Ghana Medicine Price and Availability Monitor
September 2007 – March 2008

Ghana MOH/WHO/HAI Collaboration

Sponsored by HAI Africa

Contents

1. Introduction

There are various barriers which people experience when they need to access medicines, but the *cost* of medicines is one of the most significant, especially for people living in developing countries like Ghana where most medicines are paid for out-of-pocket.

Until recently, there has been little systematic evidence available on the prices, both the Government of Ghana (GOG) and the people pay for medicines. A comprehensive, nationwide survey of medicine prices was thus carried out by MOH in collaboration with the World Health Organization (WHO), Health Action International (HAI) Africa, and its local civil society partners in 2004, revealing that medicine prices varied greatly between sectors; urban and rural settings and that many medicines were simply unaffordable for a number of people..

As a recommendation from the main survey, there has been an establishment of a monitoring system of medicine prices established by the MOH to monitor medicine prices and

availability in Ghana on a quarterly basis. This will inform the GOG, consumers and procurement agencies about current prices and patterns of price changes in the country, in order to complement the ongoing efforts to improve access to medicines for all Ghanaians.

This report highlights the findings of the data collected in November, 2007.

1.1. Key Findings

- In urban areas, patient prices in the public sector were the highest and the private sector the lowest. In rural areas, mission sector prices were highest and public sector lowest.
- Patient prices for lowest priced generic medicines varied from facility to facility in all the sectors. In some cases, the prices varied by many multiples.
- Overall data shows that medicines are more available in the urban facilities than in rural facilities for all sectors
- In urban facilities availability was highest in private pharmacies and lowest in mission facilities. On the other hand, in rural facilities availability was highest in mission facilities and lowest in private facilities.
- Generally, treating chronic diseases was found to be far more affordable in the rural area than in the urban areas.
- The National Health Insurance Authority is reimbursing at a higher rate than the median prices found on the market for 20% of the medicines used in the price monitoring study.

2. Methodology

A total of 78 urban and rural facilities in 4 regions (Greater Accra, Western, Ashanti and Upper East) were surveyed including 30 facilities in the public sector, 32 facilities in the private sector and 16 in the mission sector. 34 commonly prescribed and dispensed medicines which are all in the Ghana essential medicines list were monitored (see annex 1 for list).

The survey focused on the lowest priced medicines available at the time of data collection irrespective of the brand.

The list for the survey was guided by the Ghana Essential Medicines List. The epidemiology and most commonly available medicines for public health issues were considered. The list was finally approved by the Access To Medicines (ATM) Advisory Group of the Ministry Of Health.

Table 1: Distribution of facilities that were surveyed[1]

	Public Sector		Private Sector		NGO Sector		Total
	Urban[2]	Rural	Urban	Rural	Urban	Rural	

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[1] In each region, 1 regional and 3 district hospitals (urban) were selected, plus 4 sub-district hospitals (rural) in order to survey facilities representing the public health sector. Private pharmacies and NGO facilities were selected purposively within 5 km of each of the selected public facilities

[2] Urban areas were defined as towns with a population of more than 50,000 and rural areas are at least 10 km away from the urban centres.

Region 1 – Greater Accra	4	4	4	4	1	4	21
Region 2 – Ashanti	3	4	5	2	0	3	17
Region 3 – Western	4	4	4	4	1	3	16
Region 4 – upper East	4	3	5	4	2	2	20
Total	15	15	18	14	4	12	78
	30		32		16		

3. Limitations of the study

- The list of medicines is not exhaustive, but the medicines selected were representative for some of the most common public health problems in Ghana.
- The study did not explore medicines prices in the fourth important dispensing sector in Ghana (the dispensing doctors in clinics). Where medicine prices are perceived to be very high

4. Presentation of price information

Results on medicine prices using the standardised monitoring tool are expressed as "Median Price Ratios" or MPRs. The MPR is a ratio of the local price divided by an international reference price converted into the same currency. The international reference price serves as an external standard for evaluating local prices. An MPR of 1 means the local price is equivalent to the reference price whereas an MPR of 2 means the local price is twice the reference price. The MPR results in this survey were based on the 2006 Management Sciences for Health (MSH) International Drug Price Indicator guide (http://erc.msh.org/). The MSH guide offers a very useful standard against which locally available products can be compared in any country.
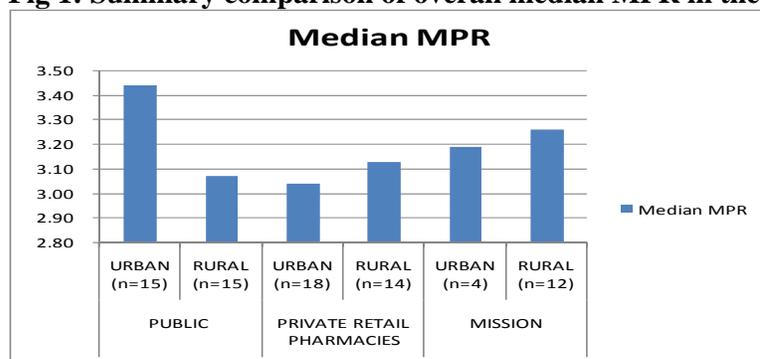
5. Results and Discussions

5.1. Medicine prices

5.1.1. Rural- Urban comparison

Prices in private and mission facilities were slightly higher in rural areas than in the urban areas. On the other hand, in the public sector prices in urban areas were generally higher than rural areas (Fig 1).

Fig 1: Summary comparison of overall median MPR in the 3 Sectors

5.1.2. Comparison across sectors

In urban areas prices are highest in the public sector. The public sector prices are 10.7% higher than prices in the private sector and 7.2% higher than prices in the mission sector. On the other hand, in the rural areas prices in the private and mission sectors are 2% and 5.9% higher than in the public sector respectively (Table 2).

Table 2: Comparison of median MPRs in three sectors

	Public	Private	Mission
Urban	3.44 (n=15)	3.04 (n=18)	3.19 (n=4)
Rural	3.07 (n=15)	3.13 (n=14)	3.26 (n=12)

The comparatively low price medicines in private retail pharmacies in urban areas could suggest the availability of a wide range of cheaper generic alternatives as against single generic products mostly found in the public and mission facilities. Other reasons could also be that the public and mission sectors are procuring higher priced medicines or pricing with high mark-ups.

5.1.3. Comparison of Prices of anti-malaria medicines across sectors

As shown in Fig 2, the prices of the anti-malaria medicines artesunate/amodiaquine (AS/AM) and sulphadoxine/pyrimethamine (SP) were generally lower in rural areas than in urban areas except for rural prices for AS/AM.

The National Malaria Control programme subsidizes the price of AS/AM in public sector facilities and this is reflected in the prices in the public sector
The price of SP was highest in the mission sector in both urban and rural areas and the price of AS/AM was highest in the private sector in both rural and urban areas

Fig 2: Median Price Ratios of Artesunate/Amodiaquine and Pyrimethamine and Sulphadoxine in Public, Private and Mission sectors.
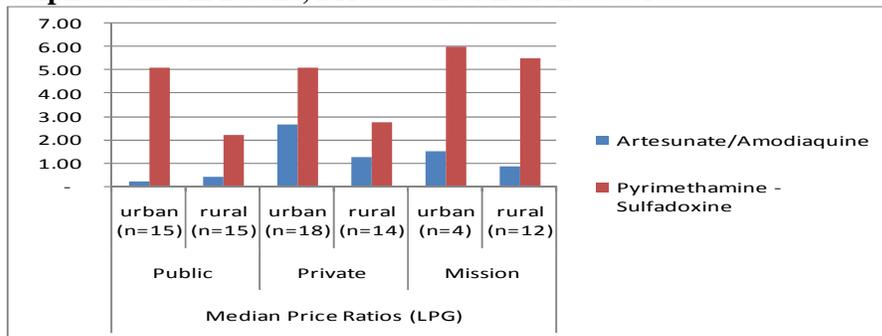
5.1.4. Comparison of anti-hypertensive medicines across sectors

As shown in table 3, prices in the mission sector for nifedipine are highest. Prices are quite consistent across sectors except for Nifedipine

Prices for atenolol overall are higher than for other medicines in all the sectors compared with the international reference price, as is nifedipine in the mission sector. These medicines are for chronic conditions and therefore high prices could affect compliance resulting aggravation of the disease condition. High prices could also affect the net income of the lowest paid government worker.

Table 3: Comparison of medicines prices for anti-hypertensives between and within sectors

ANTI-HYPERTENSIVES

Median Price Ratios (LPG)						
	Public		Private		Mission	
	urban (n=15)	rural (n=15)	urban (n=18)	rural (n=14)	urban (n=4)	rural (n=12)
Drug Name	Median	Median	Median	Median	Median	Median
Atenolol	5.36	4.87	5.85	4.70	4.73	4.87
Fluvastin			2.79	2.54		
Lisinopril	3.44	3.14	2.99	2.67	2.91	2.99
Methyldopa	3.83	3.83	3.83	3.83	3.07	3.26
Nifedipine Retard	3.86	2.21	2.76	2.76	5.52	5.52

5.1.5. Price Variations

There are no national guidelines on how medicine prices are fixed in all the three sectors and it was found that the prices patients are charged for lowest priced generic medicines varied from facility to facility in all the sectors. In some cases, the prices varied by many multiples as shown in an example of the price differences for clotrimaxole cream and fluconazole capsules in fig 3 below.

Fig 3 Comparison of MPRs for Fluconazole and Clotrimazole cream in the three sectors
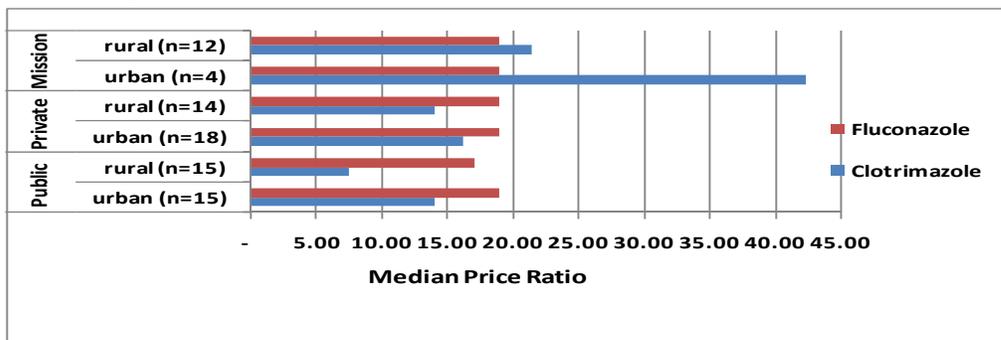
The figures below show medicines with largest variations in patient prices in the mission and private sector rural areas.
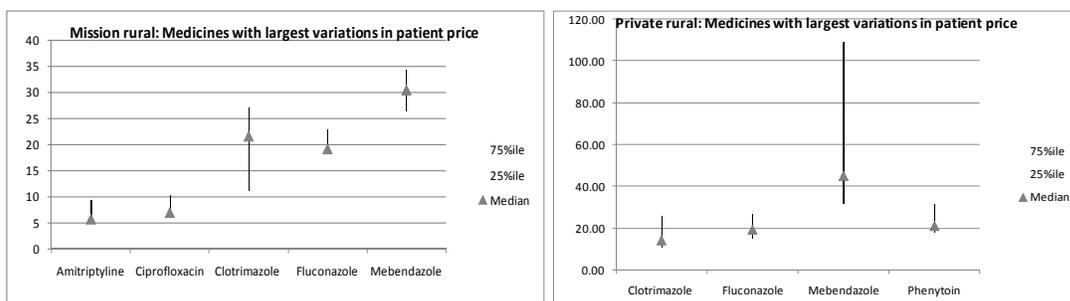
The National health insurance reimbursement prices could surely be a price control mechanism if well implemented. A medicine pricing policy which is strictly enforced could also play a role in reducing price variations

5.2. Availability

Comparison of availability of the 34 selected medicines in urban and rural facilities in the three sectors surveyed revealed some interesting findings. Overall data shows that medicines are more available in the urban facilities than in rural facilities for all sectors (Table 4).

Table 4: Comparison of availability in the three sectors

	Public	Private	Mission
Urban	80%(n=15)	91%(n=18)	62.5%(n=4)
Rural	40%(n=15)	39.3%(n=14)	54.2%(n=12)

In the urban area availability in the private sector is the highest as is always the case

Fig 4: Comparison of median availability in the three sectors
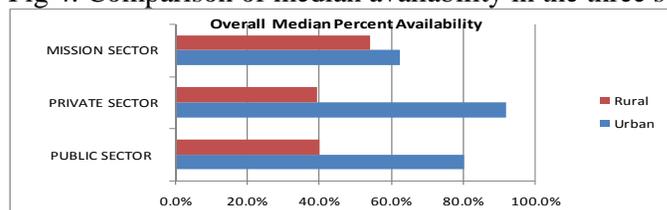
The Ghanaian population is still largely rural and these figures may indicate that essential medicines are still not adequately available to most Ghanaians as can be seen in the distribution of availability in table 5 below.

Table 5: The distribution of availability in the three sectors

	Public		Private pharmacies		Mission	
Number of medicines	Urban	Rural	Urban	Rural	Urban	Rural
Less than 50 %	11	22	4	19	8	15
Between 50 - 75	3	6	4	6	9	11
Greater than 75 %	20	6	26	9	17	8

5.2.1. Comparison of availability and price

Table 6 shows that even though prices are lower in the public rural facilities (MPR=3.07), patients may be forced to buy expensive medicines from the other sectors due to the low availability of these medicines (40%).

Table 6: Comparison of availability and price

	Public		Private		Mission	
	Availability	MPR	Availabilty	MPR	Availabilty	MPR
Urban	80%(n=15)	3.44 (n=15)	91%(n=18)	3.04 (n=18)	62.5%(n=4)	3.19 (n=4)
Rural	40%(n=15)	3.07 (n=15)	39.3%(n=14)	3.13 (n=14)	54.2%(n=12)	3.26 (n=12)

5.3. Affordability

The financial capacity to purchase/afford medicines was calculated based on the minimum Government wage for public sector workers. This minimum wage was provided in the 2007 annual budget statement as 1.90 Ghana Cedis. However a very small proportion of the countries labour force is employed in this sector. The majority are self employed mainly in agriculture and other menial jobs in the urban areas. For this majority their real income is far lower than the government minimum wage.

Based on the stated minimum government wage and using the Ghana National Standard Treatment Guidelines, the number of days wages required to procure a course of treatment for a number of medical conditions was calculated. For acute medical conditions the following observations were made:

5.3.1. Treatment of malaria in an Adult

Artesunate/Amodiaquine tablet 50/153 mg is the official first line medicine for the treatment of malaria in Ghana. The price of this medicine is highly subsidized by government for the Public and Mission/NGO sectors.

Malaria in adult	Public Patient		Private Retail		Mission Patient	
Artesunate/Amo diaquine	Median Treatm't Price	Days' Wages	Median Treatm't Price	Days' Wages	Median Treatm't Price	Days' Wages
Rural	1.0	0.5	3.0	1.6	2.0	1.1
Urban	0.5	0.3	6.4	3.4	3.6	1.9

In the public sector it is more affordable to treat malaria in urban facilities (2.5 hours of work) than in rural facilities (4hours of work). However for the Mission and Private sectors it is more affordable in the rural than in the urban facilities.

The difference is rather very wide in the Private sector where it takes 13 hours work for the lowest paid government worker to be able to purchase medicines in a rural setting as against 27 hours of work in the urban area almost twice the cost needed . It takes 9hours of work for the lowest paid worker to afford the same treatment in the mission sector. The Mission sector could access the government subsidy by buying from the Central Medical Stores to reduce the cost of treatment for patients.

5.3.2. Treatment of respiratory tract infections in adults

For all the sectors the lowest paid Ghanaian worker will require almost 7 days wages in order to afford one course of treatment of respiratory tract infections in adults. Very clearly this medicine is out of the financial reach of most Ghanaians. As can be seen the figures are identical with those of the rural area. For all sectors more than 6 days wages (almost 7 days) is required by the LPGW to access treatment with this medicine. This price is out of the financial reach of most Ghanaians.

Adult resp. infects.	Public		Private Retail		Mission	
Amoxicillin + Clavulanate	Median Treatm't Price	Days' Wages	Median Treatm't Price	Days' Wages	Median Treatm't Price	Days' Wages
(Rural)	12.0	6.3	12.6	6.6	12.6	6.6
(Urban)	12.6	6.6	12.6	6.6	12.6	6.6

5.3.3. Treatment of diabetes

The management of Diabetes in an adult with Glibenclamide tablets 5 mg: As can be seen in urban areas the LPGW will require 0.6 days of his wages to secure enough glibenclamide for 30 days of treatment in all the sectors (Public, Private and Mission).
The figures in the rural areas indicate that for all the sectors of health care about 0.3 days wages of the LPGW is required to procure 30 days treatment of Glibenclamide 5mg. This figure is half of the urban area cost.

It is apparent that this medicine is far more affordable in the rural area than in the urban area. A possible explanation is the use of more expensive Brands (innovator) in the urban area.
It is difficult to conclude that this is financially within the reach of this group of workers especially given the fact that the normal daily bills of feeding, transport, utilities, school fees etc. are quite high. The situation is even more difficult for such workers because the treatment is life long and also patient may be taking other chronic disease medicines like anti-hypertensives in addition.

Diabetes	Public		Private retail		Mission	
Glibenclamide	Median Treatm't Price	Days' Wages	Median Treatm't Price	Days' Wages	Median Treatm't Price	Days' Wages
(Rural)	0.6	0.3	0.6	0.3	0.6	0.3
(Urban)	1.2	0.6	1.2	0.6	1.2	0.6

5.4. *Comparison of median prices with National Health Insurance (NHIA) reimbursement prices*

The WHO/HAI Methodology was used in Ghana to inform reimbursement prices for the NHIA medicines. The table below shows a comparison of the some selected reimbursement medicine prices with the international reference prices in rural areas in the three sectors surveyed.

Table 7: Comparison of IRP, Median prices with NHIA reimbursement prices

Medicine Name	Internatioanal Reference Price (GHC) IRP	Rural Mission sector Median price (GHC)	ratio to IRP	Rural public sector Median price (GHC)	ratio to IRP	Rural Private Sector Median price (GHC)	ratio to IRP	NHIS Reimbursement prices 2008	ratio to IRP
Ciprofloxacin	0.0292	0.2000	6.84	0.1750	5.98	0.1700	5.81	0.2	6.84
Clotrimazole	0.0077	0.1650	21.51	0.0584	7.61	0.1075	14.02	0.16	20.86
Diclofenac	0.0055	0.0350	6.40	0.0400	7.32	0.0300	5.49	0.1	18.30
Mebendazole	0.0156	0.4750	30.39	0.3500	22.40	0.7000	44.79	1.2	76.79
Phenytoin	0.0048	0.0800	16.69		-	0.1000	20.86	0.06	12.52
Quinine Injection	0.0768	0.1175	1.53	0.2500	3.26	0.1250	1.63	0.28	3.65
Ranitidine	0.0229	0.1200	5.24	0.1250	5.46	0.1000	4.36	0.2	8.73

Comparing the prices of the selected medicines in table 7, it can be seen that the NHIA is reimbursing some medicines at a higher rate than the median prices of the lowest priced generics found on the market. The ratios obtained from the reimbursement price of the NHIA to the international reference price for the selected medicines were also very high. For example for Mebendazole, the NHIS is reimbursing at as high as 77 times the international reference price.

These selected medicines in the table above make up 20% of the medicines used in the price monitoring study. Given that there are about 564 medicines on the reimbursement list, the National Health Insurance Authority has the potential of reducing the medicine reimbursement prices for a number of the medicine items. In this way NHIA could improve on the cash flow of the insurance fund and increase access to majority of the population.

The NHIA therefore needs to develop a medicine price index for reimbursement that is based on the international reference prices. This means that procurement should be done in a more competitive manner in all sectors to ensure that better procurement prices are achieved using the international reference prices as a yardstick.

Annex 1: Median Prices in Ghana Cedis

Median Prices of Medicines (in Ghana Cedis) in Public Private and Mission Sectors

	Medicine Name	Medicine Strength	Dosage Form	Public		Private		Mission	
				Urban	Rural	Urban	Rural	Urban	Rural
1	Amitriptyline	25 mg	cap/tab	0.03	0.04	0.03	0.07	0.13	0.03
2	Amoaxicillin + Clavulanic Acid	228mg/5ml	cap/tab	0.09	0.08	0.09	0.07	0.16	0.09
3	Amoxicillin + Clavulanate	500+125mg	cap/tab	0.60	0.57	0.60	0.50	0.60	0.60
4	Artemether/Lumefantrine	20/120mg	cap/tab	0.18	0.34	0.25	0.19		0.18
5	Artesunate/Amodiaquine	50/153mg	cap/tab	0.02	0.04	0.27	0.10	0.15	0.08
6	Atenolol	50 mg	cap/tab	0.06	0.05	0.06	0.04	0.05	0.05
7	Ceftriaxone injection	1 g/vial	gram	6.00	6.50	5.00	2.50	7.25	5.00
8	Ciprofloxacin	500 mg	cap/tab	0.17	0.18	0.19	0.01	0.25	0.20
9	Clotrimazole	1%	cream	0.11	0.06	0.13	0.05	0.33	0.17
10	Diclofenac	50 mg	cap/tab	0.04	0.04	0.04	0.02	0.07	0.04
11	Ferrous fumarate		cap/tab	0.00	0.00	0.01	0.01	0.01	0.01
12	Flucloxacillin	125 mg/5ml, 100m	bottle	1.20	1.10	1.40	0.80	1.60	1.10
13	Flucloxacillin (2)	250mg	cap/tab	0.08	0.08	0.09	0.05	0.10	0.09
14	Fluconazole	150mg	cap/tab	2.50	2.25	2.50	1.90	3.00	2.50
15	Fluvastin	20mg	cap/tab			1.15	1.00		
16	Folic Acid	5 mg	cap/tab	0.00	0.00	0.00	0.00	0.01	0.00
17	Glibenclamide	5 mg	cap/tab	0.02	0.02	0.02	0.02	0.02	0.02
18	Hydrocortisone	100mg	cap/tab	0.60	0.63	0.60	0.60	0.95	0.65
19	Insulin pre-mix HM	10ml(30/70)	vial	17.16	14.40	18.28	18.00		19.00
20	Lisinopril	10mg	cap/tab	0.23	0.21	0.20	0.14	0.25	0.20
21	Mebendazole	500mg	cap/tab	0.35	0.35	1.65	0.50	0.35	0.48
22	Metformin	500 mg	cap/tab	0.05	0.05	0.04	0.04	0.08	0.05
23	Methyldopa	250mg	cap/tab	0.10	0.10	0.10	0.07	0.08	0.09
24	Metronidazole	200mg	cap/tab	0.01	0.01	0.01	0.00	0.11	0.01
25	Nifedipine Retard	20 mg	tab	0.07	0.04	0.05	0.04	0.13	0.10
26	Omeprazole	20 mg	cap/tab	0.20	0.18	0.19	0.08	0.21	0.20
27	ORS	sachet	sachet	0.15	0.16	0.20	0.10	0.18	0.15
28	Oxytocin	5 IU/ml	amp	0.25	0.25	0.20	0.70	0.20	0.38
29	Phenytoin	100 mg	cap/tab	0.12		0.08	0.07		0.08
30	Pyrimethamine - Sulfadoxine	500+25 mg	cap/tab	0.00	0.05	0.10	0.07	0.17	0.10
31	Quinine Sulfate	300mg	tab	0.40	0.13	0.25	0.05	0.50	0.12
32	Quinine Injection	300mg/ml	amp	0.15	0.25	0.13	0.15	0.13	0.25
33	Ranitidine	150 mg	cap/tab	0.15	0.13	0.15	0.10	0.15	0.12
34	Salbutamol inhaler	0.1 mg/dose	dose	0.03	0.02	0.03	0.02	0.02	0.02