

# Morocco

## 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 Morocco 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 recommended pack sizes, that are relevant to the global burden of disease, plus selected medicines of national importance. The Moroccan survey was undertaken in April 2004 by the Ministry of Health, the World Health Organization, the National Fund of Social Provident Organisations (CNOPS), the National Federation of Pharmacists, and the National Council of the Order of Pharmacists.

Within Morocco:

- Medicine prices obtained through public procurement were high, indicating inefficient public procurement practices.
- While medicines are free in the public sector, their availability was poor.
- Prices of medicines in private pharmacies were high, with some treatments unaffordable to low income groups.

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

### Moroccan medicine price and availability survey

Morocco has a population of about 30 million, of whom more than 19% live below the poverty line. It is a lower middle-income

Table 1. Measurements in each sector

| Areas measured in each sector | Public sector       | Private sector               |
|-------------------------------|---------------------|------------------------------|
| Affordability to patients     | –                   | ✓                            |
| Procurement price             | ✓                   | –                            |
| Price to patients             | –                   | ✓                            |
| Availability                  | ✓                   | ✓                            |
| No. of facilities visited     | 20 medicine outlets | 20 private retail pharmacies |

country with per capita GDP of US\$ 1431 (2003). Morocco spent 5.1% of its GDP on health in 2003 with health expenditure per capita reaching US\$ 72. Private health expenditure accounts for 67% and public expenditure for 33% of total health expenditure. Medicine prices are regulated by the government. Morocco has an essential medicines list comprising 270 medicines which apply to the public sector where medicines are provided free of charge.

The pharmaceutical industry contributes 2% of GDP, with nearly 5000 products on the market, of which 70% are locally manufactured. The Moroccan pharmaceutical industry depends largely on foreign supply of raw materials and imports more than 90% of its needs. Locally produced medicines are distributed between the private market (80%), the public market (10%) and export (10%).

A total of 34 medicines were surveyed, 25 medicines from the WHO/HAI core list and 9 supplementary medicines. For each medicine, prices and availability were recorded for the originator brand product, the most sold generic equivalent (data not shown here) and the lowest priced generic equivalent. A total of 20 public sector medicine outlets and 20 private pharmacies were sampled (see Table 1) in four geographical areas: Rabat, Tangier, Marrakech and Oujda. Public procurement prices were collected from medical stores at the central and regional level.

### 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

<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> WHO/HAI. Medicine prices, availability, affordability and price components. A synthesis report of medicine price surveys undertaken in selected countries of the World Health Organization Eastern Mediterranean Region. Cairo, World Health Organization Regional Office for the Eastern Mediterranean, 2008 (in press).

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 (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

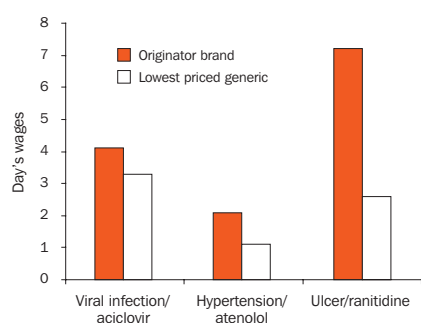
Country specific factors such as pricing policies, market size, competition, national economic and other factors may influence prices. For the purposes of these surveys, in a low-income developing country an MPR of less than or equal to 1 for public sector procurement prices and public sector patient 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 course of treatment for an acute condition or one month's treatment for a chronic condition. At the time of the survey, the lowest paid government worker earned 62.6 Moroccan dirhams (MAD) (US\$ 7.09) per day. As patients do not pay for medicines in the public sector, affordability is presented here using retail pharmacy prices only.

Some treatments required less than one day's wages when purchased by a low-paid government worker e.g. salbutamol inhaler for asthma, co-trimoxazole paediatric suspension for an infection. However, other treatments were far less affordable, e.g. 7.2 days' wages (originator brand) or 2.6 days' wages (lowest priced generic) would be needed to purchase one month's supply of ranitidine to treat an ulcer, and a 1g vial of ceftriaxone injection to treat an infection would require 4.1 or 2.6 days' wages, respectively.

Poor availability of medicines in the public sector forces patients to pay out-of-pocket for medicines in the private sector. For a low income family whose members require different treatments, this cost can be a heavy burden. For example (Figure 1) paying



**Figure 1.** Affordability: day's wages for one month's treatment (atenolol and ranitidine) and a course of treatment (aciclovir)

for hypertension treatment with atenolol, and aciclovir to treat a viral infection, even if buying lowest priced generics would require nearly 5 days' wages – clearly a cost unaffordable to a family whose income is this salary.

## Public sector procurement prices

Overall, lowest priced generics were purchased at 2.82 times the international reference prices and originator brands at 5.14 times higher (Table 2). There were several cases where procurement prices were excessively expensive (MPR>10) for originator brands (captopril, ciprofloxacin, diazepam, diclofenac and nifedipine retard) and even some generics (captopril, ciprofloxacin). An intriguing observation, demonstrating poor performance of public procurement, was that the public sector procurement price of captopril originator brand was 2.3 times higher than the retail pharmacy patient price.

More medicines were procured as originator brands (19) than as generic equivalents (14). The high prices and high frequency of purchasing originator brand products show that public procurement of medicines is inefficient. Public funds are unnecessarily being used on expensive originator brand products when generic equivalents can be purchased on the international market at a much lower cost.

## Public sector availability

Of the 34 medicines surveyed, 15 were found as originator brands and 16 as generic products at the public health facilities visited. A total of 15 medicines were found in more than half of the health facilities either as the originator brand or a generic although the median availability was 0% (Table 3). Amoxicillin (250 mg cap.), atenolol, chloroquine, diclofenac, fluoxetine, hydrochlorothiazide, losartan, phenytoin, ranitidine and the three antiretrovirals surveyed were not available in any of the 20 public sector facilities

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

|                                  | Originator brand | Lowest priced generic |
|----------------------------------|------------------|-----------------------|
| Median MPR (interquartile range) | 5.14 (2.2–9.3)   | 2.82 (1.1–5.2)        |
| Minimum                          | 0.87             | 0.73                  |
| Maximum                          | 66.92            | 25.45                 |
| No. of medicines                 | 19               | 14                    |

**Table 3.** Availability of survey medicines (n = 34) in public health facilities

|   | Originator brand | Lowest priced generic |
|---|------------------|-----------------------|
| Median availability (interquartile range) | 0% (0–23.8%)     | 0% (0–72.5%)          |

**Table 4.** 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) | 12.15 (8.6–21.6) | 11.07 (5.6–17.1)      |
| Minimum                          | 1.43             | 2.11                  |
| Maximum                          | 215.7            | 82.76                 |
| No. of medicines                 | 28               | 20                    |

surveyed, although some are included in the Moroccan essential medicines list.

### Private sector prices

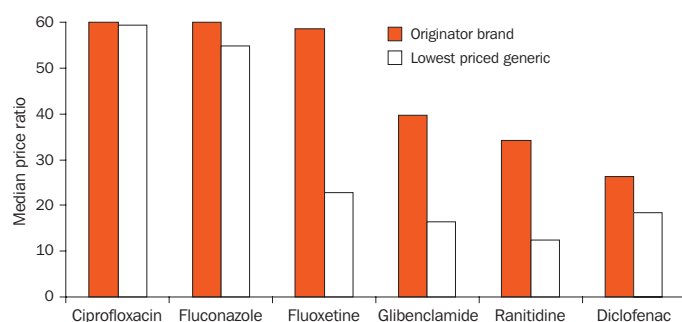
Patients pay very high prices for medicines (originator brands and generics) when purchased from private retail pharmacies in Morocco. Overall, prices of originator brands were 12 times higher than the international reference price, with half of them (interquartile range) between 8.6 and 21.6 times higher. Overall, lowest priced generics were 11 times the international reference price (interquartile range 5.6–17.1) (Table 4).

Medicine prices in private retail pharmacies are set by the Ministry of Health. The small variation in the prices of the same medicine in different pharmacies and regions suggests that adherence to regulated prices is high in Morocco.

The majority of originator brands (62% of those surveyed) and lowest priced generics (58%) were very expensive with an MPR >10 e.g. ciprofloxacin, fluconazole, fluoxetine, ranitidine, nifedipine retard, glibenclamide, diazepam, diclofenac (Figure 2).

### Brand premiums in the private sector

For the 18 medicines available as both the originator brand and generic equivalent in the private pharmacies, the price of the lowest priced generic was expressed as a percentage of the brand price [generic price/brand price × 100]. On average, lowest price generics cost 40% less than the price of the originator brand products. However, for some medicines there was only a small difference between the originator brand and generic prices, e.g.



**Figure 2.** Examples of excessively high priced medicines in private pharmacies

**Table 5.** Availability of survey medicines (n=34) in private retail pharmacies

|   | Originator brand   | Lowest priced generic |
|---|--------------------|-----------------------|
| Median availability (interquartile range) | 92.5% (47.5%–100%) | 52.5% (0–98.8%)       |

aciclovir (MPR 11.9 versus 9.8), metformin (MPR 2.65 versus 2.47) and amoxicillin 250 mg cap. (MPR 20.1 versus 16.6).

Prices of originator brands compared to international reference prices varied widely in Morocco. Originator brand fluconazole tablets in the private sector had the highest MPR (215.7), while originator brand valproic acid had a more modest MPR of 2.13. Losartan cost only 43% more than the reference price (MPR 1.43) however this is probably due to the high reference price.

### Private sector availability

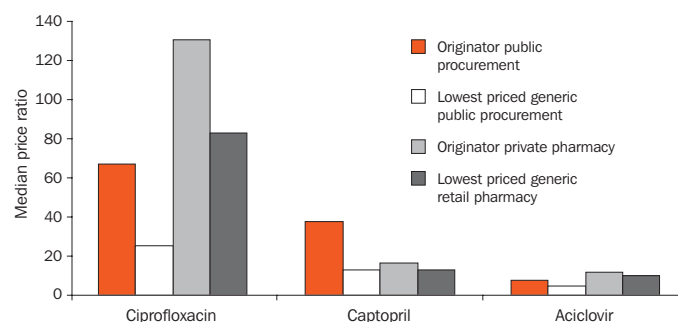
In the private pharmacies, the median availability of originator brands was much higher (92.5%) than the availability of generics (52.5%) (Table 5). There were no generic versions available in any of the pharmacies for some medicines (such as amitriptyline, diazepam, chloroquine, fluphenazine) for which less expensive generics exist in most markets. None of the pharmacies stocked the three antiretrovirals in the survey.

### Intersectoral comparisons

Private sector patient prices of originator brands were 50% higher than public sector procurement prices (15 medicines found in both sectors) while for lowest priced generics the difference was 350% (12 medicines). Figure 3 illustrates price differences between the two sectors for three medicines. The government pays very high prices compared to international standards for many medicines. Originator brands were often selected for public procurement even when there were lower priced generic equivalents available on the international or local market.

### Price components

In Morocco, it is a policy that wholesale (10%) and retail mark-ups (30%) do not differ, whether for originator brands or generics. VAT (7%) is applied to some locally produced and imported medicines.



**Figure 3.** Intersectoral comparisons: public sector procurement prices compared to patent prices in the private sector

Customs duties are also applied to some imported medicines. The charge varies according to the country of origin: up to 32% for an imported product from Europe and up to 40% for a product imported from outside Europe (when there is a similar locally manufactured product). Therefore, for some imported medicines taxes and duties total 47%.

For those medicines manufactured locally whose raw materials are imported, 32% import duties are charged if the raw materials come from Europe and 40% for materials from outside Europe.

## Conclusions

### Affordability and access to medicines

- While standard treatments with surveyed medicines in the private sector generally cost less than 2 day's wages, some medicines for chronic conditions are expensive and unaffordable for an unskilled government worker. Many patients may go without treatment when they cannot access medicines in government health facilities due to non availability and cannot afford to pay high prices in private retail pharmacies.

### Public sector

- The public sector procurement system in Morocco does not achieve competitive prices similar to the current bulk procurement prices for multi-source products obtainable on the international market. The procurement prices were high for the surveyed medicines. Originator brands were frequently purchased, which means that potential savings from buying low cost generics to maximize available public funds are not realized.
- Medicines in the public sector are provided free, however, their availability is far from optimal and many people are obliged to purchase out-of-pocket in the private sector where prices are high.

### Private sector

- While availability is good in private pharmacies, higher priced originator brands are more frequently stocked than generics. Only originator brands were found for several older off patent medicines for which many generics usually exist in other countries. Therefore, patients are unable to select lower cost generic equivalent products. There is no incentive for the sale of lower priced generics.
- In some cases, the price of the lowest priced generic medicines is not much lower than the price of an originator brand medicine.
- The prices of generics vary and the least expensive is not always the one that is sold most often.
- Taxes and margins are relatively high, contributing to the poor affordability of many medicines for those on low wages.

## Recommendations

Based on the survey results, the following recommendations were made:

- Investigate the causes of low availability of medicines in the public sector.
- Investigate the causes of very high public procurement prices compared to international reference prices.
- Investigate prescribing practices (originator/generic medicines) in the private sector.
- Implement measures aimed at reducing the burden of taxes, duties and the commercial margins on medicines.
- Adopt a policy supporting the use of generic medicines:
  - promote the prescribing of quality, effective generics;
  - introduce incentives to dispense generics by replacing fixed percentage margins with set dispensing fees.
- Reduce high manufacturers' prices. A possible option would be to convert the central stores of the Ministry of Health to wholesale essential medicines for the public and private sectors, e.g. transforming it into an autonomous official wholesaler.
- Monitor the impact of changes in pharmaceutical policies in Morocco through regular investigations into the prices of medicines.

## Further information

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

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