

Analysis of price components of essential medicines in India: policy options for improving access to medicines

Anita Kotwani

Department of Pharmacology, V.P.Chest Institute,
University of Delhi, Delhi, India

Libby Levison, Public health consultant, Boston, USA

Background

Population, Health care & Price regulation

- India has a population of approx. 1.1 billion
- National Capital Territory (NCT) Delhi's population is over 180 million
- Health is a State subject; National programs for health and medicine pricing in under federal (central) government
- Medicines and health care is provided free in public sector
- It is estimated that more than 80% of Indian health care is 'out-of-pocket'






Regulation of health & pharmaceutical sector

- Three ministries of Government of India are responsible:
 1. Ministry of Health & Family Welfare (MoH &FW)
 2. Ministry of Commerce & Industry
 3. Ministry of Chemicals & Fertilizers (through the Department of Chemicals & Petrochemicals and its attached office NPPA)

Medicine pricing in India

- 74 medicines are listed in the Drug Price Control Order (DPCO) and are called 'scheduled medicines'
- NPPA fixes the price of 'scheduled medicines' according to a standardized formula
- $MRP = (MC + CC + PM + PC) \times (1 + MAPE/100) + ED$
- For all rest of the medicines – non scheduled medicines, there is no government control for the price; manufacturer set the price
- All products in India are printed with the *“Maximum Retail Price” (MRP)*

Supply chain

- Medicines are categorized as “branded” and “branded generics”
- Branded medicines – generally manufactured by MNC/reputed companies, marketed by manufacturer, high priced, more popular and are the most sold
- Branded generics – more closely resembles global generics, less name recognition, are marketed by the super stockist/retailer
- If the manufacturer does the marketing (branded), the medicines move from the manufacturer  C&F agent(2-4%) 
wholesalers(8 or 10%),  retail shops (16 or 20%)
- If the manufacturer does not do the marketing (branded generic), medicines pass through  a super-stockist (super wholesaler)/ wholesaler  distributes medicines directly to retailers

Objectives

To investigate:

- Price components of selected 8 essential medicines in public and private sector in NCT Delhi
- Relationship between medicine prices, price components and pricing policy in India

Medicines selection

Medicine	Strength	Scheduled (Price control)	Therapeutic class	Acute disease	Pricing variation
Amoxicillin tab	250 mg		antibiotic	Yes	
<i>Atorvastatin tab</i>	10 mg		lipid reducing		
Ciprofloxacin tab	500 mg	Yes	antibiotic	Yes	Yes
Diazepam tab	5 mg		anxiolytic		Public/ private
Omeprazole tab	20 mg		antacid		
Ranitidine tab	150 mg	Yes	antacid		
Salbutamol <i>syrup</i>	2 mg/ 5 ml	Yes	antiasthmatic		
Ceftriaxone <i>inj</i>	1g		antibiotic	Yes	

Methodology

- Data collected according to WHO-HAI methodology in feb-march'07 from –
- Central government – key informants in ministries for health care & pricing structure
- State level – Public and Private sector
- Private sector -Data was collected from:
 - 7 retailers and 4 wholesalers
 - 1 superstockist/wholesaler
 - 3 manufacturers

Public Sector Health Providers in NCT Delhi

•Central Government (CG)

1.Tertiary care hospitals

Procurement agency: Medical Stores Organization (MSO)

Local purchase: Stores offices of tertiary care hospitals

2.CGHS dispensaries

Procurement agency: HSCC

Local purchase: CGHS Stores Office

•Government of NCT Delhi

Procurement agency: Central Procurement Agency (CPA), Directorate of Health Services (DHS)

Local purchase: Stores offices of tertiary care hospitals; emergency purchase by secondary care hospitals

•Municipal Corporation of Delhi (MCD)

Procurement agency: Procurement office MCD

Local purchase: Procurement office MCD, emergency purchase by secondary care hospitals

•New Delhi Municipal Corporation (NDMC)

Procurement agency: Procurement office of NDMC

Local purchase: Procurement office of NDMC, emergency purchase by secondary care hospitals

Findings

- Public sector procurement departments were transparent in sharing information
- Private sector was extremely cooperative, showing their purchase price, selling price and trade discount
- In the private sector, mark ups were calculated for 4-6 examples of each medicine. Medicines were paired (branded and branded-generics) and prices analysed

Unit prices paid in all 4 public providers


(Prices in Indian Rupees)

	Procurement agency	Amoxicillin	Atorvastatin	Cipro	Diazepam	Omeprazole	Ranitidine	Salbutamol	Ceftriaxone
Central Government									
	MSO	0.665		1.144	0.061	0.389	0.269	6.349	
	Tertiary H	0.686		1.092	0.060	0.538	0.272	6.604	20.800
	HSCC	0.638		RTS	0.058		NA	RTS	
Government of NCT Delhi, Directorate of Health Services									
	CPA	0.604	0.000	0.859	0.055	0.354	0.244	5.772	17.649
	Tertiary H		1.851	0.978		0.593	0.296		
Municipal Corporation of Delhi									
	MCD	0.67	1.87	0.92	0.08	0.37	NA	6.26	NA
New Delhi Municipal Corporation									
	NDMC	1.129	1.560	1.820	NA	0.406	0.341	8.393	66.040


Important findings from public sector

- All local purchase price is higher than established rates & significant quantities of local purchases
- NDMC's prices are almost twice that of other services due to their technical requirement
- MSO and HSCC, the two procurement agencies of CG charge fees (10% & 4.5%) to the institute, results in higher unit cost. CGHS has generic and proprietary medicine list
- Multiple entities using the Delhi state (CPA) price list
- Taxes – VAT 4% to all procurement agencies; 4% CST by MCD; HSCC charges 4.5% fee and this fees is subjected a service tax and education cess. These taxes and fees are taken out from drug budget

Private Sector

- Trade schemes predominate
- Benefits not passed on to patients
- Examples of trade schemes 

Buy	Get	% Discount
10	1	9.09%
19	1	5.00%
20	1	4.76%
7	3	30.00%
2	1	33.33%
10	2	16.67%
4	1	20.00%

- Detailed price components of 'scheduled' and 'non-scheduled' medicines surveyed 

Ranitidine price components

(Scheduled medicine, price in INR for 10 tablets)

ranitidine						
Branded						
	Zinetac	GSK			Aciloc	Cadilla
	collected	percent	actual value			percent
						actual value
PTS	3.77				5.72	
PTR	4.10	8.8%	0.33		6.15	7.5%
MRP	4.98	21.5%	0.88		7.4	20.3%
cumulative markup		32.1%				29.4%
Branded generic						
	Rantodac	Cyper				
	collected	percent	value			
PTS						
PTR	2.60					
MRP	5.00	92.3%	2.40			

Amoxicillin price component

(Non-scheduled medicine, price in INR for 10 capsules)

amoxicillin							
Branded							
	Mox	Rexcel			Novamox	Cipla	
	collected	percent	actual value			percent	actual value
PTS	51.55				48.33		
PTR	57.28	11.1%			53.70	11.1%	
MRP	76.00	32.7%	18.72		65.25	21.5%	11.55
cumulative markup		47.4%				35.0%	
scheme, % impact	10+2	16.67%			4+1	20%	
Total cum. markup		64.1%	31.39			55.0%	13.86
Retailer cum. margin		49.4%				41.5%	
Branded generic							
	Mymox	Unichem			Ozomox	Ozone	
PTS							
PTR	9.50				9.50		
MRP	37.50	294.7%	28.00		35.40	272.6%	25.90

Ceftriaxone price components

(Injection)

ceftriaxone			
Branded			
	Mahacef	Mankind	
	collected	percent markup	actual value
PTS	39.59		
PTR	43.99	11.1%	4.40
MRP	54.99	25.0%	11.00
cumulative markup		38.9%	
scheme, % impact	2+1	33.00%	
Total cum. Markup		71.9%	
Retailer cum. Markup		58.0%	
Branded generic			
	Monogee		
	collected	percent markup	actual value
PTS	17		
PTR	24.00	41.2%	7.00
MRP	135.00	462.5%	111.00
cumulative markup		694.1%	

Important findings from private sector

- Margins for retailer are higher than established markups
- For branded generics retailer markups as high as 436%
- Trade schemed 'side step' pharmaceutical pricing
- Wholesaler margins are almost at established markups
- No schemes for relatively new (atorvastatin) and slow moving medicine (diazepam)
- Actual profits for certain branded medicines are high
- Taxes - excise duty 16%, education cess 2%

Medicine pricing....

Is fixing the price at MRP helpful?

- Trade schemes illustrate large manufacturer margins
- Low correlation between manufacturing costs and MRP of branded medicines
- High levels of competition for non-scheduled medicines does not guarantee lower prices
- MRP printed on the products is *the* price of medicine for consumers

Conclusions

- India has a huge generic industry but with medicines known by their trade name and brand loyalty affects the market
- Most of the essential medicines (over 350) are not under price control
- Brand loyalty, marketing strategies does not allow 'real' competition in the market
- Trade schemes are common, margins for retailers especially for branded generics are very high
- Responsibility for essential medicines prices and access to medicines divided among several offices
- Replication of efforts among public sector procurement offices
- Unreliable delivery from suppliers in public sector leads to local purchase of medicines

Policy options recommended

I. Medicine pricing

- Government to increase transparency in manufacturer set MRP
- Include all essential medicines under the NPPA drug price order
- Establish a working group (from MoH&FW, DCGI, MoC&F, private sector, academics and NGOs) to bring all essential medicines under price control
- Review the NPPA pricing formula

II. Taxes and tariffs

- Remove taxes and tariffs from essential medicines

III. Promote generic substitution

- Develop policies for generic substitution and generic prescribing
- Increase consumer awareness regarding quality-controlled generic equivalents
- Train doctors, pharmacists and patients in generic substitution

Policy options recommended

IV. Transparency in public sector procurement

- NDMC to review their technical requirement
- CGHS to re-evaluate working relation with HSCC
- CG to develop rational EML
- Establish links between procurement offices and periodic monitoring and evaluation of all public procurement offices

V. Improve public sector availability

- Reliable delivery from suppliers
- To monitor supplier performance closely
- DHS to investigate if there is a correlation between low availability and rate sharing by MSO or HSCC

Thank you!