolol and Co-trimoxazole), would have been **four times higher** in July as compared to April 2006, in the public sector. These price variations present further difficulties to families trying to manage household budgets for medicines, especially for chronic illnesses that require continuous medication. This underscores the need for more predictable pricing mechanisms in all sectors.

Furthermore, when considering affordability criteria, it must be noted that about 60% of Kenyans live on less than the wages of lowest paid government worker, thus further highlighting the barrier of price on access to medicines.

5. Discussion

In the public sector, significant improvement in availability of certain key essential medicines was noted over the duration of these surveys, particularly medicines for malaria and HIV. However, other key medicines had low availability in this sector, There is need to further strengthen procurement and supply mechanisms in the public sector, for improved availability.

Since the change in policy in the treatment of malaria from SP to AL in May 2006, there has been a progressive increase in the availability of AL in all the three sectors. The public sector had the highest availability in January 2007 and this medicine is provided free of charge in all the facilities surveyed. In the mission sector, more than half of the facilities also provided AL free of charge while the remaining facilities charged prices similar to those charged in the private pharmacies surveyed. This could be due to the dual sourcing of AL supply in this sector (i.e. the free supply from the government via MEDS vs. supplies obtained from full-cost private-for-profit distributors). The persistently high availability of SP in all sectors needs to be investigated, in light of the prevailing policy on malaria treatment in the country. It would be expected that the demand and availability of SP should be decreasing as the demand for, and availability of, the recommended first-line antimalarial (AL) increases.

Availability of ARVs increased in the public and mission sectors between April 2006 and January 2007. The momentum adopted by the Rapid Results Initiatives (RRI) needs to be sustained, in order to ensure progress towards universal access to ARVs in Kenya.

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ANNEXES

Annex 1. Characteristics of the Facilities Included in the Survey

Public Sector	Private Sector	Mission Sector
- Teaching and referral hospitals (3) - Provincial general hospitals (3) - District hospitals (9) - Sub-district hospitals (3) - Health centres (4)	- Retail pharmacies / chemists (23)	- Hospitals (11) - Health centres (2) - Dispensaries (5)

Annex 2. Availability in the Public Sector

Percentage availability	Medicines	
14 medicines were found in less than 50% of the public sector facilities	Aciclovir tab 200 mg Amoxicillin caps/tab 250 mg Amoxicillin/clavulanic susp 125/31mg/ml Atenolol tab 50 mg Captopril tab 25 mg Carbamazepine tab 200 mg	Ciprofloxacin tab 500 mg Fluconazole caps/tab 200 or 150mg Fluoxetine cap/tab 20 mg Fluphenazine inj. 25mg/ml Ibuprofen tab 400mg Ranitidine tab 150 mg Salbutamol inhaler 0.1 mg/ dose Nifedipine retard 20mg
9 medicines were found in 50-75% of the facilities	Ceftriaxone inj 1 g powder Co-trimoxazole paed susp. (8+40) mg/mL Furosemide tab 40mg Glibenclamide tab 5 mg Metformin tab 500 mg	Lamividine+Stavudine+Nevirapine 155+40+200mg Nifedipine retard 20mg Omeprazole caps 20 mg Ranitidine tab 150 mg
8 medicines were found in more than 75% of the facilities	Amodiaquine tab 200mg Artemether/lumefantrine 20/120mg Amoxicillin/clavulanic acid susp 125/31mg/mL Amitriptyline tab 25mg	Clotrimazole cream 1%w/v Cotrimoxazole tab 480mg Diazepam tab 5mg SP tab 500/25mg

Annex 3. Availability in the Mission Sector

Percentage availability	Medicines	
14 medicines were found in less than 50% of the mission facilities	Aciclovir tab 200mg Amoxicillin/clavulanic acid susp 125/31mg/mL Amoxicillin/clavulanic acid tab 500/125mg Atenolol tab 50mg Beclomethasone Inhaler Captopril tab 25mg Ceftriaxone inj 1g	Fluconazole tab 200mg Fluoxetine tab 20mg Fluphenazine inj 25mg/mL 3TC/d4T/NVP 150/40/200mg Ranitidine tab 150mg Salbutamol inhaler 100mcg/dose Zidovudine/lamivudine 300/150mg
7 medicines were found in 50-75% of the facilities	Artemether/lumefantrine tab 20/120mg Carbamazepine tab 200mg Ciprofloxacin tab 500mg Glibenclamide tab 5mg	Metformin tab 500mg Omeprazole tab 20mg Phenytoin tab 100mg
11 medicines were found in over 75% of the facilities	Amitriptyline tab 25mg Amoxicillin tab 250mg Amodiaquine tab 200mg Cotrimoxazole susp 480mg/mL Cotrimoxazole tab 480mg Clotrimazole cream 1%	Diazepam tab 5mg Furosemide tab 40mg Ibuprofen tab 400mg Nifedipine retard tab 20mg Sulfadoxine/pyrimethamine tab 500/25mg

Annex 4. Availability in the Private Pharmacies

Percentage availability	Medicines	
4 medicines were found in less than 50% of the private pharmacies	Fluoxetine tab 20mg Beclomethasone Inhaler	3TC/d4T/NVP 150/40/200mg Zidovudine/lamivudine 300/150mg
7 medicines were found in 50-75% of pharmacies	Aciclovir tab 200mg Amoxicillin/clav acid susp 125/31mg/mL Artemether/lumefantrine 20/120mg Ceftriaxone inj 1g	Fluconazole tab 200mg Fluphenazine inj 25mg/mL Phenytoin tab 100mg
21 medicines were found in over 75% of pharmacies	Amitriptyline tab 25mg Amodiaquine tab 200mg Amoxicillin tab 250mg Amoxicillin/clavulanic acid tab 500/125mg Atenolol tab 50mg Captopril tab 25mg Carbamazepine tab 200mg Ciprofloxacin tab 500mg Clotrimazole cream 1% Cotrimoxazole paed susp 240mg/5mL Cotrimoxazole tab 480mg	Diazepam tab 5mg Furosemide tab 40mg Glibenclamide tab 5mg Ibuprofen tab 400mg Metformin tab 500mg Nifedipine tab 20mg Omeprazole tab 20mg Ranitidine tab 150mg Sabutamol inhaler 100mcg/dose Sulfadoxine/pyrimethamine tab 500/25mg

Annex 5. Comparison of Individual (Median)[6] Medicine Prices (in KSh) Between Sectors

Medicine	Overall Public	Public Urban	Public Rural	Overall Private	Private Urban	Private Rural	Overall Mission	Mission Urban	Mission Rural
Aciclovir tab 200mg	20.00	20.00		20.00	20.00	25.00	14.50	8.00	32.00
Amitriptyline tab 25mg	0.83	0.83	0.92	1.00	1.00	1.00	1.00	1.50	1.00
Amodiaquine tab 200mg	0.75	0.75		3.33	3.17	5.00	3.00	3.33	2.11
Amoxicillin caps/tab 250mg	1.83	2.00	1.67	2.50	2.25	2.50	2.25	2.00	2.50
Amoxicillin/clavulanic acid susp 125/31 mg/mL	1.75	1.75		4.73	4.90	4.34	3.00	4.00	2.40
Amoxicillin/clavulanic acid tab 500/125mg	10.00	10.00	11.67	73.33	75.67	68.00	63.00	62.50	63.00
artemether/lumefantrine tab 20/120mg				24.17	24.58	24.17	19.06	27.00	11.11
Atenolol tab 50mg	5.00	5.00		6.00	6.00	6.00	5.00	7.00	3.00
Beclometasone inhaler 50 mcg/ dose				4.35		4.35	10.00	10.00	
Captopril tab 25mg	10.00		10.00	10.00	9.00	10.00	11.50	11.89	11.50
Carbamazepine tab 200mg	2.00	2.00	1.42	3.00	3.00	3.00	3.00	3.00	3.00
Ceftriaxone inj 1 g powder	100.00	100.00	100.00	250.00	250.00	275.00	519.00	600.00	438.00
Ciprofloxacin tab 500mg				10.00	10.00	10.00	12.50	15.00	10.00
Clotrimazole cream/oint 15%w/v	2.00	2.25	1.50	2.00	2.00	2.50	1.50	3.33	1.50
Co-trimoxazole tab 80/400mg	0.60	0.60		0.60	0.50	0.60	0.50	0.60	0.50
Diazepam tab 5mg	2.00	1.75	2.50	2.00	1.45	2.00	1.00	1.00	1.25
Diclofenac tab 25mg	1.00	0.99	2.25	1.00	1.00	1.50	1.00	1.00	1.00
Fluconazole caps/tab 200 or 150mg	14.30		14.30	175.00	200.00	150.00	40.70	190.00	21.40
Fluoxetine cap/tab 20mg				34.17	30.00	40.00	36.00		36.00
Fluphenazine inj. 25mg/mL	55.00	60.00	55.00	150.00	135.00	150.00	142.00		142.00
Furosemide tab 40mg	0.99	0.99	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Glibenclamide tab 5mg	0.83	0.50	0.83	3.79	3.29	5.00	1.75	2.00	1.50
Ibuprofen tab 400mg	2.00	2.00		2.00	2.00	2.00	2.00	2.00	2.00

[6] Median prices were only calculated for those medicines with > 3 observations

Medicine	Overall Public	Public Urban	Public Rural	Overall Private	Private Urban	Private Rural	Overall Mission	Mission Urban	Mission Rural
Metformin tab 500mg	3.56	3.54	3.57	6.00	6.43	5.80	3.00	7.00	3.00
Lamividine/stavudine/nevirapine 150/40/200mg				35.00	40.00	30.00	25.00	26.00	13.34
Nifedipine retard 20mg	1.00	2.17	1.00	6.00	5.00	10.00	2.00	8.00	2.00
Omeprazole caps 20mg	4.25	4.25	4.17	15.00	10.00	15.00	10.00	15.00	10.00
Phenytoin cap 100mg	0.83	0.83	0.58	1.00	1.00	1.00	2.00	2.00	1.50
Pyrimethamine/sulfadoxine tab 25/500 mg	3.33	3.33		6.67	6.67	6.67	5.00	5.00	5.83
Ranitidine tab 150mg	5.00	5.00	4.17	6.00	5.00	10.00	7.00	8.00	5.80
Salbutamol inhaler 0.1 mg/ dose				1.33	1.33	1.33	1.50	1.99	1.17
Zidovudine/lamivudine tab 300/150mg							30.00	30.00	15.84

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