

Medicine prices matter

Rapidly rising costs of health care and high medicine prices are a growing concern worldwide, especially in developing and transitional countries where patients often have to pay the full price of medicines. This brief report about the prices and availability of essential medicines in Kuwait is one of a series of papers summarizing the results of medicine price and availability surveys carried out around the globe using a standard survey methodology developed by the World Health Organization and Health Action International¹.

This survey was conducted in 2004 by researchers within the Department of Pharmacy Practice, Faculty of Pharmacy, Kuwait University with the cooperation of the Pharmaceutical Services Administration, Ministry of Health. They studied the price, availability and affordability of 35 medicines.

The survey found that in Kuwait:

- Public procurement of medicines is efficient.
- Prices of medicines are high in private pharmacies, in spite of price regulations.
- There is little difference between the prices of originator brands and their generic equivalents.
- Medicines are free in the public sector but many would be unaffordable to low wage earning non-Kuwaiti workers if purchased from private retail pharmacies.
- The availability of generics in private retail pharmacies is very low.

Generally, across the WHO Eastern Mediterranean Region, a similar picture emerges: reasonably efficient public sector procurement, people having to pay for medicines in the private sector at frequently unaffordable prices; and the need for stronger government action to introduce or improve national medicines policies and effective pricing policies².

Kuwait

Kuwait is a member country of the Gulf Cooperation Council. It has a population of 2.7 million (2004). About 30% of the population comprises Kuwaiti citizens and the rest are mostly expatriate workers and their families. Kuwait is a high-income

country with per capita GDP of US\$ 16 535 (2003). Kuwait spent 3.5% of its GDP on health in 2003 with total health expenditure per capita reaching US \$ 579.

Health care is mainly delivered in the public health sector and provided free to citizens including all medicines (expatriates pay an annual health insurance fee and a consultation fee for each visit to government primary care health facilities).

The Central Medical Stores supplies all government facilities with medicines. Over 220 private retail pharmacies operate in Kuwait supplied with medicines by a number of private wholesaler pharmaceutical companies. Both wholesale and retail pharmacy prices are regulated by the government.

Kuwait has extremely limited pharmaceutical manufacturing capacity hence most medicines are imported. Total annual pharmaceutical expenditure was about US\$ 200 million in 2001.

Medicine price and availability survey

The survey was designed to answer the following questions:

- How efficient is the public sector medicine procurement system in terms of obtaining medicines at low cost for the country?
- What is the relative availability of originator brand products and generic equivalents in public and private sectors?
- How do the prices of brand and generic products compare in the private sector to each other and to the same products in other countries?
- What pricing mechanisms and tariffs exist for medicines in Kuwait?

A total of 35 medicines were surveyed; 21 medicines from the WHO/HAI core list with pre-set dosage forms, strengths and recommended pack sizes³, and a supplementary group of 14 medicines important to prevalent health problems in Kuwait. Of the 35 medicines, 29 had MSH reference prices.

Prices and availability were recorded for the originator brand product (OB) and the most sold generic equivalent product, which were determined at the national level, and the lowest cost generic equivalent (LPG) product which was determined at each facility.

Data was collected from a total of 25 public sector health facilities and 25 private pharmacies in five main regions of Kuwait: Al-'Aasimah [Capital], Al-Jahra, Hawally, Al-Farwaniyah, Al-Ahmadi (Table 1).

¹ WHO/HAI. *Medicine prices: a new approach to measurement*. Geneva, World Health Organization, 2003. Available from <http://www.haiweb.org> medicprices

² WHO/HAI. *Medicine prices, availability, affordability and price components: a synthesis report of medicine price surveys undertaken in selected countries of the WHO Eastern Mediterranean Region*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2009.

³ Reflecting the global burden of disease, WHO/HAI. *Medicine prices, a new approach to measurement*, 2003

Table 1. Measurements in each sector

Measurement	Public sector	Private sector
Price to patient	–	✓
Availability	✓	✓
Affordability	–	✓
Procurement price	✓	–
Number of facilities visited	5 hospitals 20 polyclinics	25 retail pharmacies

Public sector procurement prices were obtained from the Central Medical Stores of the Ministry of Health.

Presentation of price information

The WHO/HAI survey methodology presents prices in local currency and as median price ratios (MPR). The MPR is calculated by dividing the local price by an international reference price (converted to local currency). 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 2002 Management Sciences for Health (MSH) *International Drug Price Indicator Guide*⁴ (median prices of high quality multi-source medicines offered to developing and middle-income countries by different suppliers). Use of reference prices facilitates international comparisons.

Interpretation of findings

Country specific factors such as pricing policies, market size, competition, national economic and other factors may influence prices. For the purposes of these surveys, in a low- or middle-income country an MPR of less than or equal to 1 for public sector procurement prices is considered to indicate acceptable (not excessive) prices.

Affordability

Affordability is calculated as the number of days the lowest paid unskilled government worker would have to work to pay for one month's treatment for medicines for chronic conditions, and a treatment course for acute conditions.

At the time of the survey, the lowest paid unskilled Kuwaiti government worker earned 7.77 Kuwaiti dinars (KWD) (US\$26) per day while the wage for an expatriate worker was KWD 1.33 (US\$4.45) per day. Since patients do not pay for medicines in the public sector, affordability was calculated using retail pharmacy prices only. Having to spend more than 1 day's income per month on family medicine needs could be considered to be unaffordable.

Overall, a Kuwaiti worker would generally need less than two days' wages to purchase the standard treatments except one month's

supply of ranitidine (3.1 days' wages), fluoxetine (2.9 days' wages) or omeprazole (3.8 days' wages) when using originator brands. However, a Kuwaiti worker can obtain these medicines free by visiting government health facilities.

As shown in Table 2, unskilled non-Kuwaiti workers would need one or more days' wages to purchase treatments in private retail pharmacies. They are unlikely to be able to pay for monthly treatment with carvedilol (7.9 days' wage), lisinopril (7 days' wage) or nifedipine retard (8.3 days' wage), and clearly unaffordable treatments included a month's supply of omeprazole (22 days' wage), fluoxetine (17.1 days' wage) and simvastatin (10.8 days' wage).

Unaffordable medicine prices may mean no access to treatment for non-Kuwaiti workers, particularly when certain medicines (those on the "Kuwaiti-only" or Circular List such as omeprazole and simvastatin) are not available to them as outpatients in the public sector.

Table 2. Affordability: number of days' wages for non-Kuwaitis to purchase treatments from the private sector

Medicine	Originator brand	Lowest priced generic
Diabetes		
Metformin	1.8	1.6
Glibenclamide	3.6	3.3
Gliclazide	2.1	–
Hypertension		
Atenolol	2.7	2.6
Captopril	5.3	5.6
Carvedilol	7.9	–
Indapamide	2.8	–
Lisinopril	7.0	–
Nifedipine retard	8.3	–
Hyperlipidaemia		
Gemfibrozil	7.5	–
Simvastatin	10.8	–
Arthritis		
Diclofenac	5.2	3.5
Peptic ulcer		
Omeprazole	22.0	19.3
Ranitidine	17.8	13.3
Asthma		
Beclometasone inhaler	2.7	–
Salbutamol inhaler	3.0	–
Depression		
Amitriptyline	2.0	–
Fluoxetine	34.3	–
Respiratory tract infection		
Adult: Amoxicillin	2.4	–
Ciprofloxacin	12.2	11.1
Child: Co-trimoxazole susp.	–	1.0

Tab/cap unless otherwise stated

⁴ <http://erc.msh.org>

Should low paid non-Kuwaiti workers need treatment for hypertension, arthritis and a peptic ulcer, then they would have to use 19.4 to 35.5 days of salary every month to purchase needed medicines – depending upon the choice of medicine, and whether brand or generic was dispensed⁵.

Public sector procurement prices

The overall procurement price for the originator brands was 2.69 times the international reference price (i.e. 169% more) and for lowest priced generic versions it was 1.39 times the international reference price (i.e. 39% more). Fifty per cent (50%) of the generics procured by the CMS had prices between 0.6 and 3.2 times the reference prices (Table 3).

For 10 medicines the procurement price was less than the international reference price (e.g. generic ranitidine was 86% less) providing evidence of efficient purchasing (Figure 1). These low prices are often achieved through collaboration in the pooled procurement system of the Gulf Cooperation Council.

Table 3. Number of times more expensive: public sector procurement prices compared to international reference prices

	Originator brand	Lowest priced generic
Median MPR (interquartile range)	2.69 (0.7–4.8)	1.39 (0.6–3.2)
Minimum	0.54	0.14
Maximum	5.33	32.92
No. of medicines	6	22

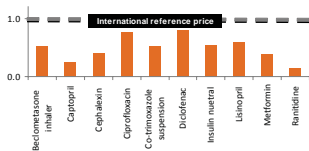


Figure 1. Number of times more expensive: public sector procurement prices compared to international reference prices

⁵ One antihypertensive (atenolol, captopril, losartan or nifedipine retard); diclofenac for arthritis; and one ulcer healing drug (omeprazole or ranitidine)

Conversely, the prices of some generics were many multiples of the international reference price e.g. hydrochlorothiazide, diazepam and acetylsalicylic acid were 33, 22 and 9 times more than the international reference price, respectively.

Public sector availability

Availability data only was collected from the 25 public sector facilities as patients do not pay directly for medicines under health insurance in public health sector facilities in Kuwait.

Availability of both originator brands and generic equivalents for the 35 surveyed medicines in public sector facilities was extremely low with a median percent availability of 12% for both product types (Table 4).

Table 5 presents the availability of any version of the surveyed medicines in the public sector facilities.

Table 4. Availability of surveyed medicines in public facilities (n = 35)

	Originator brand	Lowest priced generic
Median availability (interquartile range)	12% (2–38%)	12% (0–80%)

Table 5. Availability of surveyed medicines (n = 35) in public facilities

Availability	Medicine
Not found	Indapamide
1–10%	–
11–40%	Aciclovir, amitriptyline, carvedilol, ceftriaxone inj., chlorpromazine, ciprofloxacin, diazepam, fluconazole, fluoxetine, gemfibrozil, ibuprofen, hydrochlorothiazide, omeprazole, phenytoin, simvastatin
41–50%	–
51–60%	Acetylsalicylic acid, metformin, loratadine
61–80%	Carbamazepine, glibenclamide, gliclazide, lisinopril, nifedipine retard
> 80%	Amoxicillin, atenolol, beclometasone inhaler, captopril, cephalexin, co-trimoxazole susp, diclofenac, insulin neutral inj, paracetamol, ranitidine, salbutamol inhaler

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Private sector patient prices

Price and availability data was collected from 25 private retail pharmacies; overall the prices of originator brands were 17.45 times the international reference price compared to only slightly less (15.72 times) for the lowest priced generic equivalents (Table 6).

Note: price analyses are based on the 29 medicines that had MSH reference prices.

A number of medicines were many multiples of the international price for both originator brands and generic versions, including ciprofloxacin, diclofenac, glibenclamide, atenolol, ranitidine, omeprazole, paracetamol and captopril (Table 7).

Originator brand medicines were overall 14% higher priced than their lowest priced generic equivalents (Table 8).

Table 6. Number of times more expensive: patient prices in private sector compared to international reference prices ($n = 29$ medicines)

	Originator brand	Lowest priced generic
Median MPR (interquartile range)	17.45 (9–29.3)	15.72 (14–47.4)
Minimum	3.71	4.84
Maximum	110.22	100.05
No. of medicines	22	13

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Table 7. Number of times more expensive: private sector patient prices compared to international reference prices

Medicine	Originator brand	Lowest priced generic
Captopril	15.2	16.0
Paracetamol	17.0	14.9
Omeprazole	17.9	15.7
Ranitidine	18.7	14.0
Ibuprofen	–	24.9
Nifedipine retard	26.2	–
Acetylsalicylic acid	28.6	–
Aciclovir	29.0	–
Amoxicillin	29.4	–
Atenolol	50.2	47.4
Glibenclamide	55.5	50.8
Diclofenac	90.5	60.7
Fluoxetine	93.6	–
Ciprofloxacin	110.2	100.0

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Table 8. Private sector patient prices: ratio of originator brand prices to lowest priced generics

	Ratio
Originator brand : lowest priced generic ($n = 11$ matched pairs)	1.14

The data indicates that generic products in Kuwait are being priced according to competitor prices rather than production or procurement costs, with patients paying more than they should. This is in spite of government controls on the prices of pharmaceuticals in the private sector and suggests that generic manufacturers, knowing the price of the originator brands and how their product's price will be calculated, inflate production or procurement and transport costs, e.g. through transfer pricing, so as to ensure their product receives a similar price.

Private sector availability

Originator brands were more available than generics in private pharmacies. The median availability of the originator brands surveyed was 84%; the median availability of the lowest priced generic equivalents was 0% (Table 9).

No generics were available in any of the private pharmacies for a number of common off-patent medicines, such as acetylsalicylic acid, amoxicillin, amitriptyline, nifedipine retard and simvastatin, for which many generic products exist in international markets. Table 10 presents the availability of the originator brands in the private sector. Table 11 shows the availability of the generic equivalents.

Table 9. Availability of surveyed medicines in private pharmacies ($n = 35$ medicines)

	Originator brand	Lowest priced generic
Median availability (interquartile range)	84% (28–92%)	0% (0–50%)

Table 10. Availability of the originator brands surveyed in private pharmacies ($n = 35$ medicines)

Availability	Medicine
Not found	Chlorpromazine, co-trimoxazole susp, diazepam, hydrochlorothiazide, ibuprofen
1–10%	Cephalexin
11–40%	Amitriptyline, amoxicillin, fluconazole, insulin neutral inj.
41–50%	Fluoxetine
51–60%	Aciclovir, beclometasone inhaler, carvedilol
61–80%	Gemfibrozil, metformin
> 80%	Acetylsalicylic acid, atenolol, captopril, carbamazepine, ceftriaxone inj., ciprofloxacin, diclofenac, glibenclamide, gliclazide, indapamide, lisinopril, loratadine, nifedipine retard, omeprazole, paracetamol, phenytoin, ranitidine, salbutamol inhaler, simvastatin

Tab/cap unless otherwise stated

Table 11. Availability of the generics surveyed in private pharmacies ($n = 35$ medicines)

Availability	Medicine
Not found	Acetylsalicylic acid, aciclovir, amitriptyline, amoxicillin, carbamazepine, carvedilol, cephalaxin, chlorpromazine, diazepam, fluconazole, gemfibrozil, hydrochlorothiazide, indapamide, insulin neutral inj., lisinopril, nifedipine retard, phenytoin, simvastatin
1–10%	Beclometasone inhaler, fluoxetine, gliclazide
11–40%	Captopril, co-trimoxazole susp, metformin, salbutamol inhaler
41–50%	Glibenclamide
51–60%	Atenolol
61–80%	Ceftriaxone inj., diclofenac
> 80%	Ciprofloxacin, ibuprofen, loratadine, omeprazole, paracetamol, ranitidine

Tab/cap unless otherwise stated

Price components

The Medicines Pricing Department of the Ministry of Health regulates both wholesale and retail pharmacy profit margins and sets medicines prices. Medicine price regulation was introduced in Kuwait in 1993. A pricing committee chaired by the Assistant Undersecretary for Quality Control and Inspection sets and approves the prices for newly registered and previously registered medicines to be sold in Kuwait. A maximum profit margin over the landed manufacturer selling price including cost, insurance, and freight (CIF) is set with components for the pharmaceutical agents (wholesalers) and the retail pharmacy. For 2005 overall profits on manufacturers' selling price (CIF) were set to 55% (29% for the agent and 26% for the pharmacy). This was not verified in the field. Pharmaceutical agents may be offering discounts to pharmacies related to product promotions and bulk purchases.

Recommendations of the investigators

1. Maintain and enhance the efficiency of Central Medical Stores public procurement mechanisms. This could include:
 - Broadening the base of Gulf Cooperation Council (GCC) bulk purchasing and/or the wider use of international purchasing, although the latter would have implications for the registration of bidders outside of usual suppliers and corresponding quality control and inspection.
 - Increasing procurement by generic name, especially of older medicines, and restricting the practice of receiving free bonus stock in Central Medical Stores procurement as this would allow better comparison of the real prices

achieved in public procurement and reduce penetration of nonessential medicines into the market.

- Including private wholesalers/pharmacies or health providers in the Central Medical Stores public procurement for high consumption medicines. This could have a dramatic effect on the prices of medicines in the private sector. (This is occasionally performed for some medicines for private hospitals and is currently under consideration at GCC level.)
2. Establish a form of reference pricing for medicines in the private sector to prevent excessive prices, e.g. determine prices compared to a basket of countries of similar wealth distribution and health coverage. This would allow an additional component to be considered in determining the price of medicines other than the country of origin, CIF price and past prices, which can be manipulated to some extent by unscrupulous pharmaceutical exporting companies.
 3. Promote prescribing and use of medicines by generic name in the public and private health sectors through the development of a formal generic prescribing and substitution policy enshrined in law – this would need to be tied to research into medical practitioner and public attitudes towards generic medicines with appropriately designed educational interventions to address concerns. Greater availability and use of generic medicines can also help to limit collusion monopolies and market segmentation between innovator brand and generic product suppliers.
 4. Develop and promote the concept of a national formulary or limited (essential) medicine list based on evidence-based selection and used in conjunction with national and/or hospital clinical guidelines. This will help to identify effective, safe medicines, focus procurement and increase efficiency of the supply system, and provide a tool for continued improvement and monitoring of prescribing and patient care.
 5. The Circular List should be examined for medicines which could be made available for non-Kuwaiti citizens where suitable alternatives are not available in the public health sector, e.g. HMG-CoA reductase inhibitors such as simvastatin. Non-Kuwaitis who have to purchase these out-of-pocket may face problems of affordability. Pharmacoeconomic evaluations could be used to provide an evidence base for decisions on which medicines are to be included in the Circular List.
 6. Repeat the medicines price survey at suitable intervals to monitor the effects of policies on medicine prices. The survey could be widened to include other GCC countries and also private hospital medicine prices to get a better picture of the private sector.

Further information

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The full survey report and data can be found at <http://www.haiweb.org/medicineprices/surveys>