

Indonesia

Medicine prices, availability and affordability

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 Indonesia 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 the National Institute of Health Research and Development, Ministry of Health – using a group of 26 medicines with pre-set dosage forms and strengths, and recommended pack sizes, relevant to the global burden of disease, plus 7 selected medicines of national importance.

This survey found that in Indonesia:

- Availability in the public sector was poor at 47% for lowest priced generics; and slightly higher, but sub-optimal in the private sector at 62%
- Originator brands were more often found in the private sector at 26% vs. 6.7% in the public sector
- Procurement prices paid by local government were 74% more than international reference prices for lowest priced generics; some medicines were procured at higher multiples of the reference price
- Patient prices were similar and high in the public and private sectors at (overall) 2.5 / 2.8 times the international reference price for lowest priced generics; 5.5 / 6.7 times for the most sold generic equivalents; and 22 / 23 times for originator brands
- In both the public and private sectors, most sold generics were about 2.5 times more than the price of lowest priced generic equivalents
- Many medicines for common treatments were unaffordable – a month's supply of a single medicine for hypertension would need 1.1 – 17 days salary for the lowest paid government worker depending on which medicine and whether originator or generic
- Affordable treatments for asthma were rarely available; beclometasone inhaler was only found in 1 pharmacy (originator brand) and no generic versions of salbutamol inhalers were found

Indonesia medicine price & availability survey

Indonesia is an archipelagic country of over 17,000 islands, administratively divided into 33 provinces, 302 regencies and 89 municipalities. The population in 2002 was 211 million people, with 59% living on Java Island which covers only 7% of the total area of Indonesia. Per capita income was US\$700 in 2000, and 18% of the population (38 million people) lives below the national poverty line².

Public expenditure on health in 2000 was only 0.6% of GDP or 20% of total health expenditure; this led to prioritizing health development to primary healthcare. An integrated public health service at the primary level is available in all districts up to village level. In contrast, private primary care and both public and private secondary and tertiary care (specialties and hospitalization) are mostly financed by out-of-pocket payments (fee-for-service).

Price regulation covers public procurement of essential generic medicines for primary healthcare centres, vertical public health programmes and the social safety net programme (health insurance) for the poor. The prices of 153 medicines (unbranded generics), for use in the public and private sector, are controlled by the government. There is no price regulation for the other 216 medicines on the National Essential Medicines List (EML) in the private sector, and no regulation on the prices of branded medicines. District Health Boards procure EML and non-EML medicines for distribution to public sector primary health centres. Patients pay no cost or a fixed fee (consultation and medicine).

The survey was designed to answer the following questions:

- What is the patient price in the public and private sectors, and public sector procurement price, of a selection of medicines?
- How do these prices compare to international prices?
- What is the difference in price of originator brands and their generic equivalents?
- What is the availability of the medicines?
- How affordable are medicines?

A total of 33 medicines were surveyed in August–November 2004; 26 from the WHO/HAI core list and 7 supplementary medicines. Of the 33 medicines, 13 were price-controlled. For each medicine, price and availability were recorded for the originator brand product (OB); most sold generic equivalent (MSG)³; and the lowest priced generic equivalent (LPG) which was determined at each facility.

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

² Central Bureau of Statistics, National Development Planning Agency, United Nation Development Programs. Indonesia Human Development Report, 2004

³ The most sold generic product was determined from IMS data for 2003.

Price and availability data were collected in 4 regions: western (Sumatra Selatan province), capital and Java Island (DKI Jakarta and Jawa Timur provinces), central (Sulawesi Selatan and Kalimantan Selatan provinces) and the eastern region (Papua province). In each region, data were collected in one municipality of the provincial capital and one district (except Jakarta where only a municipality was sampled). A total of 15 public sector outlets (provincial and district hospitals) and 58 private pharmacies (located in the community, public hospitals, and in hospitals managed by religious foundations) were sampled. Patient prices included dispensing fees. Public sector procurement prices were collected from 16 primary healthcare centres. Data were also collected from registered drug outlets and dispensing doctors - which are not reported in this summary report. Price components were not measured.

Table 1. Measurements in each sector.

Measurement	Public sector	Private sector
Price to patient	✓	✓
Availability	✓	✓
Affordability	✓	✓
Procurement price	✓	
No. of facilities visited	15	58

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 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 2003 Management Sciences for Health (MSH) International Medicine Price Indicator Guide⁴ (the MSH Guide pulls together information from recent price lists of large generic medicine suppliers and thus reflects the prices governments could be expected to pay for medicines); 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 low or middle income countries an MPR of less than or equal to 1 for public sector procurement prices and public sector patient prices are 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 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 Indonesian Rupiah (Rp) 20,700 (US\$ 2.35) per day.

Having to spend more than 1 day's income per month on family medicine needs is considered by some as unaffordable. Table 2 demonstrates how many days this worker would have to work to purchase various treatments.

Overall, a low paid unskilled government worker would generally need 0.2 - 5.7 days wages when purchasing lowest priced generics for the treatment of acute diseases such as acute respiratory infection; and 2.4 - 12.3 days for originator brands – depending upon condition; medicine choice and where purchased from.

Treatment cost of chronic conditions ranged between 0.1 - 17.2 days when using lowest priced generics; or 4.1 - 41 days' wages if purchasing originator brand products – depending upon condition, medicine choice, and where purchased from. A salbutamol inhaler for asthma required 4.1 days wages to purchase 1 inhaler in the private sector; no generic versions were found in the public or private sector.

Most sold generic products of amoxicillin, omeprazole, ranitidine and ciprofloxacin were less affordable than lowest priced generic equivalents; and the affordability of lowest priced generics was similar in the public and private sector.

Should this low paid worker need treatment for hypertension, arthritis and a peptic ulcer, then they would have to use 3.2 – 48.6 days of salary every month to purchase the medicines⁵ for a month – depending upon the choices of medicine, where it was obtained, and whether brand or generic was dispensed. As the person and family members often have a number of conditions requiring treatment, even purchasing lowest priced generics requires a significant proportion of income to be spent.

⁴ <http://erc.msh.org>

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

Table 2. Affordability: number of days' wages.

Hypertension		Public	Private
amlodipine	OB	9.5	9.8
	LPG	8.5	9.1
atenolol	OB		9.0
	MSG		2.5
	LPG	2.2	2.4
captopril	OB	14.8	15.4
	MSG/LPG	1.1	1.2
losartan	OB		17.0
	MSG/LPG	11.5 - 11.6	12.1 - 12.4
hydrochlorothiazide	MSG/LPG	<0.1	<0.1
ranitidine	OB		12.9
Hypercholesterolaemia			
lovastatin	MSG/LPG		10.3 - 11.2
simvastatin	MSG/LPG	7.8	8.9
Asthma			
salbutamol inhaler	OB		4.1
Ulcer			
omeprazole	OB		23.9
	MSG	16.5	17.2
	LPG	4.2	4.3
ranitidine	OB		16.6
	MSG	4.4	4.8
	LPG	2.2	2.2
Diabetes			
glibenclamide	OB		8.4
	MSG/LPG	0.6	0.6
metformin	OB	4.2	4.8
	LPG	1.7	1.8
Depression			
amitriptyline	MSG/LPG	0.6	0.7
fluoxetine	OB		41
	LPG		14.4
Arthritis			
diclofenac	OB		7.7
	MSG		0.9
	LPG	1.2	0.9
Respiratory tract infection			
adult ciprofloxacin (5 days)	OB		12.3
	MSG	5.5	5.7
	LPG	0.8	1.1
adult amoxicillin 250mg (7 days)	OB		2.4
	MSG	1.5	1.7
	LPG	0.4	0.4
child cotrimoxazole susp (7 days)	OB		4.7
	MSG		0.2
	LPG	0.2	0.2

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Public sector procurement prices

Procurement prices for the lowest priced generic equivalents were 1.74 times (74% more than) the international reference price with 50% of the medicines in the range of 1.43 – 3.38 times the international reference price. Procurement prices for the 4 most sold generic equivalents were 1.44 times the international reference price.

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

	Most sold generic	Lowest priced generic
Median MPR (interquartile range)	1.44 (1.2 - 2.2)	1.74 (1.4 - 3.4)
Minimum	0.58	0.57
Maximum	4.36	8.43
No. of medicines	4	15

Procurement prices of some individual medicines were very high as shown in Table 4 – with all except diclofenac being price-controlled.

Table 4. Number of times more expensive: public sector procurement prices compared to international reference prices.

	Lowest priced generic
ranitidine 150mg tab	8.43
ciprofloxacin 500mg tab	6.34
diclofenac 25mg tab	5.31
glibenclamide 5mg tab	4.56

Public sector patient prices

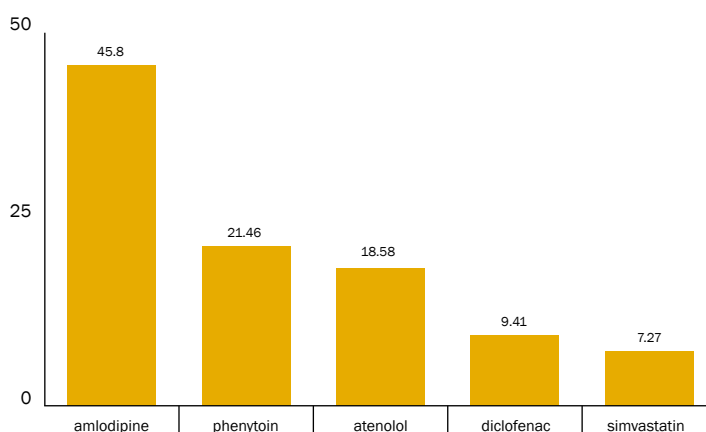
Overall, patient prices were high in the public hospital pharmacies surveyed, even for lowest priced generics. The median price of the 3 originator brands found was 21.8 times the international reference price – up to 51 times for amlodipine. Most sold generics were 5.51 times the reference price – up to 40 times for ciprofloxacin; and lowest priced generics were 2.54 times. The prices of generics were variable from 0.7 times the international reference price for hydrochlorothiazide – up to nearly 46 for amlodipine (Table 5).

Table 5. Number of times more expensive: public sector patient prices compared to international reference prices.

	Originator brand	Most sold generic	Lowest priced generic
Median MPR (interquartile range)	21.8 (14 - 36.5)	5.51 (1.7 - 7.3)	2.54 (1.7 - 5.8)
Minimum	6.15	0.7	0.7
Maximum	51.13	40.49	45.85
No. of medicines	3	13	23

Figure 1 shows the 5 medicines where patient prices were more than 7 times the international reference prices for lowest priced generics.

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



For many medicines, prices did not vary widely between outlets, however for some medicines the variation was much wider. Table 6 demonstrates that omeprazole has a much narrower price variation – demonstrated by a small difference between the 25th and 75th percentiles -compared to amoxicillin, ceftriaxone and diazepam where the price variation is much wider.

Table 6. Number of times more expensive: public sector patient prices compared to international reference prices – lowest priced generic.

	Median	25%ile	75%ile	Min	Max
amoxicillin	2.33	2.16	9.09	1.64	10.50
ceftriaxone inj	1.41	1.29	6.41	0.62	7.34
diazepam	5.32	1.82	6.56	0.97	16.12
omeprazole	1.66	1.19	1.73	0.54	2.07

Across the 13 medicines found in the public sector in both generic forms (most sold and lowest priced), most sold generics were 2.5 times the price of the lowest priced generics.

Public sector availability

Overall availability of the surveyed medicines in the public sector on the day of data collection was poor. The median availability of lowest priced generics was 46.7% (Table 7).

Table 7. Availability in the public sector.

	Originator brand	Most sold generic	Lowest priced generic
Median availability (interquartile range)	6.7% (0 - 13.3%)	20% (0 - 33.3%)	46.7% (6.7 - 73.3%)

Table 8 presents the availability of the surveyed medicines in the public sector. None of the hospital pharmacies stocked beclometasone inhalers and only 2 stocked salbutamol inhalers (high priced originator brand).

Table 8. Availability of generics in the public sector.

Availability	Medicine
Not found	beclometasone inhaler, fluphenazine inj., lisinopril, nifedipine retard, salbutamol inhaler, stavudine, zidovudine
1 - 24%	fluconazole, fluoxetine, lovastatin
25 - 49%	atenolol, erythromycin, losartan, metformin, phenytoin, simvastatin, sulfadoxine/pyrimethamine
50 - 79%	aciclovir, amitriptyline, amlodipine, amoxicillin 250mg, carbamazepine, ceftriaxone inj, co-trimoxazole susp, diclofenac, omeprazole, glibenclamide
80% & over	amoxicillin 500mg, captopril, ciprofloxacin, diazepam, hydrochlorothiazide, ranitidine

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Private sector patient prices

In the private sector, the overall price of originator brands were very high at 22.78 times the international reference price, with 50% in the wide range of approximately 11 - 54 times the reference price – these ranged from 1.4 times for losartan to almost 102 times for diazepam. Most sold generics were 6.74 times the international reference price with 50% of the medicines in the range of approximately 2.2 - 9.7 times the reference prices - ranging from 0.81 times for hydrochlorothiazide to almost 54 times for diazepam. For the lowest price generic equivalents, prices were 2.78 times the international reference price, with 50% of the medicines in the range of approximately 2 - 8 times the international

reference price – ranging from 0.81 for losartan to almost 50 times for amlodipine (Table 9).

Table 9. Number of times more expensive: patient prices in the private sector compared to international reference prices.

	Originator brand	Most sold generic	Lowest priced generic
Median MPR (interquartile range)	22.78 (10.7 - 54.1)	6.74 (2.2 - 9.7)	2.78 (1.9 - 8.1)
Minimum	1.4	0.81	0.81
Maximum	101.96	53.66	49.43
No. of medicines	25	22	26

Some lowest priced generics were high priced e.g. fluconazole 150mg tablets were 47 times the international reference price. Table 10 lists lowest priced medicines over eight times the international reference price.

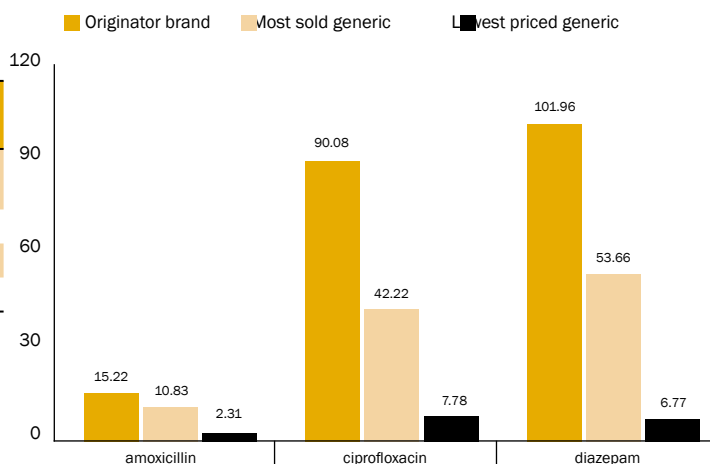
Table 10. Number of times more expensive: patient prices in the private sector compared to international reference prices.

	Lowest priced generic
amlodipine 5mg tab	49.43
fluconazole 150mg tab	47.33
phenytoin 100mg tab	24.12
atenolol 50mg tab	20.44
fluoxetine 20mg tab	18.98
simvastatin 20mg tab	8.32
lovastatin 20mg tab	8.16

When the prices of matched pairs were analysed (only medicines where both product types were found) originator brands were 9.4 times the price of lowest priced generics for the 21 common medicines; most sold generics were 2.6 times the price of lowest priced generics for the 22 common medicines; and originator brands were 3.4 times the prices of most sold generics for the 15 common medicines.

Figure 2 shows the large price differences across product types for three medicines subject to price control for unbranded generics.

Figure 2. Number of times more expensive: patient prices in the private sector compared to international reference prices.



For many medicines, prices did not vary widely between outlets, however for some medicines the variation was much wider. Table 11 demonstrates that amlodipine has a much narrower price variation – demonstrated by a small difference between the 25th and 75th percentiles -compared to diazepam, hydrochlorothiazide, and sulfadoxine/ pyrimethamine where the price variation is much wider.

Table 11. Number of times more expensive: private sector patient prices compared to international reference prices – lowest priced generic.

	Median	25 th ile	75 th ile	Min	Max
amlodipine	49.43	47.53	50.86	4.75	60.35
diazepam	6.77	4.03	45.92	0.59	70.94
hydrochlorothiazide	0.81	0.71	1.61	0.57	4.84
sulfadoxine/ pyrimethamine	2.75	2.28	8.99	1.98	13.61

Private sector availability

As shown in Table 12, the median availability of the 33 originator brands surveyed was 25.9%. Generics were more available but below optimal levels – most sold generics showed 36.2% availability and any generics 62.1%.

Table 12. Availability in private pharmacies.

	Originator brand	Most sold generic	Lowest priced generic
Median MPR (interquartile range)	25.9% (8.6 - 48.3%)	36.2% (0 - 56.9%)	62.1% (25.9 - 82.8%)

Table 13 presents the availability of generic versions of the surveyed medicines in the private sector; beclometasone and salbutamol inhalers were not found in any of the private pharmacies as generics.

Table 13. Availability of generics in private pharmacies.

Availability	Medicine
Not found	beclometasone inhaler, fluphenazine inj, lisinopril, nifedipine retard, salbutamol inhaler, stavudine, zidovudine
1 - 24%	fluconazole
25-49%	fluoxetine, lovastatin, simvastatin sulfadoxine/pyrimethamine
50- 79%	amitriptyline, amlodipine, atenolol, carbamazepine, ceftriaxone inj, co-trimoxazole susp, diclofenac, erythromycin, losartan, metformin, phenytoin
80% & over	aciclovir, amoxicillin 250mg & 500mg, captopril, ciprofloxacin, diazepam, glibenclamide, hydrochlorothiazide, omeprazole, ranitidine

tab/cap unless otherwise stated

Inter-sectoral comparison

Overall patient prices in the private sector were very similar to the prices charged in the public sector. For the 3 originator brands found in both sectors, private sector prices were 4.5% higher than public sector prices. For the 13 most sold generics, the difference was 1.5% and for the 23 lowest priced generics the difference was 3.3%.

For the 15 lowest priced generic medicines where there were prices for public sector procurement and patient prices; patient prices were 55% more than the public sector procurement prices.

Recommendations of the investigators

- For a very large country with a diverse healthcare sector such as Indonesia, the survey was not large enough to draw firm conclusions. Similar surveys should therefore be conducted in each state.
- An extended survey should be undertaken to ascertain the reasons for the high prices and large price differences between originator brands and generic equivalent products.
- Measures should be taken to lower patient prices in the public sector.
- Policies favouring the use of generic medicines should be strengthened by introducing quality assurance to increase professionals' and patients' confidence in them.
- Inefficient public procurement should be elaborated and improved by considering competitive tenders with price transparency using international reference prices as guidelines; and to introduce tendering for hospitals
- An in-depth analysis on the pricing of generics should be undertaken to ensure they are not priced on the selling price of originator brands but rather the actual manufacturing cost.
- A system for continuous and transparent monitoring of prices should be established.
- In September 2004, the Indonesian Parliament enacted the National Social Security Law in which national social health insurance program is one of the five social security programs. This law is an avenue to link national pre-paid financing scheme with national drug policy. The law can strengthen generic competition and medicine pricing formula indirectly through setting up drug formularies guaranteed by the national social health insurance program. The result of this study can be used for discussions on developing drug formularies for the implementation of the national social health insurance program.

Further information

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