

MEDICINE PRICES IN GHANA

MEASURING MEDICINE PRICES

One-third of the global population lacks reliable access to needed medicines. The high price of medicines is a key factor in their inaccessibility. High prices are particularly burdensome to patients in developing countries where most medicines are paid for out-of-pocket by individual patients.

In September 2004, the Ghanaian Ministry of Health was supported by the World Health Organisation (WHO), Health Action International-Africa (HAI-A) and the HAI-A partner in Ghana, the Catholic Health Service, to carry out a national survey of medicine prices. The survey was conducted in the public, private and NGO sectors. Using the WHO/HAI methodology: *Medicine Prices: a new approach to measurement*¹, the Ministry assessed the affordability of key medicines, analyzed the prices and availability of a selection of important medicines, and identified price components (taxes, mark-ups etc.) of locally produced and imported medicines. The evidence obtained was used to determine factors contributing to high and variable medicine prices and identify strategies and policies to improve their affordability. This is one of a series of papers summarizing the results of medicine price surveys carried out by countries across Africa and elsewhere in the world.

BACKGROUND - GHANA

Ghana is classified as a low income country by the World Bank with a per capita GDP of US\$271 (2000); the economy is agriculture based accounting for 46.7% to GDP, the services sector and the industry sector account for 24.3% and 22.1% respectively. Per capita public health spending was US\$6.3 (2001) and US\$13.5 (2004); per capita public sector medicines expenditure is estimated at US\$1 (2006).

Medical services in Ghana are provided by the central government, local institutions, a sizeable number of missionary institutions (private not-for-profit), and a relatively small number of private-for-profit practitioners. Since 1971, there have been user fees and since 1985 revolving drug funds ("Cash & Carry") which have assisted in the sustainability of the public health system as well as encouraging efficiency and quality of services. However there are concerns that these can be financial barriers resulting in inequities in access to health services and especially access to medicines. Most districts have implemented the National Health Insurance Scheme, within which a medicines list and new reimbursement scheme is being established, which is intended to bring relief for out-of-pocket payments for medicines.

Purchase of Pharmaceuticals by the Central Medical Store (CMS) is through international competitive bidding and also through local private suppliers. The Regional Medical Stores (RMS) and teaching hospitals are meant to procure drugs through the CMS and from the local private sector. All the regional hospitals and facilities are, in turn, expected to procure from the RMS in their respective regions. While it is MOH policy for facilities to procure through the public system, except in cases of unavailability, it has been observed that there are significant private sector purchases at all levels, in some regions and facilities, purchases from the private sector being in the majority.

Patients pay for medicines in the public sector and these fees tend to increase with each level of distribution which together with the mixed procurement methods and lack of an effective pricing policy results in highly variable prices and higher prices in the most remote areas. There are provisions for exemptions for some vulnerable and needy groups of patients, where the health facility claims a reimbursement from the Ministry of Finance through the Ministry of Health. This reimbursement process has been fraught with a lot of problems and many facilities have stopped providing medicines free of charge to these groups except in the most deprived areas. It is hoped that the National Health Insurance Scheme will improve access for those whom are entitled to exemptions.

Drug registration, import and export control, and the licensing of warehouses and manufacturing premises are functions of the Food and Drugs Board. Licensing of pharmacies and chemical sellers is the responsibility of the Pharmacy Council.

The government provides around 60% care in the public sector, mainly in the urban areas and the mission sector around 40%, mainly in the rural areas. In the private sector, there are approximately 950 pharmacies, 8000 chemical sellers and 200 private health facilities.

MEDICINES, AREAS AND SECTORS SURVEYED

The medicines surveyed included a standardized core group of 30 medicines that were surveyed in all countries and a supplementary group of up to 20 medicines specific to Ghana. The core group was selected based on global burden of disease, availability of standard formulations and importance. Medicines in the supplementary group were selected because of the importance and/or the frequency of their use in treating important common health problems in Ghana. Both medicines on and off patent and on and off the national essential medicines list were represented.

In all, 49 medicines were surveyed in 4 regions in Ghana: Accra, Upper East Region, Ashanti Region and the Western Region.

Areas measured in each sector	Public facilities	Private outlets	NGO facilities
Affordability to patients	√	√	√
Procurement price	√		√
Price to patients	√	√	√
Availability to patients	√	√	√

PRESENTATION OF PRICE INFORMATION

The WHO/HAI survey methodology presents prices as median price ratios (MPR). The MPR is the ratio of the local price divided by an international reference price converted into the same currency. As such, the 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 international reference prices used for this survey were taken from the *2003 Management Sciences for Health (MSH) International Drug Price Indicator Guide* (<http://erc.msh.org>). The MSH guide pulls together information from recent price lists of large, non-profit generic medicine suppliers and thus reflects the prices governments could be expected to pay for medicines. Patient prices can be expected to be higher than the prices paid by governments, but these surcharges should be minimal and relatively consistent across medicines and facilities.

INTERPRETATION OF FINDINGS

Where survey findings point to the high cost or poor availability of a few specific medicines, they are named in this paper. However, these are unlikely to be isolated incidents. As only around 50 medicines were included in this survey, a finding of high prices or low availability of even 3 or 4 medicines – or 6% to 8% of those studied – could indicate a greater problem and requires further investigation.

AFFORDABILITY TO PATIENTS

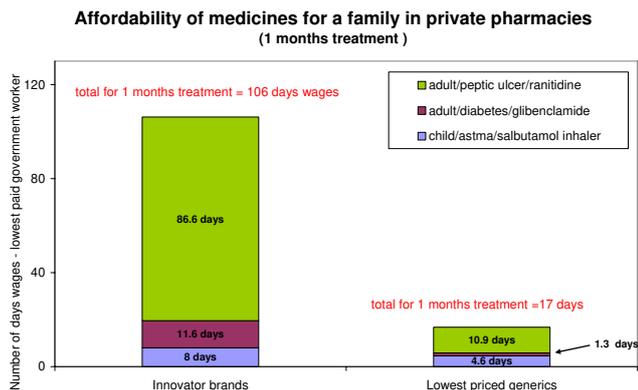
In this paper, affordability is calculated in terms of the number of days the lowest paid unskilled government worker would have to work to pay for one treatment course for an acute condition or one month's treatment for a chronic condition. At the time of the survey, the lowest paid unskilled government worker earned Ghanaian Cedis 9,348 (US\$1.05) per day. According to the World Development Report 2005, 78.5% of the population of Ghana lives on less than US\$ 2 per day and 44.8% on less than US\$ 1 per day. Nearly half of the population lives on less than the salary of the lowest paid government worker and hence the affordability for many Ghanaians will be lower than what is presented for this worker.

Overall, medicines were found to be unaffordable to a large proportion of the population; purchasing treatments for chronic conditions was found to require many more days' work than purchasing treatments for acute conditions.

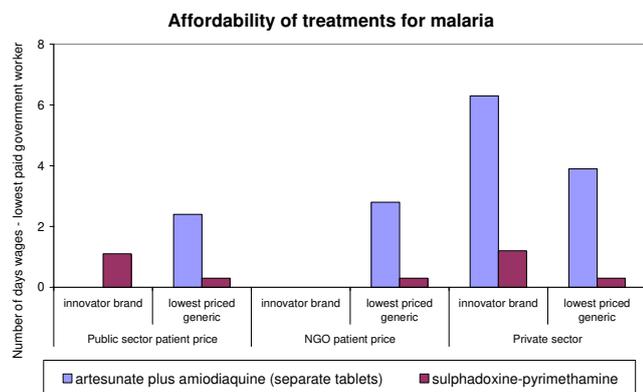
The burden is especially great for a family needing treatment for several conditions at the same time, e.g. using the lowest priced generic medicines, it would take at least 17 days' wages for the lowest paid unskilled government worker to purchase a medicines for a child with asthma, an adult with diabetes and an adult with a peptic

¹ <http://www.haiweb.org/medicineprices/>

ulcer²; treatment with innovator brand medicines would require 106 days salary for a months treatment – clearly unaffordable in both cases. The chart below presents the breakdown for each of the medicines in innovator and generic forms



At the time of the study, chloroquine was the recommended treatment for uncomplicated malaria, which has since changed to artesunate + amodiaquine from January 2006. The chart below demonstrates the affordability of malaria medicines, with the recent implementation of the new malaria drug policy of artesunate+ amodiaquine compared to sulphadoxine-pyrimethamine (presented as chloroquine not surveyed in the study - a course of sulphadoxine being similarly priced to a course of chloroquine).

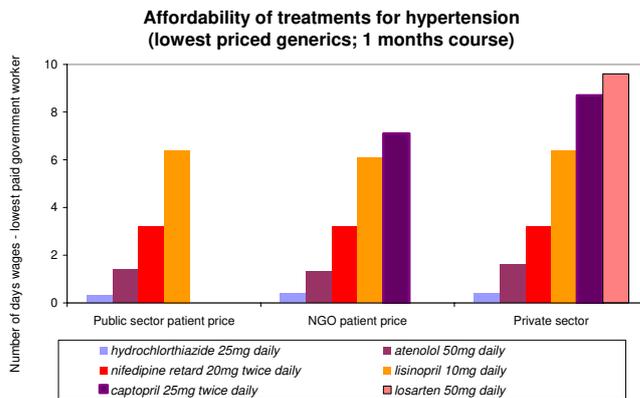


The older antimalarials are similarly priced in all sectors, however this was not found to be the case with the new regimen, where it was cheapest in the public sector. However compared to the previously recommended treatment, a course of artesunate + amodiaquine is 8 times the price or would require a minimum of an additional 2 days work when purchased in the public sector, raising to 13 times or an additional 3.6 days work in the private sector.

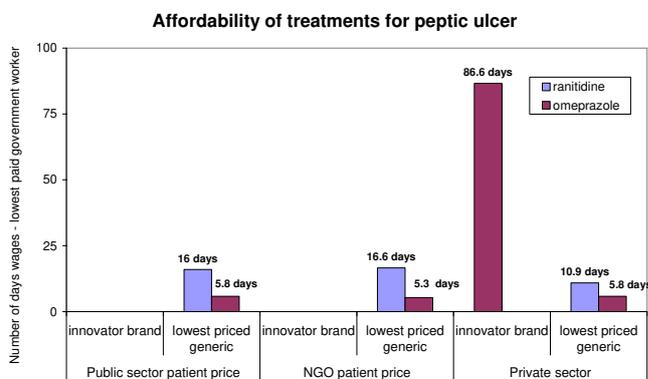
Cost-effectiveness analyses indicate that antimalarial treatment is generally highly cost-effective, even in the most resource-poor countries. In practice, however, the costs of treating malaria patients with the most effective antimalarials may well not be affordable for communities or households. With such policy changes, it is essential that measures are taken to ensure continued access to malaria treatment.

It was found that there are significant differences in affordability between medicines within a therapeutic category. The chart below illustrates these differences for five lowest priced generics used for treatment of hypertension – monotherapy – if more than one drug is used, the numbers shown are additive. Where medicines are available in more than one sector, the patient prices are relatively similar; there being much greater differences between therapeutic choices and/or antihypertensive class.

² Number of days wages for lowest paid government worker to buy 1 months of medicines. This family has the following medicines requirements each month: 1 salbutamol inhaler for a child with asthma; infection; 60 glibenclamide tablets 5mg for an adult with diabetes; 20 ranitidine tablets 150mg for 1 adult with peptic ulcer



Treatment of peptic ulcers was found to be particularly unaffordable, with at least 5 days salary for omeprazole and 10 days salary for ranitidine necessary to purchase a months treatment. Prices for the generics didn't vary widely between sectors, with the prices in the private sector being lowest for generic ranitidine. Despite the innovator brand being 15 times the price of the lowest priced generic equivalent, it was stocked by 1 in 3 retail pharmacies – indicating that it probably has a significant market share.



The price of medicines is a key aspect of their affordability. In this survey, public procurement prices were assessed as were the prices charged to patients at public sector facilities, private retail pharmacies, and non-governmental facilities.

PUBLIC SECTOR PROCUREMENT PRICES

Public sector procurement prices for the lowest priced generic medicines were found to be 0.95 times the international reference prices. In other words, Ghana is procuring medicines at 5% less than the published international market prices of non-profit generic medicine suppliers.

Number of times more expensive: public procurement prices compared to international reference prices		
Price (MPR)	Innovator brand ³	Lowest priced generic ⁴
No. of medicines included in analysis	0	26
Median MPR		0.95
25 th percentile		0.61
75 th percentile		1.99

n= 49 medicines

Five medicines were procured at less than half the international reference price, however, seven were procured for more than twice the international reference price, the seven procured at apparently high prices compared with what is on the international market are listed in the table below.

³ Innovator brands are not generally procured for use in the public sector

⁴ The lowest priced generic equivalent was determined facility-by-facility and was the lowest priced generic equivalent product available for sale at each facility included in the survey. In determining public procurement prices, the lowest priced generic at the national medical store or on the national tender document was used.

Number of times more expensive: public procurement prices compared to international reference prices – lowest priced generics	
albendazole	9.27
ciprofloxacin	2.12
clotrimazole cream	3.92
fluphenazine	5.76
mebendazole	6.00
phenytoin	2.05
sulphadoxine-pyrimethamine	2.04

PUBLIC SECTOR PATIENT PRICES

At public sector facilities, patient prices for the lowest priced generic medicines were found to be 2.43 times international reference prices. Patient prices ranged from 0.88 times (or 12% less than) the international reference price for diazepam to 23.17 times the international reference price for albendazole. This may relate to items being sourced from the private sector instead from the public sector procurement sources.

Number of times more expensive: patient prices for medicines at public health facilities compared to international reference prices		
Price (MPR)	Innovator brand	Lowest priced generic
No. of medicines included ⁵	3	30
Median MPR	14.91	2.43
25 th percentile	11.13	1.35
75 th percentile	40.93	5.11

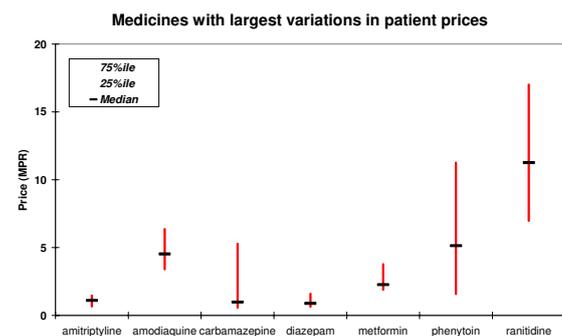
n= 28 facilities; 49 medicines

Three innovator brands were found: ceftriaxone, mebendazole and sulphadoxine-pyrimethamine – generic equivalents of these were also found at very much lower prices, these differences are shown in the table below:

Number of times more expensive: patient prices for innovator brands and lowest priced generics at public health facilities			
Price (MPR)	Innovator brand	Lowest priced generic	Number of times more expensive
ceftriaxone	7.35	2.20	3.3
mebendazole	66.94	5.05	13.3
sulphadoxine-pyrimethamine	14.91	4.36	3.4

n= 28 facilities

There are no national guidelines on how medicines prices are fixed in the public sector and it was found that the prices patients are charged for lowest priced generic medicines varied from facility to facility in the public sector. In some cases, the prices varied by many multiples. Those medicines with the greatest variation in price are shown below.



The following table shows those generic medicines for which patients at public facilities are charged at least five times published international prices for the lowest priced generic and/or innovator brand. A difference of five times or more between the international reference price and the price charged to patients makes these medicines seem particularly expensive than what could be available or achieved.

Number of times more expensive: patient prices for medicines at public facilities compared to international reference prices		
Medicine	Lowest priced generic (MPR)	Innovator brand (MPR)
albendazole	23.17	
atenolol	5.43	
ceftriaxone injection	2.20	7.35
ciprofloxacin	7.05	
clotrimazole skin cream	5.42	
diclofenac6 50mg	8.58	
glibenclamide	5.47	
mebendazole	5.05	66.94
phenytoin	5.13	
ranitidine	11.26	

PRIVATE SECTOR PATIENT PRICES

Out of the 49 medicines surveyed, innovator brand products were found for 29 of them in private retail pharmacies.

At private retail pharmacies, patient prices for the lowest priced generics were found to be 4.12 times the international reference price. The prices charged to patients for the lowest priced generic medicines ranged from 0.99 times the international reference price for artemether to 33.65 times the international reference price for fluconazole 150mg⁷.

For innovator brands, patient prices were found to be 18.47 times the international reference price. The prices charged to patients for the innovator brand medicines ranged from 2.86 times the international reference price for amoxicillin + clavulanic acid to 154.34 times the international reference price for fluconazole 150mg.

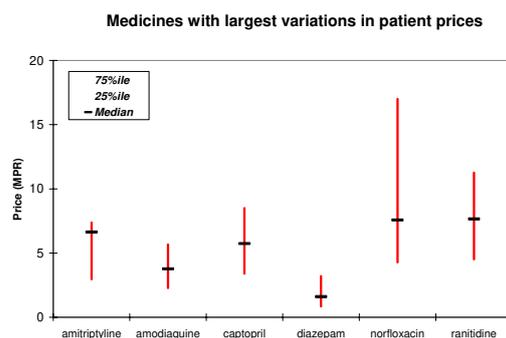
Number of times more expensive: patient prices for medicines at private retail pharmacies compared to international reference prices		
Price (MPR)	Innovator brand	Lowest priced generic
No. of medicines included	18	39
Median MPR	18.47	4.12
25 th percentile	9.22	2.04
75 th percentile	60.67	7.00

n= 28 facilities; 49 medicines

Availability at private retail pharmacies	Innovator brand	Lowest priced generic
Median availability	5.4%	64.3%
25 th percentile	0	32.1%
75 th percentile	32.1%	92.9%

n= 28 facilities; 49 medicines

In the private sector, the prices patients are charged for medicines varied from pharmacy to pharmacy. In some cases, the prices varied by many multiples. The lowest priced generics medicines with the greatest variation in price are shown below.



The following table shows those generic medicines for which patients at private retail pharmacies are charged at least fifteen times published international prices for the lowest priced generic and/or innovator brand. A difference of five times or more between the international reference price and the price charged to patients makes these medicines seem particularly expensive than what could be available or achieved.

⁵ Patient prices were analyzed only in cases where at least 4 data points were available, i.e. price data were collected from at least four facilities.

⁶ 25mg strength also studied

⁷ 200mg strength also studied

Number of times more expensive: patient prices for medicines at private retail pharmacies compared to international reference prices			
Medicine	Lowest priced generic - LPG (MPR)	Innovator brand - IB (MPR)	Number of times more expensive IB: LPG
albendazole	30.1	60.3	2.0
amodiaquine	3.8	32.1	8.4
diclofenac 50mg	8.6	125.3	14.6
fluconazole 150mg	33.6	154.3	4.6
glibenclamide	5.5	49.2	8.9
mebendazole	20.2	78.3	3.9
nifedipine retard	2.6	20.6	7.9
ranitidine	7.7	60.8	7.9
sulfadoxine-pyrimethamine	4.4	16.3	3.7

n= 28 facilities

When comparing the price difference between innovator brand medicines and lowest priced generic medicines matched pairs of medicines where the same medicines were found in both groups, innovator brands were found to be 3.74 times more expensive than the lowest priced generic (n=17 medicines). The table below shows the differential between the price patients at private retail pharmacies are charged for the innovator brand and the lowest priced generic equivalent for the eight medicines with the greatest differences. It can be seen that some of the innovator brands were widely available (i.e. in 1 or 3 pharmacies or more, up to 90%) and hence likely to have a noteworthy market-share, despite having a high brand premium to the price.

Patient prices and availability at private retail pharmacies for innovator brands compared to lowest priced generic equivalents			
Number of times more expensive innovator brand: lowest priced generic		Availability	
		Innovator brand	Generic
amodiaquine	8.5	39.3%	57.1%
diclofenac 50mg	14.6	35.7%	92.9%
fluconazole 150mg	4.6	57.1%	85.7%
glibenclamide	9.0	53.6%	92.9%
mebendazole	3.9	89.3%	53.6%
nifedipine retard	8.0	42.9%	100%
ranitidine	7.9	32.1%	75.0%
sulfadoxine-pyrimethamine	3.7	78.6%	96.4%

n= 28 facilities

NON-GOVERNMENTAL SECTOR PROCUREMENT PRICES

NGO sector procurement prices for the lowest priced generic medicines were found to be 1.31 times international reference prices. In other words, procurement is 31% more than the published international market prices of non-profit generic medicine suppliers.

Number of times more expensive: public procurement prices compared to international reference prices		
Price (MPR)	Innovator brand	Lowest priced generic
No. of medicines included in analysis	0	22
Median MPR		1.31
25 th percentile		0.92
75 th percentile		2.93

n= 49 medicines

Eight of the medicines were procured at less than the international reference price, however, seven were procured for more than twice the international reference price, the seven procured at apparently high prices compared with what is on the international market are listed in the table below.

Number of times more expensive: public procurement prices compared to international reference prices – lowest priced generics	
ciprofloxacin	3.17
clotrimazole cream	3.51
diclofenac 50mg	3.43
fluconazole 150mg	17.95
glibenclamide	2.19
ketoconazole	3.36
nystatin pessary	5.32

NON-GOVERNMENTAL SECTOR PATIENT PRICES

In the non-governmental sector, the price charged to patients for lowest priced generics was found to be 2.75 times the international reference price. Patient prices ranged from 0.77 times the international reference price for artesunate to 31.41 times the international reference price for fluconazole 150mg. No innovator brands were found.

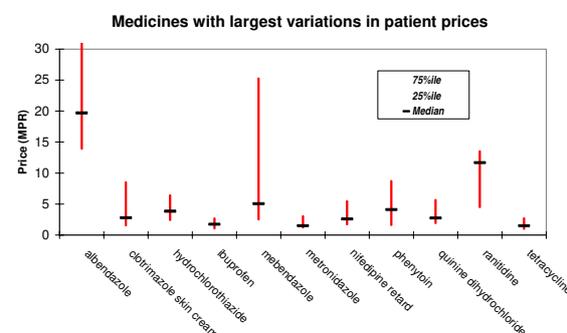
Number of times more expensive: patient prices for medicines at non-governmental facilities compared to international reference prices		
Price (MPR)	Innovator brand	Lowest priced generic
No. of medicines included	0	35
Median MPR		2.75
25 th percentile		1.58
75 th percentile		4.44

n= 28 facilities; 49 medicines

Availability at non-governmental facilities		
	Innovator brand	Lowest priced generic
Median availability	0%	32.1%
25 th percentile	0%	7.1%
75 th percentile	0%	67.9%

n= 28 facilities; 49 medicines

In non-governmental facilities, the prices patients are charged for medicines varied from facility to facility for some medicines. Those lowest priced generics with the greatest variation in price are shown below.



The following table shows those generic medicines for which patients at NGO facilities are charged at least five times published international prices for the lowest priced generic and/or innovator brand. A difference of five times or more between the international reference price and the price charged to patients makes these medicines seem particularly expensive than what could be available or achieved.

Number of times more expensive: patient prices for medicines at NGO facilities compared to international reference prices	
Medicine	Lowest priced generic (MPR)
albendazole	19.70
ciprofloxacin	7.05
diclofenac 50mg	6.87
fluconazole 150mg	31.41
mebendazole	5.05
ranitidine	11.67

INTER-SECTORAL COMPARISONS

The table below compares the prices of lowest priced generics between sectors where the same medicines were found in both sectors.

For lowest priced generics:	Were this many times more expensive:	Than:
Public sector patient prices (n=22 medicines)	2.36	Public procurement prices
NGO patient prices (n=20 medicines)	1.99	NGO procurement prices
NGO procurement prices (n=16 medicines)	1.43	Public sector procurement prices
Private retail patient prices (n=30 medicines)	1.66	Public sector patient prices
Private retail patient prices (n=30 medicines)	1.49	NGO patient prices
NGO patient prices (n=30 medicines)	1.13	Public sector patient prices

While NGO sector procurement prices were 43% more than for public sector procurement prices for lowest priced generics, the NGO sector procurement price of some medicines was as much as 3.7 times the public procurement price.

Number of times more expensive: NGO sector procurement prices compared to public sector procurement prices (lowest priced generic)	
amodiaquine	2.32
amoxicillin	1.95
cotrimoxazole	2.06
diclofenac 50mg	1.99
ketoconazole	1.81
salbutamol inhaler	3.70

While public sector patient prices for lowest priced generics were more than double public procurement prices, the public sector patient price of some medicines was as much as 8.2 times the public procurement price; this may relate to items being sourced from the private sector instead from the public sector procurement sources.

Number of times more expensive: patient prices at public sector facilities compared to public sector procurement prices (lowest priced generic)	
amodiaquine	8.2
ceftriaxone injection	3.7
ciprofloxacin	3.3
co-trimoxazole suspension	3.5
diclofenac 50mg	5.0
glibenclamide	3.3
metformin	3.0
metronidazole	3.3

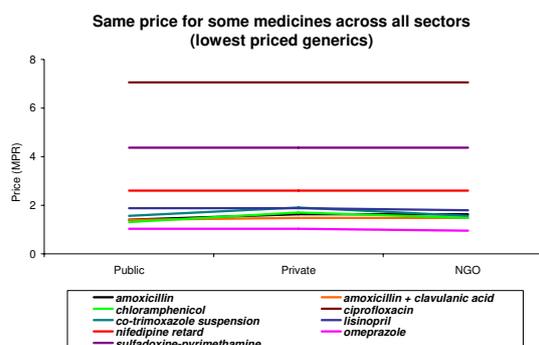
Though patient prices in the private sector were generally 66% more than those in the public sector, some medicines were up to six times more expensive; however 11 medicines were the same or lower in the private sector. The similarity of medicine prices between the sectors is presented later.

Number of times more expensive: patient prices in private retail pharmacies compared to public sector facilities (lowest priced generic)	
amitriptyline	6.0
carbamazepine	4.0
mebendazole	4.0

Though patient prices in the private sector were generally 49% more than those in the NGO sector, some medicines were up to six times more expensive; however 9 medicines were the same or lower in the private sector. The similarity of medicine prices between the sectors is presented later.

Number of times more expensive: patient prices in private pharmacies compared to NGO facilities (lowest priced generic)	
amitriptyline	2.4
carbamazepine	3.5
clotrimazole cream	3.9
mebendazole	4.0

The patient prices of some medicines in the public sector were exactly the same or almost the same in all sectors; the chart below illustrates this for 9 medicines. Interestingly a number of these medicines had a marked higher than average difference between patient prices and procurement prices in the public sector and a lower than average difference between patient prices and procurement prices in the NGO sector.



Patients need medicines to not only be affordable, but also available. Some medicines were not widely available in either public or private sectors others were more widely available in the private sector. In some cases, this increased availability was accompanied by no or a small differences in patient prices and in other cases the prices charged to patients in the private sector were much higher – up to 6 times the price for amitriptyline. The following table presents availability in the public and private sectors, and the percentage difference in patient prices at public facilities versus private retail pharmacies for lowest priced generics.

Lowest priced generic	% Availability		Number of times more expensive: patient prices at private retail pharmacies compared to public facilities
	Public sector facilities (n=28)	Private retail pharmacies (n=28)	
amitriptyline	14.3%	71.4%	6.0
amoxicillin + clavulanic acid	17.9%	82.1%	1.1
atenolol	28.6%	92.9%	1.1
carbamazepine	14.3%	46.4%	4.0
clotrimazole cream	14.3%	78.6%	2.0
glibenclamide	39.3%	92.9%	1.0
hydrochlorothiazide	17.9%	64.3%	1.4
mebendazole	21.4%	53.6%	4.0
metformin	32.1%	92.9%	1.9
phenytoin	14.3%	50.0%	1.8

Some medicines, in all sectors seem to be at higher prices than others when compared to the international reference price e.g. albendazole, ciprofloxacin, diclofenac 50mg, fluconazole 150mg, mebendazole, ranitidine and sulphadoxine-pyrimethamine.

PRICE COMPONENTS

Examining the components that make up the price of medicines is an important step in determining how to reduce their cost. The final price paid for a medicine whether by the government or a patient reflects the manufacturers selling price plus all the intervening price additions. These additions include the cost of importing, distributing and dispensing the medicine.

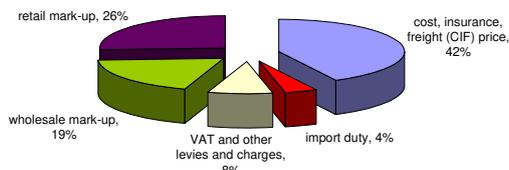
In the private sector, the cost, insurance, freight price represents around 42% of the final patient price, with import duties, taxes and levies being 12% and the wholesaler and retailer mark-ups account for 19% and 26% of the final patient price respectively.

In the public sector, there are guidelines on pricing, which should result in the following price composition: cost, insurance, freight price representing around 59% of the final patient price, with import duties,

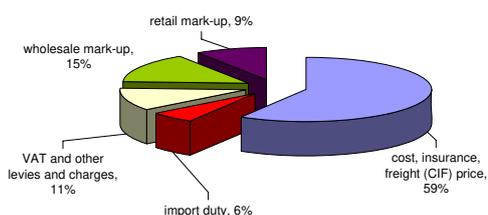
taxes and levies being 17% and the wholesaler and retailer mark-ups accounting for 15% and 9% of the final patient price respectively.

The following two charts present these two situations graphically.

Typical proportions of add-ons of final patient price for an generic product in the private retail pharmacy sector



Typical proportions of add-ons of final patient price for an generic product in the public sector



RECOMMENDATIONS FROM COUNTRY REPORT AND STAKEHOLDER MEETING

A summary of the recommendations is provided below, for a fuller explanation see the full survey report:

- Develop a national medicines prices policy and a process to monitor the implementation; consider aspects of prescribing maximum mark-ups
- Remove taxes and tariffs on all essential medicines; and for raw materials and equipment for local production of medicines
- Develop a medicines prices index to monitor prices on an ongoing basis
- Promote generic prescribing and dispensing to health professionals and the public
- Take action against anti-competitive practices in the pharmaceutical sector
- Encourage local manufacturing
- Promote bulk procurement of medicines for both the public and private sectors
- Improve procurement prices achieved by the public and NGO sectors for those medicines where apparently high prices are paid; investigate the extent of this situation for all essential medicines procured
- Encourage pharmacies and chemical sellers to open throughout the country to maximize geographical access

ANALYSIS

Below is a further analysis of the findings presented in this paper.

AFFORDABILITY AND ACCESS TO MEDICINES

“Out-of-pocket” purchase of most medicines is not affordable to the majority of the population; exemption schemes need to be functional to maximize equitable access.

Consideration of price in the choice of medicines could determine whether a patient can obtain a medicine for treatment, or not.

As newer malaria treatments are much less affordable, changes in malaria policy must be accompanied with measures to ensure constant affordable access to the entire population through the public and private sectors.

Some medicines, in all sectors seem to be at higher prices than others when compared to the international reference price.

There was marked price variation for some medicines within the public, private and NGO sectors - some patients are paying much more than they would be in other facilities or pharmacies.

Some key medicines which were not widely available at all in the public sector were up to more than six times more expensive in the

private sector than they would have been in the public sector if available.

It appears that prices in all sectors for some medicines are perhaps set to the market rate of what it is perceived the patient is willing or able to pay rather than a mark-up of costs from the acquisition price.

Chemical sellers were not included in the study, which together with the public and NGO facilities are important suppliers of medicines to patients in the rural areas; an evaluation of their actual and potential role in the supply of medicines, including pricing of medicines could be very informative.

PUBLIC SECTOR

Patient prices were more than double the public sector procurement price, although some medicines, including key essential medicines had much greater multiples of price, indicating either varying sources or application of a non-uniform mark-up.

In some communities, for some medicines, patients are charged considerably in excess to the prices that should be charged; good procurement prices are not being passed onto the community.

Innovator brands with very high brand premiums are being purchased and sold at a high premium in the public health facilities.

As the public sector mark-ups are widely much higher than is the policy and prices for some medicines are higher than the public sector procurement price, the public sector procurement “buy public first” before buying from the private sector policy is not being widely followed.

The patient prices of some medicines in the public sector were the same or almost the same in private and NGO sectors, for some medicines this was despite the procurement prices often being low.

Medicine prices varied greatly from facility to facility.

The public sector procurement system is paying more than might be necessary for a small, but significant proportion of medicines.

PRIVATE SECTOR

Some branded medicines were widely available and hence were likely to have noteworthy market share despite having a high brand premium.

NGO SECTOR

Prices in NGO facilities were markedly greater than in the public sector; prices being similar to that of the private retail pharmacies; availability in the NGO sector was generally greater than in the public sector.

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The Advisory Committee: Mdm S Abdul-Salaam, A/Chief Director, MoH; Prof D Ofori-Adjei, Director, Noguchi Memorial Institute of Medical Research; Dr F Nyonator, Director, Policy, Planning, Monitoring & Evaluation Unit, Ghana Health Service (GHS); Mr S Boateng, Director, Procurement & Supplies Unit, MoH; Mr F D Yellu, Chief Pharmacist, GHS; Mr K Larbi, Ministry of Trade & Presidential Special Initiative; The Chief Director, Ministry of Finance & Economic Planning; Ms S Baldwin, Health Advisor, Department for International Development; Ms M Gyansa-Lutterodt, Deputy Programme Manager, Ghana National Drugs Programme, MoH; Dr E. Addai, Policy, Planning, Monitoring & Evaluation Unit, MoH; Ms E Andrews, WHO; Mrs Y Nkrumah, Ghana Food & Drugs Board; Mr J Tamakloe, Registrar, General Department, Accra; Dr G Buckle, Director Catholic Health Service. Survey Management Team: Mr C Allotey, Mr A Yamyolia, Ms E Andrews, Mrs M Gyansa-Lutterodt. Data Entry and Processing: Mrs P Eshun; Ms L Afoko. External Technical Assistance from WHO and HAI: Dr G Forte; Mr A Desta; Mr M Auton; Ms M Ewen; Ms C Cepuch; Ms M Woldetensaie.

The regional teams: Mr D Dobbin; Mr D Otchere; Ms N Frempong; Ms A Aseidu Offei; Mr A Karbo; Mrs D Awuni; Dr W Gudu; Mr R Abdulai; Mr S T Asamoah; Dr R Sagoe; Mr S Essuman; Mr H Hammond; Dr T Thompson; Ms L Afoko; Rev Sr V Amponsah; Mr I Annan.

FURTHER INFORMATION

For further information, contact: Dr Jean Marie Trapsida, Coordinator EDM, WHO Regional Office for Africa, Brazzaville, Republic of Congo, trapsidaj@afro.who.int; Dr. Gilles Forte, Coordinator, Department of Technical Cooperation on Essential Drugs and Traditional Medicine, WHO Geneva, forteg@who.int; Mr Patrick Mubangizi, Regional Coordinator, Health Action International (HAI) Africa, PO Box 66054-00800 Nairobi, Kenya, pmubangizi@haiafrica.org