

MEDICINE PRICES IN ETHIOPIA

MEASURING MEDICINE PRICES

One third of the global population lacks reliable access to needed medicines and in developing countries, many medicines are paid out-of-pocket by individual patients rather than being subsidized through social health insurance. High prices are a major barrier to the use of medicines and better health.

From 15 September to 15 October 2004, the Pharmaceuticals Administration and Supplies Service (PASS) of the Federal Ministry of Health with support from the World Health Organization (WHO) conducted a national survey of medicine prices in the public sector, private sector and special pharmacies/ Ethiopian Red Cross Society (ERCS) retail outlets.

Using the WHO and Health Action International (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 of medicines (taxes, mark-ups etc.). 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 - ETHIOPIA

Ethiopia is located in Eastern part of Africa, which is commonly known as the horn of Africa. It had a population of approximately 71.1 million in 2004. Ethiopia is classified as a low income country by the World Bank with an estimated GDP per capita of about US\$ 153 in 2005². Total expenditure on health was 5.9% of the GDP in 2003.³ In 2002 the total government drug budget was about US\$12.1 million, which was approximately 19% of the recurrent government health budget and represented a per capita drug budget of US\$0.18.

The quality of medicines on the market in Ethiopia and licensing of retail, wholesale and manufacturing premises is the responsibility of the Drug Administration and Control Authority (DACA). The pharmaceutical Administration and Supply Service (PASS) of the Ministry of Health and the Pharmaceutical and Medical Supply Import and Wholesale Share Company known as PHARMID are responsible for import and distribution of medicines in the public sector. Public sector procurement is done through international and local open tenders, restricted tender, direct purchasing or negotiation and it is limited to the List of Drugs for Ethiopia (LIDE); there is a local preference of up to 15%.

In 2004 there were 37 wholesalers, 54 importers and 13 local manufacturers. The drug retail activity is carried out by the public sector, private sector, city councils and the Ethiopian Red Cross Society (ERCS). In 2004 there were 275 pharmacies (run by pharmacy degree graduates), 375 drug shops (run by pharmacy diploma graduates) and 1783 rural drug vendors (run by nurses or health assistants or pharmacy technicians). Moreover, each health care facility has its own medicines retail outlet.

There is no ceiling set by law on the wholesale and retail mark-ups in the country. However, generally PHARMID charges 20-40% wholesale mark-up on imported medicines and 5-10% on locally manufactured products. PASS distributes medicines to regional health bureaus at cost price.

Pharmacies owned by the ERCS and public health medicine outlets (including special pharmacies) charge a retail mark-up of 25% while pharmacies owned by municipalities charge 20% retail mark-up.

There is a policy of generic prescribing and substitution, but there are no incentives for its implementation. There is no price regulation in the country.

MEDICINES, STUDY AREAS AND SECTORS SURVEYED

The medicine prices survey in Ethiopia collected price and availability information for 47 medicines; however the national report and this summary paper presents the findings of 26 of those medicines which are included on the List of Drugs for Ethiopia. The 26 medicines includes 9 medicines selected from a standardized core group of 30 used in most countries conducting the survey and a supplementary group of 17 medicines specific to Ethiopia. The core group was selected based on global burden of disease, availability of standard formulations and importance. The supplementary group was selected because of the importance and/or the frequency of their use in treating important common health problems in Ethiopia.

In all, the medicines were surveyed in 4 regions in Ethiopia: Tigray, Amhara, Oromia and Southern Nations, Nationalities and Peoples Region (SNNPR).

The sectors chosen were the public, private and special pharmacies/Ethiopian Red Cross Society (ERCS) pharmacies sector:

Areas measured in each sector	Public sector	Private sector	Special and ERCS pharmacy sector
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 reflect 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 26 medicines were included in this survey, a finding of high prices or low availability of even 3 or 4 medicines – or 12% to 15% of those studied – could indicate a greater problem and requires further investigation.

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

² International Monetary Fund, World economic outlook database, April 2006

³ The world health report 2006 - working together for health. Geneva, World Health Organization, 2006. (<http://www.who.int/whr/2006/en/index.html>)

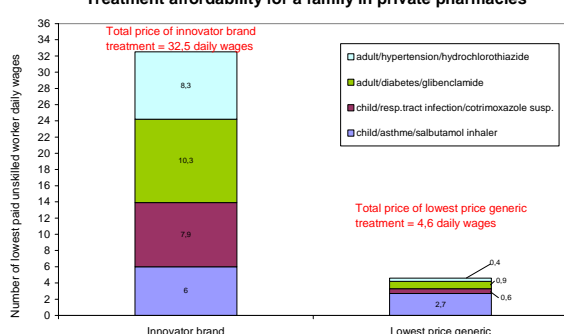
AFFORDABILITY

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 ETB⁴ 6.7 (US\$ 0.80) per day. According to a Ministry of Finance and Economic Development report, 44.2% of Ethiopians earn less than US\$1 per day⁵.

Overall, purchasing treatments for chronic conditions was found to require many more days' work than purchasing treatments for acute conditions.

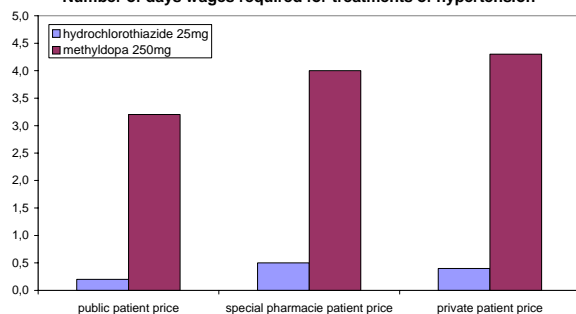
The burden is especially great for a family needing treatment for several conditions at the same time, e.g. using the lowest priced generic medicines, it would take just under 5 days' wages for the lowest paid unskilled government worker to purchase in the private sector a salbutamol inhaler for a child with asthma, a course of cotrimoxazole suspension for a child with a respiratory tract infection, glibenclamide tablets for an adult with diabetes and hydrochlorothiazide tablets for an adult with hypertension. If the innovator brands are bought, the month's salary would not be sufficient as 32.5 days wages would be needed.

Treatment affordability for a family in private pharmacies



The survey also found significant differences in affordability between medicines within a therapeutic category. The graph below illustrates these differences for two lowest priced generics used to treat hypertension. While there may be clinical advantages of one treatment option over the other, for patients paying out-of-pocket and in particular when a medicine is not available in the public sector, patients may be unable to afford the preferred treatment.

Number of days wages required for treatments of hypertension



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 special pharmacies/ERCS retail outlets.

PUBLIC SECTOR PROCUREMENT PRICES

Public sector procurement prices for the lowest priced generic medicines were found to be 0.61 times international reference prices. In other words, Ethiopia is procuring medicines at 39% 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 ⁶	Lowest priced generic ⁷
No. of medicines included in analysis	0	26
Median MPR		0.61
25 th percentile		0.55
75 th percentile		0.87

n= 2 procurement agencies, 26 medicines

However, among the most sold generics, three medicines were procured for more than twice the international reference price. As such, Ethiopia is paying 2.59, 2.48 and 42.19! times published international market prices for penicillin G inj., metronidazole and hydrochlorothiazide respectively.

PUBLIC SECTOR PRICES

At public sector facilities, patient prices for the lowest priced generic medicines were found to be 1.35 times international reference prices. Patient prices ranged from 0.61 times (or 39% less than) the international reference price for tetracycline eye ointment to 2.57 times the international reference price for metronidazole.

Number of times more expensive: patient prices for medicines at public health facilities compared to international reference prices	
Price (MPR)	Lowest priced generic
No. of medicines included ⁸	26
Median MPR	1.35
25 th percentile	1.14
75 th percentile	1.96

n=34 facilities; 26 medicines

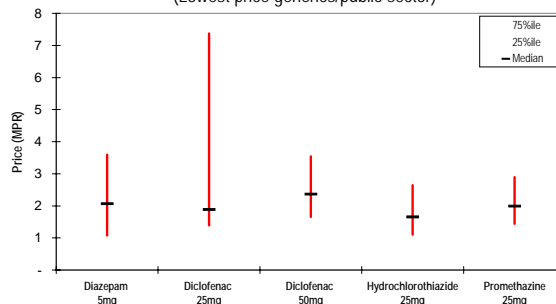
Availability at public sector facilities	Lowest priced generic
Median availability	76.5%
25 th percentile	59.6%
75 th percentile	91.2%

n= 28 facilities; 26 medicines

Innovator brands are not procured for use in the public sector and none of the innovator brands surveyed was found in public sector facilities.

There is no ceiling set by law on the wholesale and retail mark-ups in the public sector and it was found that the prices patients are charged for some lowest priced generic medicines varied from facility to facility in the public sector. Those medicines with the greatest variation in price are shown below.

Medicines with largest variations in patient prices (Lowest price generics/public sector)



⁶ Innovator brands are not generally procured for use in the public sector

⁷ 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.

⁸ 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.

⁴ Ethiopian Birr

⁵ Millennium Development Goals Report: Challenges and Prospects for Ethiopia, The Ministry of Finance and Economic Development of the Federal Republic of Ethiopia and the United Nations, March 2004

PRIVATE SECTOR PRICES

Out of the 26 medicines surveyed, only 8 innovator brand products were found in private retail pharmacies. Three of them had prices more than 20 times the international reference price: cotrimoxazole susp. (MPR=24.2), glibenclamide (MPR=32.5) and cotrimoxazole tab. (MPR=49.5).

At private retail pharmacies, patient prices for the lowest priced generics were found to be 2.25 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 niclosamide to 7.44 times the international reference price for diazepam.

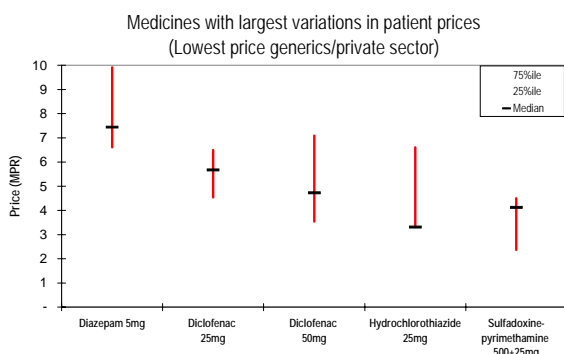
Number of times more expensive: patient prices for medicines at private retail pharmacies compared to international reference prices		
Price (MPR)	Innovator brand	Lowest priced generic
No. of medicines included	8	26
Median MPR	11.55	2.25
25 th percentile	8.36	1.64
75 th percentile	26.26	3.20

n= 25 facilities; 26 medicines

Availability at private retail pharmacies		
	Innovator brand	Lowest priced generic
Median availability	0%	96.0%
25 th percentile	0%	85.0%
75 th percentile	27.0%	100.0%

n= 25 facilities; 26 medicines

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



The following table shows those medicines for which patients at private retail pharmacies 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 private retail pharmacies compared to international reference prices		
Medicine	Lowest priced generic (MPR)	Innovator brand (MPR)
Amoxicillin 500	1.55	7.21
Amoxicillin 250	2.02	8.74
Clotrimazole topical cream	2.05	9.59
Sulfadoxine-pyrimethamine	4.13	13.51
Cotrimoxazole suspension	1.93	24.20
Glibenclamide	2.82	32.45
Cotrimoxazole cap.	2.35	49.44
Diclofenac 25 ⁹	5.67	-
Diazepam	7.44	-

⁹ Two different strengths of diclofenac were studied

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 three medicines.

Number of times more expensive: patient prices at private retail pharmacies for innovator brands compared to lowest priced generic equivalents	
Glibenclamide	12
Co-trimoxazole suspension	13
Cotrimoxazole cap.	21

SPECIAL PHARMACIES AND ETHIOPIAN RED CROSS SOCIETY RETAIL OUTLETS PRICES

In the special pharmacies / ERCS retail outlets, the price charged to patients for lowest priced generics was found to be 1.70 times the international reference price. Patient prices ranged from 0.78 times the international reference price for tetracycline eye ointment to 4.63 times the international reference price for diazepam.

No innovator brands were found in special pharmacies / ERCS retail outlets.

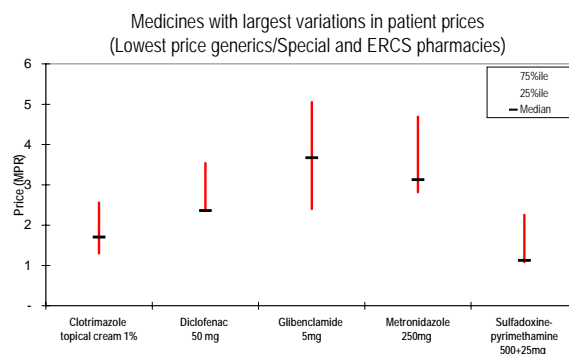
Number of times more expensive: patient prices for medicines at special pharmacies / ERCS retail outlets compared to international reference prices	
Price (MPR)	Lowest priced generic
No. of medicines included	25
Median MPR	1.70
25 th percentile	1.42
75 th percentile	2.55

n= 28 facilities; 26 medicines

Availability at special pharmacies / ERCS retail outlets	
	Lowest priced generic
Median availability	78.6%
25 th percentile	57.1%
75 th percentile	84.8%

n= 28 facilities; 26 medicines

In special pharmacies / ERCS retail outlets, 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.



INTER-SECTORAL COMPARISONS

Public sector patient prices were more than twice public sector procurement prices.

Private sector patient prices were 1.7 times public sector patient prices.

The prices patients were charged for medicines in the special pharmacies / ERCS retail outlets were 1.3 times what they were charged in the public sector. Prices in special pharmacies/ERCS retail outlets were in between that of the two other sectors.

Availability in the special pharmacies / ERCS retail outlets was similar to the public sector.

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

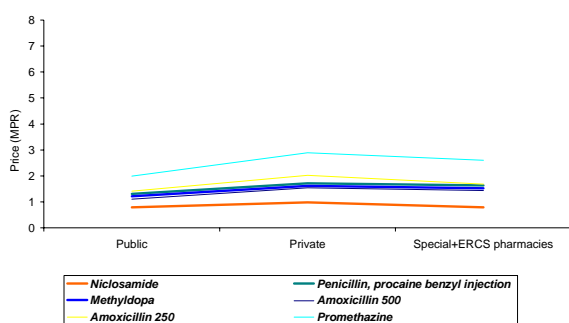
For lowest priced generics:	Were this many times more expensive:	Than:
Public sector patient prices (n=26 medicines)	2.22	Public procurement prices
Private retail patient prices (n=26 medicines)	1.67	Public sector patient prices
Special pharmacies / ERCS retail outlets patient prices (n= 25 medicines)	0.73	Private retail patient prices
Special pharmacies / ERCS retail outlets patient prices (n= 25 medicines)	1.26	Public sector patient prices

While public sector patient prices for lowest priced generics were about double public procurement prices, the public sector patient price of some medicines was more than 3 times the public procurement price. This is shown in the table below.

Number of times more expensive: patient prices at public sector facilities compared to public sector procurement prices (lowest priced generic)	
Diazepam	4.46
Aciclovir	4.21
Promethazine	3.66
Penicillin G sodium cryst. inj.	3.62
Diclofenac 25	3.37
Diclofenac 50	3.22

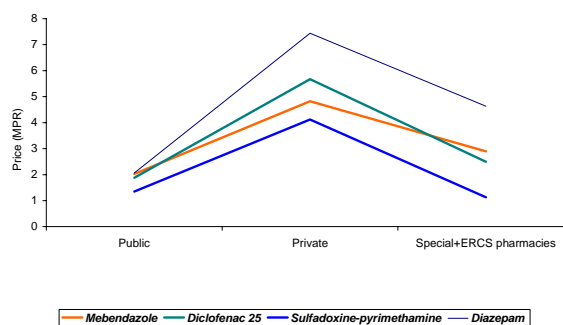
Some medicines were similarly priced in the three sectors.

Similar generic medicines prices in the three sectors



While others had significant price differences among sectors.

Different generic medicines prices in the three sectors



Overall, patients were charged much the same prices for medicines purchased at special pharmacies / ERCS retail outlets as at public sector pharmacies. However, some medicines were more expensive when purchased at special pharmacies / ERCS retail outlets.

Number of times more expensive: patient prices in special pharmacies / ERCS retail outlets compared to private retail pharmacies (lowest priced generic)	
Salbutamol inhaler	1.51
Benzyl benzoate lotion	1.83
Clotrimazole topical cream	1.84
Hydrochlorothiazide	2.20
Diazepam	2.24

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 small differences in patient prices and in other cases the prices charged to patients in the private sector were much higher. The following table presents availability in the public and private sectors, and the 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=34)	Private retail pharmacies (n=25)	
Aciclovir	14.7%	88.0%	1.24
Diclofenac 25	17.6%	88.0%	3.02
Diclofenac 50	50.0%	100.0%	2.00
Benzyl benzoate lotion	52.9%	88.0%	1.91
Quinine dihydrochloride injection	52.9%	64.0%	1.54

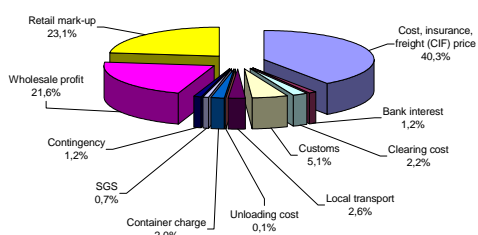
Some medicines, in all sectors seem to be at higher prices than others and than they could be when compared to the international reference price e.g. diclofenac 25, promethazine, mebendazole, penicillin G sodium crystalline injection. diazepam, diclofenac 50mg, glibenclamide, metronidazole.

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.

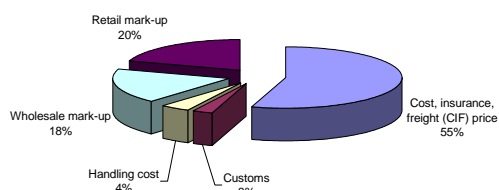
In the private sector, for an imported generic medicine in Ethiopia, the manufacturer's selling price represents around 40% of the final patient price and the wholesaler and retailer mark-ups account for 22% and 23% of the patient price respectively.

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



For an imported generic medicine, the cost price in the public sector represents 55% of the final price with wholesale and retail mark-ups accounting for 18% and 20% respectively. Handling costs account for 4% and customs duty represent 3% of the final price charged to patients.

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



RECOMMENDATIONS FROM COUNTRY REPORT

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

AVAILABILITY AND PRICE

- Investigate the cause of low availability of medicines in the public health facilities and SP/ERCS medicine retail outlets.
- Uphold/maintain the generic policy implementation in the procurement of medicines.

AFFORDABILITY

In order to increase affordability, consider different strategies such as:

- Development of a pricing policy which could contain aspects of price control and incentives to reduce prices;
- Different financing options such as community revolving drug schemes and health insurance schemes;
- Introduction /revision of exemptions or differential fee system to ensure access by the poorest;
- Conducting regular education programs on the essential drugs concept and rational drug use to health personnel and the public in order not to lose the gains from the effective generic policy implementation;
- Undertaking in-depth study on the public health facilities pricing system to find out the reasons for variations in price levels of medicines.

ANALYSIS

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

AFFORDABILITY AND ACCESS TO MEDICINES

"Out-of-pocket" purchase of most medicines is not affordable to the majority of the population.

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

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

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

Even though the generic medicines policy is well implemented in the public sector and special pharmacies/ERCS retail outlets, medicines availabilities was lower than that in the private sector.

The low availability of medicines in the public health facilities and special pharmacies/ ERCS medicine retail outlets indicates that patients will be forced to purchase medicines at higher prices in the private pharmacies or buy medicines from the informal sector.

PUBLIC SECTOR

Public procurement prices for generic products in Ethiopia were lower than the international reference prices.

Patient prices were more than double the public sector procurement price, and some medicines, including key essential medicines had much greater multiples of price.

The patient prices of some medicines in the public sector were almost the same in the private sector and special pharmacies/ERCS retail outlets, for some medicines this was despite the public sector procurement price being low.

Some medicine prices varied greatly from facility to facility.

PRIVATE SECTOR

Innovator brands were not widely available probably due to their high and inaccessible for the majority of the population prices. Three of them had a particularly high brand premium.

Availability of generic equivalents was good even though their prices were higher than in the other two sectors.

SPECIAL PHARMACIES/ERCS RETAIL OUTLETS

Prices in SP/ERCS retail outlets were slightly higher than in the public sector; and lower than that of the private retail pharmacies; availability in this sector was somewhat greater than in the public sector.

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