

# Syrian Arab Republic

## Medicine prices, availability, affordability and price components

### Medicine prices matter

Rapidly rising costs of health care and high medicine prices are a growing concern worldwide, especially in developing countries where patients often have to pay the full price of medicines. This brief report about medicine prices and availability in the Syrian Arab Republic is one of a series of papers summarizing the results of national medicine price and availability surveys carried out around the globe using a standard survey methodology<sup>1</sup> developed by the World Health Organization (WHO) and Health Action International (HAI). It uses a group of 30 medicines, with pre-set dosage forms, strengths, and pack sizes that are relevant to the global burden of disease, plus selected medicines of national importance. The Syrian survey was undertaken in late 2003 by the Ministry of Health (Directorate of Pharmaceutical Studies).

Within the Syrian Arab Republic:

- Public procurement is efficient in obtaining low priced generics but some individual medicines are high priced (originator brands and generics).
- The prices of lowest priced generics in private pharmacies are generally acceptable although some individual medicines are high priced.
- Some medicines are unaffordable for the poor and comprehensive interventions are needed to reduce inequities in access to treatments.

Generally, across the WHO Eastern Mediterranean Region, a similar picture emerges: reasonably efficient public sector procurement; people having to pay for their own medicines in the private sector, often at high and frequently unaffordable prices; and the need for stronger government action to introduce or improve national medicines policies and effective pricing policies<sup>2</sup>.

### Syrian medicine prices and availability survey

The Syrian Arab Republic has an estimated population of 18 million people (2005). It is a lower middle income country with per capita GDP of US\$ 1241 (2004). The Syrian Arab Republic spent 5.1%

of its GDP on health in 2003, with health expenditure per capita reaching US\$ 59. Of total expenditure on health, private health expenditure accounts for 52% and public expenditure 48%<sup>3</sup>. Total private health expenditure is out-of-pocket spending, which means that all medicine costs in the private sector have to be covered by patients. Medicine prices are regulated by the government. The Ministry of Health sets the retail price for each medicine and this is printed on the package.

Approximately 5000 medicines are registered by the Syrian Drug Committee. Locally manufactured medicines account for 90% of the market and only 10% of medicines on the market are imported (mainly vaccines). The manufacture of each prescription medicine is restricted to 7 pharmaceutical companies.

A total of 27 medicines were surveyed, 22 from the WHO/HAI core list and 5 supplementary medicines. Prices and availability were recorded for the originator brand product (OB), the most sold product (whether originator brand or generic in each facility), and the lowest priced generic equivalent (LPG). Data on the most sold product is not included in this report. The survey was undertaken in Damascus, and rural areas of Damascus district, Aleppo and Latakia. Public sector procurement prices were obtained from six tenders in public hospitals (see Table 1). Patient prices and availability were assessed in private retail pharmacies and private medical wards in public hospitals ('other' sector).

Table 1. Measurements in each sector

Measurement	Public sector	Private sector	Other sector
Affordability to patients	–	✓	✓
Procurement price	✓	–	–
Price to patients	–	✓	✓
Availability	–	✓	✓
No. of facilities visited	6 public hospitals	57 private pharmacies	Private wards in 43 public hospitals

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

<sup>2</sup> Ball D., Mirza Z., Ewen M. Prices, availability and affordability of medicines in the World Health Organization Eastern Mediterranean Region: a synthesis report of medicine price surveys undertaken in selected World Health Organization Eastern Mediterranean Region countries (in press).

<sup>3</sup> *Working together for health. The World Health report 2006.* Geneva, World Health Organization, 2006.

## Presentation of price information

The WHO/HAI survey methodology presents prices as median price ratios (MPR). The MPR is calculated by dividing the local price by the international reference price (converted into local currency). An MPR of 1 means the local price is equivalent to the reference price whereas a 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 (median prices of high quality multi-source medicines offered to developing countries by different suppliers). Use of reference prices facilitates international comparisons.

## Interpretation of findings

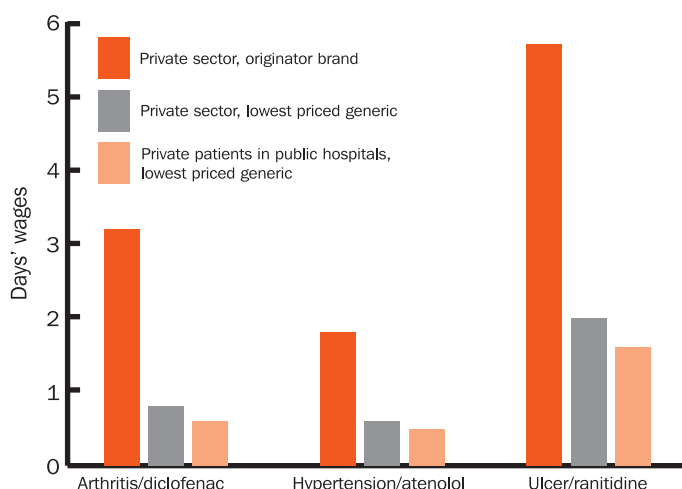
Country specific factors such as pricing policies, market size, competition, national economic and other factors may influence prices. For the purposes of these surveys, in a low income developing country an MPR of less than or equal to 1 for public sector procurement prices is considered to indicate 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 a treatment course for an acute condition or one month's treatment for a chronic condition. At the time of the survey, the lowest paid Syrian government worker earned 100 Syrian Pounds (SYP) (approximately US\$ 2) per day.

As patients do not pay for medicines in public hospitals, affordability was calculated using retail pharmacy prices and prices paid by patients in private medical wards in public hospitals. If purchasing lowest priced generics from private retail pharmacies, less than one day's wage is needed to purchase treatments for acute conditions such as acute respiratory infection. The affordability of chronic conditions ranged between 0.4 and 5.8 days (Figure 1). The affordability of treatments for private patients in public hospitals was slightly lower, i.e. between 0.3 and 4.8 days' wages are needed to purchase lowest priced generics for chronic conditions. The most expensive treatment was generic fluconazole to treat fungal infections when purchased in private retail pharmacies or in private medical wards (5.8 and 4.8 days' wages respectively for 1 month's supply).

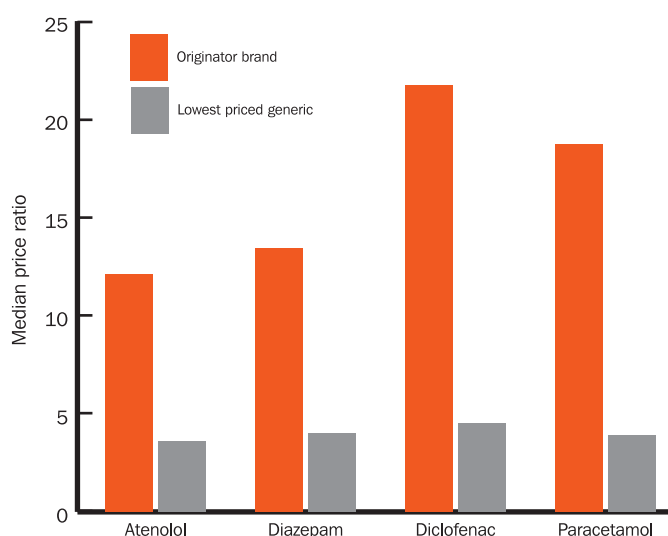
While the cost of individual treatment with low priced generics may be relatively affordable, the cumulative cost of multiple medications (such as treating diabetes and hypertension) will result in the treatment being unaffordable (3.7 days' wages are needed to purchase 1 month's supply of lowest priced generic metformin and captopril from private pharmacies).



**Figure 1.** Affordability: days' wages for one month's treatment

**Table 2.** Number of times more expensive: public sector procurement prices compared to international reference prices

	Originator brand	Lowest priced generic
Median MPR (interquartile range)	6.99 (3–12.7)	1.54 (1.1–2.4)
Minimum	2.2	0.1
Maximum	21.7	4.5
No. of medicines	11	27



**Figure 2.** Examples of high procurement prices compared to international reference prices (IPR)

## Public sector procurement prices

Procurement prices were identical in all 6 hospital tenders. Prices were available for all 27 surveyed medicines as generics, and for 11 originator brands. The MPR for generic medicines ranged from 0.1 to 4.5 with a median MPR of 1.54, i.e. on average generic prices were 50% higher than international reference prices. Originator brands were procured, on average, at seven times higher prices than international reference prices. Fifty per cent (50%) of the originator brands surveyed ranged from about 3 to 13 times the international reference prices (Table 2, Figure 2).

For 11 medicines, both originator brand and generic versions were procured. Overall, originator brands were 3 times more expensive than lowest priced generics. Therefore, procuring only low priced quality generics could lead to significant savings and more cost-efficient use of available public funds.

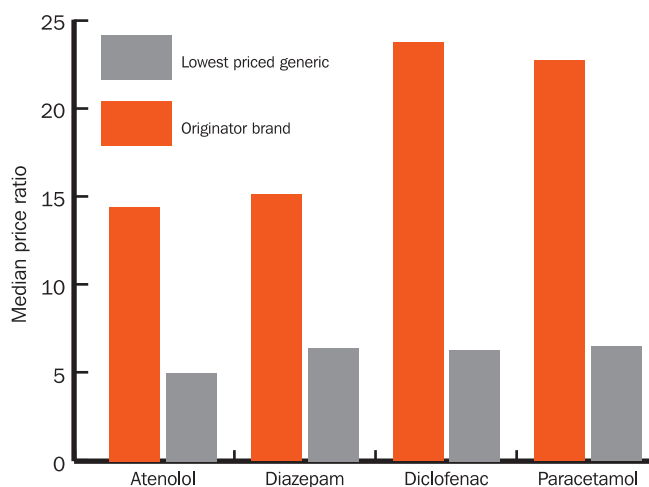
## Private sector prices

Overall, patient prices of originator brand products were nearly ten times more, and lowest priced generics two and a half times more, than the international reference prices (Table 3). Originator brand prices showed greater variation (MPR 2.6 to 23.7) compared to lowest priced generics (MPR 0.1 to 6.5).

While the overall price of lowest priced generics was not excessive (median MPR 2.51), some individual medicines were high priced, e.g. atenolol, diazepam, diclofenac, paracetamol and furosemide. Interestingly, the originator brands of these medicines were also high priced (Figure 3). Several lowest priced generics had patient prices comparable to, or lower than, the international reference prices, e.g. beclometasone inhaler (MPR 0.95), ceftriaxone injection (MPR 1.01), ranitidine (MPR 0.92) and salbutamol inhaler (MPR 1.17), demonstrating that regulated prices for some medicines are indeed low in the Syrian Arab Republic.

**Table 3.** Number of times more expensive: patient prices in private retail pharmacies compared to international reference prices

	Originator brand	Lowest priced generic
Median MPR (interquartile range)	9.6 (3.9–14.9)	2.51 (1.6–3.4)
Minimum	2.6	0.1
Maximum	23.7	6.5
No. of medicines	10	27



**Figure 3.** Examples of high prices in private pharmacies

There was no variation in the prices of the medicines surveyed across pharmacies (even in different regions). This suggests that all pharmacies stocked the same lowest priced generic products. Medicine prices in private retail pharmacies are set by the Ministry of Health. The lack of any variation in the prices of the same medicines suggests that adherence to regulated prices is very high.

## Brand premiums in the private sector

In the private sector, lowest priced generics cost on average about 35% of the originator brands. Lowest priced generics ranged from 27% to 61% of the respective originator brand products.

## Private sector availability

The median availability of medicines surveyed in the private sector was very high for lowest priced generics (98.2%), i.e. nearly all pharmacies stocked all surveyed medicines as a generic product. Overall, median availability for originator brands was 0% (Table 4). However, data was not collected for a number of originator brands as they were not marketed in the Syrian Arab Republic at the time of the survey. Of the 13 originator brands on the market, the median availability was 94.7%.

**Table 4.** Availability of survey medicines ( $n = 27$ ) in private retail pharmacies

	Originator brand	Lowest priced generic
Median availability (interquartile range)	0% (0–93.9%)	98.2% (96.5–98.2%)

## Prices paid by private patients in public hospitals ('Other' sector)

On average, patient prices for lowest priced generics in this sector were twice the international reference prices (median MPR 1.9). As shown in Table 5, half of the 27 medicines showed little variation across the hospitals surveyed (interquartile range was 1.3–2.7).

### Availability in public hospitals

No originator brands were found in the 43 public hospitals surveyed (Table 6). The median availability was very high for generics (93%). The interquartile range was 89.5%–95.3%.

## Intersectoral comparisons

On average, private sector patient prices for lowest priced generics were 62% higher compared to procurement prices for generics in the public sector. For originator brands, patients in the private sector pay only 11% more than the price the government pays. The government is charging private patients in public hospitals 23% more than procurement prices for generics. On average, private inpatients pay 24% less for lowest priced generics than patients purchasing these medicines in private retail pharmacies.

**Table 5.** Number of times more expensive: private in-patient prices compared to international reference prices

	Originator brand	Lowest priced generic
Median MPR (interquartile range)	–	1.9 (1.3–2.7)
Minimum	–	0.1
Maximum	–	5
No. of medicines	–	27

**Table 6.** Availability of survey medicines (n=27) in public hospitals

	Originator brand	Lowest priced generic
Median availability (interquartile range)	0%	93% (89.5%–95.3%)

**Table 7.** Private pharmacy mark-ups

Pharmacy procurement price (SYP)	Private pharmacy mark-up
1–40	30%
41–80	20%
81–200	15%
201–500	10%
501 or more	8%

## Price components

There is a fixed price structure for medicines whose components include the cost of raw materials, manufacturing and packaging, plus 20% profit for the manufacturer, 8% mark-up for propaganda (advertising), 8% wholesale mark-up and the retail pharmacy mark-up that is applied regressively to the pharmacy procurement price as shown in Table 7.

Note: While the pharmacy mark-up is applied regressively, the amount is not applied across the total procurement price. For example, where a pharmacist buys a medicine for SYP 75, the mark-up is 30% on the first SYP 40 plus 20% for the remaining SYP 35.

## Conclusions

### Affordability and access to medicines

- Many standard treatments, even with lowest priced generics, are barely affordable in the private sector for low-paid Syrian workers. Medicine costs can be a significant burden on households because all patients visiting outpatient departments in the public sector have to purchase their medicines in private retail pharmacies. Medicines are provided free only to patients admitted for treatment in public hospitals. In cases where multiple medications are needed for chronic diseases, this out-of-pocket expenditure can be very high for low-paid Syrian families.

### Public sector

- Public sector procurement of generic medicines is relatively efficient as overall prices paid by the Ministry of Health were comparable to international reference prices. Very high procurement prices were observed for originator brands (and some generics). Savings could be made if only low priced quality generics are purchased for off-patent medicines.
- The availability of medicines in public hospitals was acceptable.

### Private sector

- Some medicine prices in private pharmacies were relatively low in comparison with international reference prices, while others were very high priced. There was a clear differentiation of prices between originator brands and generics, with lowest priced generics priced, on average, at only a third of the price of originator brands.
- The availability of generics in private pharmacies was very high.
- Adherence to controlled retail prices was high in the pharmacies visited, since no price variations were found between different pharmacies or regions.
- There is a set price structure applicable to all medicines when determining the retail patient price with regressively applied pharmacy mark-ups. The retail pharmacy mark-up is not applied on the full procurement price. To make medicines more affordable, mark-ups should be applied to the whole amount rather than to components.

### Recommendations

Based on the findings of the study, recommendations made by the investigators to the Government of the Syrian Arab Republic included the following:

- An in-depth investigation should be undertaken on medicine pricing policies to evaluate the effectiveness of current policies, and to investigate policy options to lower prices and make medicines more affordable, including a review of the fixed pricing formula and current price regulation. Options include applying the pharmacy markup across the total procurement price, and abolishing the propaganda payment to pharmaceutical companies.
- Where the price of specific medicines was extremely high (especially where MPRs were 10 or more) investigations should be conducted to identify means to lower these prices.
- The findings of the survey should be used to adjust the draft national medicines policy.
- Price transparency is needed, and a monitoring system established to regularly assess medicine prices, availability and affordability.

**Further information**

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