MEDICINE PRICES SURVEY IN THE GAUTENG PROVINCE IN SOUTH AFRICA

BY

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TABLE OF CONTENTS

FIGURES

ANNEXURES

ABBREVIATIONS

ARV	Anti-retroviral
CIF	Cost, Insurance, and Freight
DISP. FEE	Dispensing Fee
DOC.	Doctor
EDAs	Exclusive Distributing Agents
EDL	Essential Drugs List
HAI	Health Action International
HIV	Human Immunodeficiency Virus
IB	Innovator Brand
LOG. FEE	Logistics Fee
LPG	Lowest Price Generic
MAN. PRICE. VAT	Manufacturer Price Value Added Tax
MPR	Median Price Ratio
MSG	Most Sold Generic
MSH	Management Sciences for Health
MUP	Manufacturer Unit Price
NDOH	National Department of Health
PEP	Post Exposure Prophylaxis
SEP	Single Exit Price
SMUP	Sector Median Unit Price
RTI	Respiratory Tract Infection
UTI	Urinary Tract Infection
VAT	Value Added Tax
WHO	World Health Organization

EXECUTIVE SUMMARY

It is mentioned in the National Drug Policy [1]for South Africa that medicine prices in South Africa have been found to be high in international terms. High medicine prices are a major barrier to access to medicines. The drug pricing section of the National Drug Policy aims to promote the availability of safe and effective medicines at the lowest possible cost. This aim would be achieved in the following manner:

- Monitoring and negotiating drug prices
- Rationalising the drug pricing industry- includes introduction of a non-discriminatory and transparent pricing system and replacement of wholesale and retail mark up with a fixed professional fee.
- Promoting the use of generics

Analysis of medicine prices and their components empowers the government to make sound medicine pricing policies or evaluate their impact as has been partly done in this survey. The aim of this survey is:

- To examine the prices paid by patients in the Gauteng Province private facilities and government depot to the international reference prices chosen
- To show the availability of some commonly used medicines in these facilities and in the government medicine depot
- To show the level of affording the medicines in the private sector by low-income groups (represented by the lowest paid government worker).
- To show how the different components of the medicine price contribute to the price paid by the patient
- To show the mark ups on medicines in the different sectors and how different they were to the legislated mark ups.

The methodology recommended by the World Health Organisation and Health Action International has been used. Adaptations were made to suit the South African scenario. Data collection started in the Gauteng province in November 2004, six months after the introduction of the medicine pricing regulations.

[1] National Drug Policy

The report includes a conclusion and recommendations and these are summarised in the following tables.

I) AVAILABILITY

Conclusions and Recommendations on Availability of the Medicines in the Gauteng Province

CONCLUSIONS	RECOMMENDATIONS
1) Availability of the surveyed medicines was low in the dispensing doctor facilities. However no conclusions can be drawn as to whether medicines per disease condition are totally unavailable.	1) A survey to determine availabily of the medicines by disease state should be conducted.
2) ARVs in sample were available in most private hospital pharmacies, but there were some that did not have them.	2) It should be ensured that those private hospitals that do not keep ARV s , especially the post exposure prophylaxis ones,keep them, to ensure that patients get them within the required time
3) Availability of the ARV s in the sample was low and regimens were incomplete in the retail pharmacies and the dispensing doctors.	3) It should be ensured that these facilities keep these especially the post exposure prophylaxis treatment. Patients receiving incomplete regiments are predisposed to resistance and this should be curbed.

Comments on availability of medicines

1.Availability was good in the retail and private hospital pharmacies
This is commendable as it means that the patients get their medications immediately from these retailers.

2. Availability was good at the Gauteng Province Depot. This means that the procurement system at the depot was efficient as far as availability is concerned.

3. The generic medicine availability was high at the retail pharmacies. This suggests that patients had a choice to cheaper versions of medicines.

4. The availability of ARV s was good at the Gauteng province depot and at the private hospital pharmacies. This is important as correct taking of these medicines reduces the chances of resistance in patients.

II) MEDICINE PRICES, MARK UPS AND COMPONENTS OF PRICE

Conclusions and Recommendations on Medicine Prices

CONCLUSIONS	RECOMMENDATIONS
1) Medicine prices in all the Gauteng Province sectors including the Gauteng Province Government depot, were high compared with international reference prices.	1) Interventions like benchmarking, reference pricing and pharmaco economic evaluations should be implemented as soon as possible to lower the medicine prices.
2) The majority of the facilities were not adhering to the medicine pricing regulations as the mark ups were higher than expected . This was a result of disagreement about dispensing fees (leading to legal action) and the confusion about whether the medicine pricing regulations were in place or not.	2) The issue must be resolved as soon as possible so that all stakeholders get clarity of the right course to take.
3) There was lack of transparency and uniformity in the mark ups of retailers	3) Transpareny at every level of the supply chain should be enforced
4) The prices of the innovator brands were on average six times higher than the generics	4) International benchmarking exercises must be carried out to see how these products types differ internationally
5) The VAT portion paid by the patients is high in South Africa compared to some other countries	5) Discussions with the relevant government bodies on VATon essential medicines should be conducted with the aim of making the medicines more affordable.
6) The manufacturer price for both innovator brand and generics accounts for the largest portion of the price to the patient	6) It should be ensured that manufacturer prices are reasonable as unreasonably high prices make medicines less affordable.
7) The logistics fee is not uniform for similar products of same pack sizes .	7) Appropriate logistics fees must be determined and made transparent.

Comments on Medicine Prices

1) The individual prices of ARV s in regimen 1 compared well with the international reference prices . However, the complete regimen 1 cost a five-day salary for the lowest paid government worker. This is an indication that price setters are sensitive to the HIV pandemic in South Africa, but at the same time the affordability of the complete regimen can still be improved.

2) Medicines in South Africa are imported free of duty but full VAT is payable. The duty free import of medicines contributes to a lowering of medicine prices compared to other countries.

III) AFFORDABILITY

Affordability Findings and Recommendations

CONCLUSION	RECOMMENDATIONS
1) Affordability of generics was better than that of the innovator brands	1) Innovator brands should be made more affordable to increase their accessibility especially, in cases where no generics are available.
2) Affordability of the medicines was better in the Gauteng province compared with other African countries which did the same survey.	2) The lowest paid government worker does not necessarily represent the lowest paid salary. Therefore there might be people whose affordability would be worse off and efforts to make the medicines more affordable to all must continue.
3) VAT in South Africa is 14% while the average in some European countries was found to have an average of about 11%-12%; with a minimum of 2% and a maximum of 25%.	3)To further improve the affordability of medicines there should be a consideration to decrease VAT on medicines.

Comments on Affordability of Medicines

1) Medicines are more affordable at the dispensing doctors than at the retail and hospital pharmacy sectors.

1. INTRODUCTION

South Africa is one of the countries which took part in a medicine prices survey using the methodology described by the Health Action International and the World Health Organisation in the manual: *Medicine Prices- A new approach to measurement- 2003 edition*. Preparation for the survey started in August 2004 and data collection was completed in December 2004.

The Pharmaceutical Economic Evaluation directorate at the National Department of Health conducted the survey. The research was a joint effort of the deputy directors of this directorate.

The objectives of the survey, which would contribute towards informing policy decisions, included investigation of the following:

- The cost to the patient, of selected medicines and how this compares internationally.
- The contribution of mark up towards patient price.
- The affordability of these medicines to the lowest paid government worker. It can be acknowledged that a significant proportion of the population earns less than the lowest paid government worker. The lowest paid government worker was used as a proxy for affordability amongst low-income workers and to enable international comparison of affordability.
- The extent to which these medicines are available in the different facilities sampled.
- The medicine price variation between facilities in the same sector.
- How the price to the patient differs between the different sectors.
- The procurement prices and how they compare internationally.
- The impact of the medicine pricing regulations on medicine prices.

The period during which the survey was to be started coincided with the introduction of the new medicine pricing regulations in the private sector in South Africa. The design of the survey is such that the components of the price to the patient can be determined. This presented an opportunity for incorporating a study of the impact of the regulations on medicine prices. This is because the regulations affected the prices along the South African supply chain, which constituted the components of the price to the patient. This

supply chain is constituted of the manufacturers, importers, distributors, wholesalers and the retailers.

These regulations followed a phased in approach because the kick-in dates for the different supply chain levels to comply with the regulations were different. The manufactures were required to comply first, by 2 May 2004. The retail sector, namely, the pharmacists and the dispensing doctors last, by 2 August 2004. The compliance of this latter group was delayed by the fact that the pharmacists in retail and some private hospitals had concerns about the regulations and took the government to court. Their compliance date therefore ended up being the 27 August 2004.

It was thought that when all the retailers had started to comply, the prices would have stabilised and the survey would be started. The retailers actually did not comply and started adding other charges, which were themselves varied among the retailers. It was hoped that this would be resolved quickly but as time went by a decision had to be made on whether to stop the survey or continue while there was no uniformity in the charges added. The final decision was that the survey should continue, as it would actually inform the policy makers about the prices at which the different facilities sell the medicines.

The survey was conducted in the Gauteng province and should not be generalised to the whole of South Africa. It was planned that a survey with a sample representative of the whole country be done as soon as possible. The sectors surveyed and the indicators used for analysis purposes are shown in the table below.

Table 1: Indicators Used in Analysis

	Sector			
Indicator	**Retail Pharmacy**	**Private Hospital Pharmacy**	**Dispensing Doctor**	**Government Procurement**
Price to Patient	✔	✔	✔	
Affordability to lowest paid Government worker	✔		✔	
Availability of Medicines in the sample	✔	✔	✔	✔
International Price Comparison	✔	✔	✔	✔
Comparison of innovator brand and generic prices	✔	✔	✔	✔
Price components and Mark up	✔	✔	✔	

2. METHODOLOGY

The methodology recommended by the WHO/HAI has been followed, with a few adaptations.

2.1 Medicine Sample

The medicine data collection form contained 42 medicines. Twenty-eight of these comprised the core list and 14 the supplementary list. Of the 42 medicines, 39 formed part of the Essential Drug List (EDL) compiled by the National Department of Health. Six of the medicines were anti-retroviral drugs.

2.1.1 The Core List

- It was developed to facilitate international comparison and it could be adjusted to suite each countries pattern of use of medicines.
- Two of the medicines in the original core list were not registered in South Africa and were therefore omitted in this survey.

2.1.2 The Supplementary List

- Each country was allowed to add more medicines that were of interest to it but did not appear in the core list. These formed the supplementary list.
- The Pharmaceutical Economic Evaluation directorate at the National Department of Health made a supplementary list of 14 medicines.
- This was based on the list of mostly sold medicines by volume in the private sector and on the occurrence of the medicine in the (EDL).

The list of the 42 drugs as it appeared in the medicine collection form is attached as annexure 1. The names of the medicines were expressed in their non-proprietary form. For each selected medicine in each facility, the medicine price to patient and availability were obtained on the following product types:

- ***The innovator brand product***
- ***The most sold generic equivalent by volume –*** obtained prior to the survey from a prescription-processing administrator servicing a large number of medical aids
- ***The lowest priced generic equivalent available*** – Determined at each facility.

2.2 Selection of Sectors

The facilities surveyed were from both the public and private sector:

2.2.1 Private Sector Facilities

- **Retail pharmacies**
- **Private hospital pharmacies and**
- **Dispensing doctors**

Selection was done from the lists of registered pharmacies and licensed dispensing doctors obtained from the South African Pharmacy Council and the National Department of Health respectively. The lists of retail pharmacies, private hospital pharmacies and dispensing doctors in Gauteng were filtered off the main lists and random selection of the facilities done on them. The resultant sample was found to be satisfactory because there was representation of the urban, rural, metropolitan and township[2] areas. The final sample for which data was obtained was as follows:

- 30 retail pharmacies
- 15 private hospital pharmacies
- 26 dispensing doctors

2.2.2 Public Sector Facilities-

The study involved the following:

- **Procurement prices of National Department of Health tender section, which tenders for all the provinces.**
- **Availability of the medicines at the Gauteng depot**.

A study of the medicine price to the patient was omitted because patients in the public sector in South Africa paid a fee that included all the services rendered in the public facility. It was impossible to identify the portion relating to the medicine prices.

[2] Township: Refers to a residential area in South Africa predominantly inhabited by black people.

2.3 Determination of Medicine Price Components at Patient Level in the Private Sector

Medicine price components of the final price to the patient in the private sector were identified, based on the medicine pricing regulations, to be as follows:

- ***The Single Exit Price (SEP)*** - A price at which the manufacturers and importers sell medicines and scheduled substances to all people, except the State.
  SEP= Manufacturer or Importer Price + Logistics Fee + Value Added Tax (VAT)
- ***The Dispensing Fee +VAT***

The supply chain is as follows:

Manufacturer ⟶ Or Importer	**Logistics Service Provider** (Wholesaler or Distributor)	**⟶ Retailer** (Retail Pharmacist, Private Hospital Pharmacy or Dispensing Doctor)

Wholesalers buy the medicines at SEP and pass it on to the retailers at SEP but must charge a logistics fee from the manufacturers or importers as remuneration for the logistics service. Distributors (called Exclusive Distribution Agents- EDA s), unlike wholesalers, do not own the product but are merely warehousing and distributing it on behalf of the manufacturer or importer to the retailer. For this service the manufacturer or importer pays a logistics fee to them. According to the medicine pricing regulations, the logistic fee is presently negotiated between the manufacturer and the logistics service provider.

2.4 Data Collection

The data collection team was comprised of:

- Eight pharmacist interns to be (students who had just qualified and were to start their internship)
- A qualified pharmacist- doing locums
- A pharmacist assistant- employed in the public sector.

Data collectors worked in pairs to double check each other. Data collection started on 29 November to 10 December 2004. Before embarking on the data collection, all data

collectors underwent a two-day training on the methodology that was to be used. The training included doing a pilot study at some facilities.

2.5 Data Entry

The computerised excel WHO/HAI Medicine pricing workbook that accompanied the manual was used to enter data collected in the field, consolidate and summarise results, and print tables that served as the basis for the report. Two data entry personnel who had attended the same training session as the data collectors did data entry. The pairing of data enterers was done to ensure accurate entering of data.

For international price comparisons the exchange rate used was that of the first day of data collection and this was obtained from the Reserve Bank of South Africa. The rate was found to be R5.8493 per $US on 29 November 2004.

2.6 Data Analysis and Interpretation

Data analysis was based on the following indicators:

- Medicine price and availability comparisons within a sector
- Medicine price and availability comparisons between different sectors
- Mark ups observed in the different sectors
- Contribution of the components of price to the final price to the patient
- Treatment affordability by the lowest paid government worker
- South African prices in comparison with international prices

The Management Sciences for Health (MSH) 2003 reference prices (annexure 9) were used as the standard for international price comparison. These are international not for profit supplier or tender prices, not retail prices. Centralised procurement prices in public sector facilities are expected to be fairly close to the MSH reference prices but private sector prices are likely to be considerably higher. This is due to the charges and profits added onto the procurement price along the distribution chain. For medicines with very large price differentials, the price component analyses should reveal why prices are high[3].

[3] Page 77 of the Manual.

The workbook automatically made calculations only where data points were available from at least four facilities. It then produced summaries and comparisons of the data on availability and price. Price summaries are expressed as median price ratios (MPR) of the individual medicines within and across sectors.

An MPR for an individual medicine is the median procurement price divided by its international reference price. The median price ratio for procurement data is a measure of purchasing efficiency. In general, procurement prices for the most sold and the lowest price generically equivalent products should be fairly close to the MSH international supplier or tender prices (that is ratios up to 1.00). According to the manual, median MPR s up to 1.20 (20% above or below MSH prices) indicate that the procurement system is working very efficiently[4].

At patient level, the MPR is the median medicine price to patients across the facilities divided by the international reference price of the medicine[5]. It is a measure of the magnitude of the price mark up. A median MPR greater than 2 means that the final price to the patient is two times the international reference price and this is cause for concern[6].

The MPR s of innovator brand products may be higher since the MSH international reference prices are for products procured in generically equivalent form. The difference in the median price ratios of an innovator brand and a lowest price generic is a measure of the brand premium paid for purchasing the innovator brand products.

The workbook also provides for the determination of cumulative mark up, medicine price components and affordability of the medicines. These have been discussed further under the sections dealing with the interpretation of these parameters.

2.7 Adaptations

The methodology suggested in the manual was followed with a few deviations to accommodate the South African situation.

[4] Pages 80 and 81 of the Manual
[5] Page 84 of the Manual.
[6] Pages 85 and 88 of the Manual.

2.7.1 Filling in of Data

The methodology required that no filling in of forms be done after a data collector had left a facility. There was very little cooperation from the retailers, and as little time as possible had to be spent in most facilities. For each product, the SEP, the dispensing fee charged and the extra charges were what the data collectors recorded. The data collectors then had to calculate the final price to the patient outside of the facility, using the price components given from each facility. Although this happened for most of the facilities it did not impact negatively to the accuracy of the data. To ensure that calculations were done accurately each person in the data collection pair was asked to do the calculation independently and compare with the other partner.

3. RESULTS AND FINDINGS

The results used for analysis are those that are automatically generated by the workbook. They involve the price, availability and affordability of the medicines in the survey for each sector. The pricing results are expressed as median MPR s (Median Price Ratios), 25th percentile MPR, 75th percentile MPR, minimum MPR and maximum MPR. A median price ratio for an individual product in a sector is calculated by dividing the median price of the individual product by its international reference price chosen as a standard. According to the manual, median MPR s up to 1.20 (20% above or below MSH prices) indicate that the procurement system is working very efficiently in the public sector or not for profit organisation. The MPR s of innovator brand products may be higher since the MSH international reference prices are for products procured in generically equivalent form. The difference in the median price ratios of an innovator brand and a lowest price generic is a measure of the brand premium paid for purchasing the innovator brand products.

Availability results are expressed as median availability, 25th percentile availability and 75th percentile availability.

The workbook calculated affordability in each sector, based on the daily wage of the lowest paid government worker. The value of the lowest government salary was established to be about R90.58 per day in November 2004. The affordability was calculated based on treatment of common conditions.

Using the workbook, cumulative mark-ups of the individual medicines was determined. The extent to which the price components contribute to the final patient price was also worked out through the workbook.

Summaries of medicine prices presented as median price ratios and availability for all the sectors are in annexure 2.

3.1 THE RETAIL PHARMACY SECTOR

The price analysis was done for medicines found in four or more retail pharmacy outlets and the availability was determined by considering all the medicines found in outlets. A summary is in annexure 3.

3.1.1. Availability Results in the Retail Pharmacies

The overall availability data in the retail pharmacies is extracted from annexure 3 and summarised in table 2.

Table 2: Overall Availability in the Retail Pharmacies (n=30)

	AVAILABILITY Includes Both Core And Supplementary Medicines (n=42)		
	Innovator Brand	**Most Sold Generic**	**Lowest Price Generic**
Median Availability	40.0%	46.7%	71.7%
25 %ile Availability	24.2%	13.3%	20.0%
75 %ile Availability	65.0%	66.7%	86.7%
Reference Price Data used=MSH 2003			

The median availability results are graphically represented in figure 1.

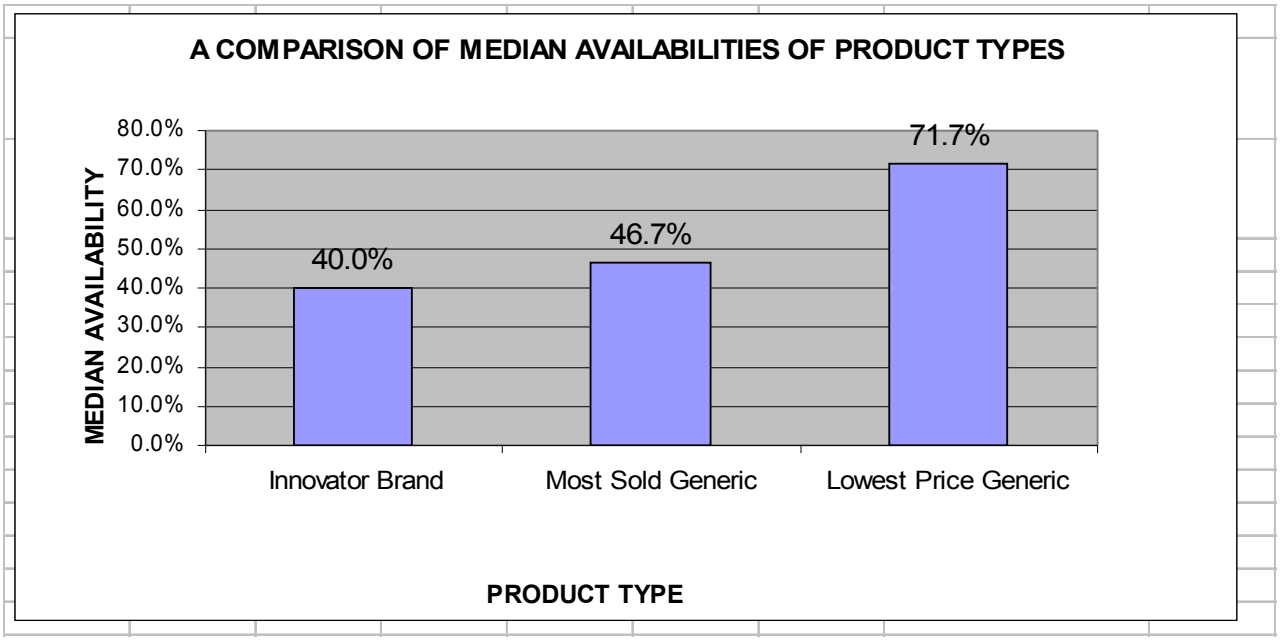

Figure 1: Median Availabilities in the Retail Pharmacies.

3.1.1.1 Availability Findings for individual medicines in Retail Pharmacy Sector

A) **Generics were more available than the innovator brand products. This means that patients had options to cheaper medicines in these facilities.** Table 3 illustrates examples of products with high generic availability in the retail pharmacy sector.

Table 3: Examples of Products with High Generic Availability in Retail Pharmacies

CONDITION TREATED	PRODUCT	PRODUCT TYPE	MEDIAN AVAILABILITY
Upper & Lower respiratory tract infections, otitis media, urinary tract infections, soft tissue infections	**Amoxycillin 250mg / clavulanic acid 125mg tabs**	Innovator Brand	70.00%
		Most Sold Generic	20.00%
		Lowest Price Generic	90.00%
Epilepsy	**Carbamazepine 200mg tabs**	Innovator Brand	66.70%
		Most Sold Generic	76.70%
		Lowest Price Generic	80.00%
Urinary Tract Infections	**Ciprofloxacin 500mg tabs**	Innovator Brand	66.70%
		Most Sold Generic	60.00%
		Lowest Price Generic	96.70%
Asthma	**Beclomethasone inhaler 50mcg/dose**	Innovator Brand	10.00%
		Most Sold Generic	63.30%
		Lowest Price Generic	63.30%
Hypertension	**Captopril 25mg tabs**	Innovator Brand	33.30%
		Most Sold Generic	30.00%
		Lowest Price Generic	70.00%
Respiratory Tract infection, Urinary tract infection	**Co-trimoxazole suspension**	Innovator Brand	3.30%
		Most Sold Generic	66.70%
		Lowest Price Generic	73.30%
Diabetes Mellitus	**Glibenclamide 5mg tab**	Innovator Brand	30.00%
		Most Sold Generic	83.30%
		Lowest Price Generic	90.00%

It would be expected that the overall availability of the most sold generic (which represented the generic with highest volumes sold at that time) is not lower than that of the lowest price generic, but a contrary result has been obtained. This could be attributed to a

possible inaccurate identification of the most sold generic product. It could also be because the lowest priced generic was sometimes identified to be the most sold generic as well.

B) **Some medicines had median availability higher for the innovator brand than generic.** Examples of these are indicated in table 4**.**

Table 4: Examples of High Innovator Brand Product Availability in Retail Pharmacies

CONDITION TREATED	PRODUCT	PRODUCT	MEDIAN AVAILABILITY
Diabetes Mellitus	Metformin 500mg tab	Innovator Brand	86.70%
		Most Sold Generic	53.30%
		Lowest Price Generi	66.70%
Attention Deficit Hyperactivity disorder	Methylphenidate 10mg tab	Innovator Brand	56.70%
		Most Sold Generic	13.30%
		Lowest Price Generi	23.30%
Duodenal Ulcer, Gastric Ulcer, Reflux Oesophagitis, Zollinger Ellison Syndrom	Omeprazole 20mg tab/cap	Innovator Brand	83.30%
		Most Sold Generic	30.00%
		Lowest Price Generi	50.00%
Epilepsy	Phenytoin 100mg cap	Innovator Brand	80.00%
		Most Sold Generic	13.30%
		Lowest Price Generi	20.00%

Comments

- Metformin - Annexure 2 shows that the brand price compares very well with the generic prices and therefore there seems to be no incentive to stock the generics more than the brand product.
- Methylphenidate - There are only two generic products for this product and therefore little competition to drive prices down.
- Omeprazole - The generics are fairly new in the market
- Phenytoin - This product falls in the list of products for which substitution is prohibited. Therefore, if most prescribers prescribe the brand name, the dispensers cannot substitute for a cheaper generic if the prescriber does not give the permission to do so. It is therefore apparent that the brand is the mostly prescribed product type for phenytoin.

C) The median availability of the anti-retroviral drugs (ARV s) was less than 40%. This means that a patient would not immediately get ARV s in about 60% of the retail pharmacy facilities surveyed. Table 5 demonstrates this.

According to the National Antiretroviral Treatment Guidelines-First Edition

Regimen 1(first line ARV therapy) medicines are:

- **Non Pregnant Adult**: Stavudine 30 or 40mg, Lamivudine150mg and Efavirenz 400mg or 600mg.
- **Pregnant Adult**: Stavudine 30 or 40mg, Lamivudine150mg and Nevirapine 200mg
- And post exposure prophylaxis medicines are Zidovudine 300mg and Lamivudine 150mg.

Six out of 30 (20%) of the facilities had a complete regimen 1 for non-pregnant people, five out of 30 (17%) had a complete regimen 1 for pregnant women and five out of 30(17%) had a complete regimen for prophylaxis

Table 5: Availability of ARV Medicines in Retail Pharmacies

PRODUCT	PRODUCT TYPE	MEDIAN AVAILABILITY
Efavirenz 600mg tab	Innovator Brand	33.30%
	Most Sold Generic	0.00%
	Lowest Price Generic	0.00%
Indinavir 400mg caps	Innovator Brand	16.70%
	Most Sold Generic	0.00%
	Lowest Price Generic	0.00%
Lamivudine 150mg tab	Innovator Brand	30.00%
	Most Sold Generic	6.70%
	Lowest Price Generic	6.70%
Nevirapine 200mg tab	Innovator Brand	33.30%
	Most Sold Generic	0.00%
	Lowest Price Generic	6.70%
Stavudine 30mg caps/tab	Innovator Brand	23.30%
	Most Sold Generic	16.70%
	Lowest Price Generic	20.00%
Stavudine 40mg caps/tab	Innovator Brand	36.70%
	Most Sold Generic	10.00%
	Lowest Price Generic	10.00%
Zidovudine 100mg caps	Innovator Brand	23.30%
	Most Sold Generic	0.00%
	Lowest Price Generic	0.00%

D) Low availability of Ceftriaxone injection – This product is mostly used by doctors in hospitals or in doctors' rooms hence its low availability in the retail pharmacies. The availabilities were 6.7% for IB and 3.3% for the MSG and LPG.

3.1.2 Medicine Prices in the Retail Pharmacy Sector

Data analysis was based on medicines, which were found in more than four facilities for a total of 36 innovator brands, 32 most sold generics and 32 lowest priced generics. The results are extracted from annexure 3 and presented in table 6.

Table 6: A Summary of Medicine Prices in the Retail Pharmacy Sector

Medicine Prices in Retail Pharmacies (n=30) Includes both Core and Supplementary Medicines (n=42)			
	Innovator Brand	Most Sold Generic	Lowest Price Generic
No. of meds. Included (where prices were found in 4+ outlets)	36	32	32
Summary of Medicine-specific Median Price Ratios for Medicines found in 4+ outlets			
Median MPR	24.91	6.82	6.52
25 %ile MPR	4.85	3.09	3.21
75 %ile MPR	69.39	19.05	13.86
Minimum MPR	1.09	1.55	1.58
Maximum MPR	183.47	87.17	87.16
Reference Price Data Used = MSH 2003			

3.1.2.1 Findings in the Retail Pharmacy Medicine Prices

A) Patients in South Africa obtained the medicines at higher prices compared to the international reference:

- The innovator brand products were 24.91 times more expensive (2391% above the MSH prices).
- The most sold generics were 6.82 times more expensive (582 % above the MSH prices)
- The lowest priced generics were 6.52 times more expensive (552% above the MSH prices).

Possible reasons for the high patient medicine prices are:

- Ex factory prices in South Africa were higher than the international reference prices and/or
- Large mark ups, which included distribution fees, dispensing fees and any other additional charges added on the procurement price.

B) The prices were variable across the facilities for some products.

Figures 2, 3 and 4 illustrate this for all the products, which had MPR values recorded in the workbook. Price variations indicate that the mark ups and the procurement prices were varied across sectors. This in turn illustrates poor compliance to the medicine pricing regulations.

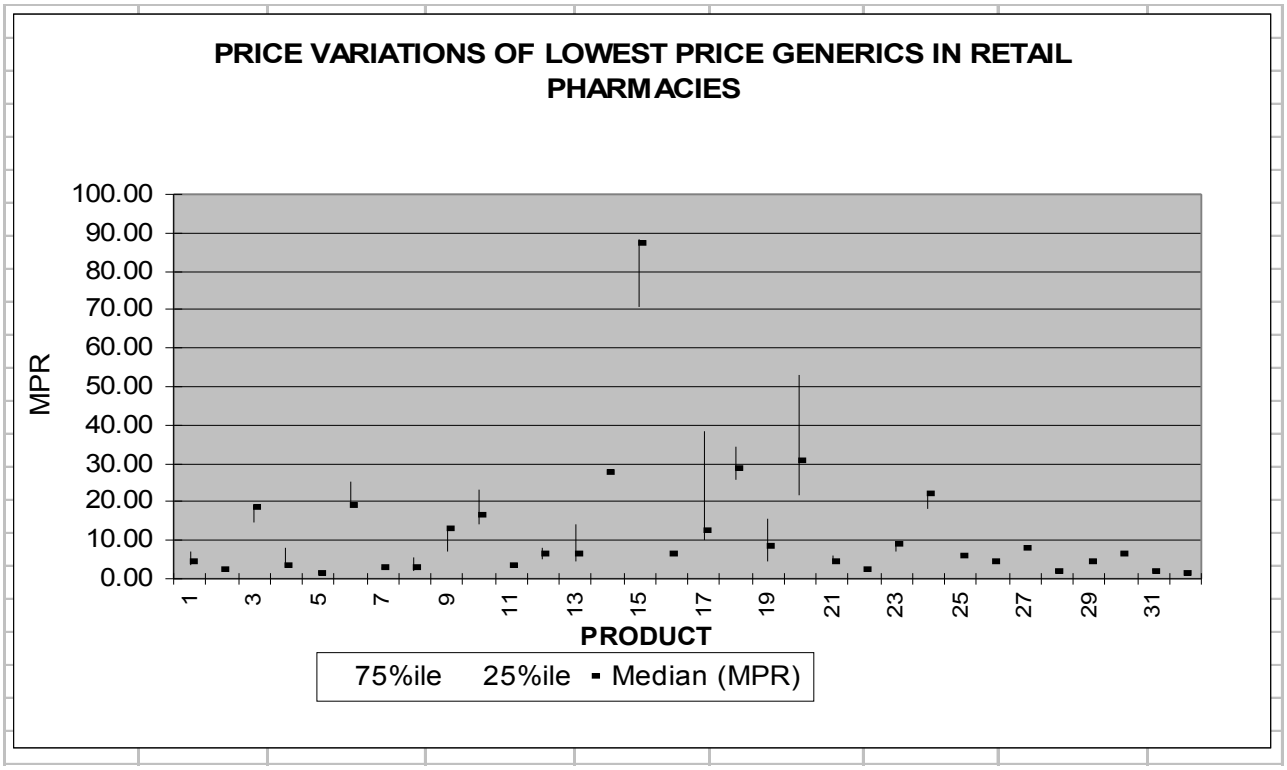

Figure 2: An illustration of the Variation of the Lowest Price Generic Prices in the Retail Pharmacies.

Products: 1= Acyclovir; 2= Allopurinol; 3= Amitriptyline; 4=Amoxycillin; 5= Amoxycillin/clavulanic Acid; 6= Atenolol; 7=Beclomethasone inhaler; 8=Captopril; 9= Carbamazepine; 10 =Ciprofloxacin; 11=Co trimoxazole Susp; 12=Diazepam; 13= Diclofenac; 14= Fluconazole 200mg;15 = Fluconazole 150mg; 16= Fluoxetine; 17=Glibenclamide; 18= Hydrochlorthiazide; 19 = Ibuprofen; 20= Loperamide; 21= Metformin; 22= Methylphenidate; 23= Metoclopramide; 24=Nifedipine 10mg; 25= Nifedipine Retard; 26= Omeprazole; 27=Phenytoin; 28= Prednisone; 29=Promethazine; 30=Ranitidine; 31Salbutamol Inhaler; 32= Stavudine 30mg;

Figure 2 indicates that about 50% of the lowest price generic prices were varied across facilities. This could be due to different additional charges, which were not allowed, on top

of the dispensing fee or different ex manufacturer prices. The lowest price generic was also different brands in the facilities and these brands have different ex manufacturer prices.. Examples of products with high variations are amitriptyline, amoxycillin, atenolol, carbamazepine, ciprofloxacin, diclofenac, fluconazole 150mg, glibenclamide, hydrochlorthiazide, ibuprofen, loperamide and nifedipine 10mg.

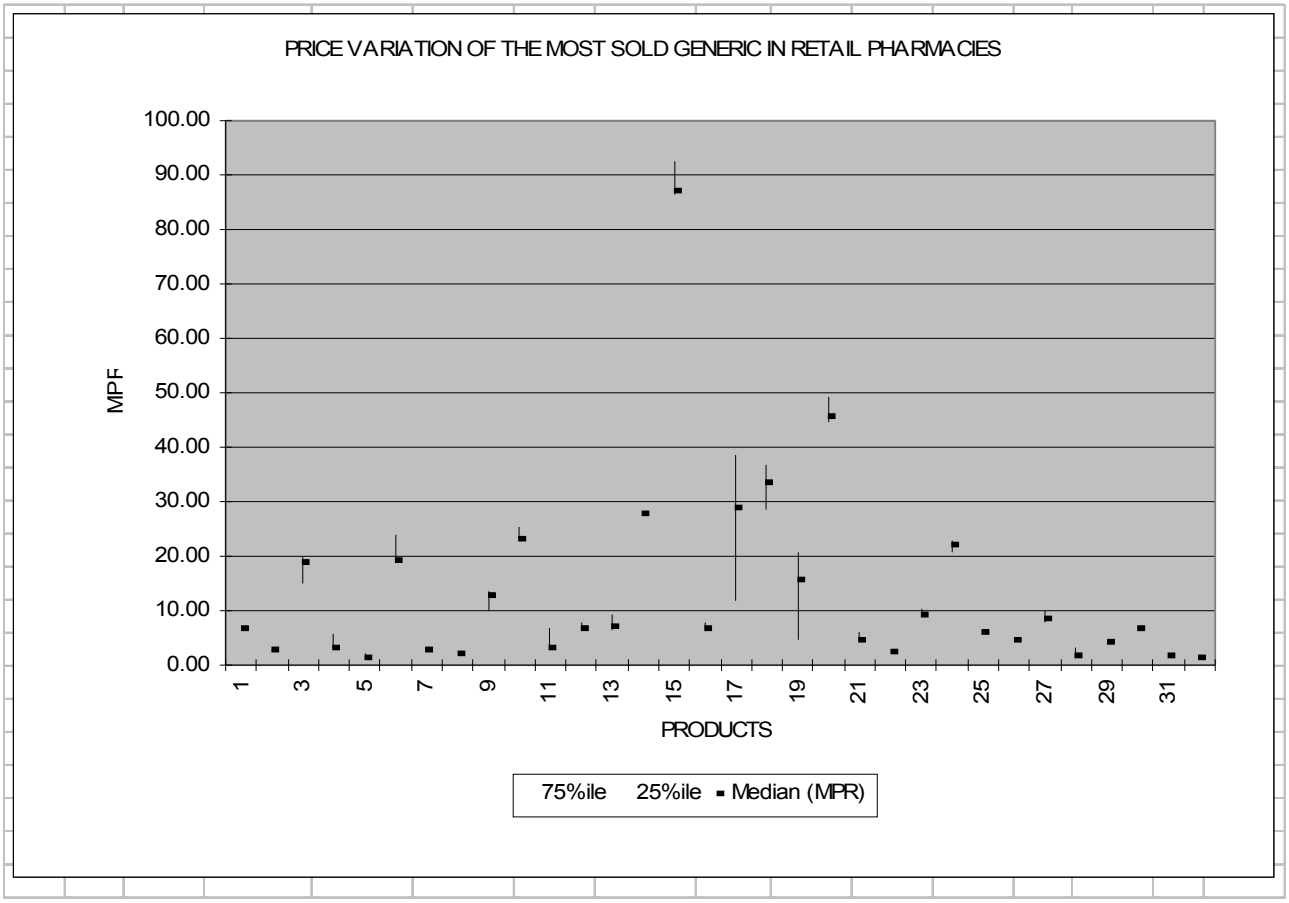

Figure 3: Most Sold Generic Price Variation in the Retail Pharmacy Sector

Products: 1= Acyclovir; 2=Allopurinol; 3= Amitriptyline ;4 = Amoxycillin; 5= Amoxicillin/clavulanic Acid ; 6= Atenolol; 7= Beclomethasone inhaler; 8= Captopril; 9= Carbamazepine; 10= Ciprofloxacin; 11=Co Trimoxazole suspension; 12= Diazepam; 13= Diclofenac; 14= Fluconazole 200mg; 15= Fluconazole 150mg; 16= Fluoxetine ; 17= Glibenclamide; 18= Hydroclorthiazide; 19= Ibuprofen; 20= Loperamide; 21=Metformin; 22= Methylphenidate; 23= Metoclopramide; 24=Nifedipine 10mg; 25= Nifedipine Retard; 26= Omeprazole; 27= Phenytoin; 28= Prednisone; 29= Promethazine; 30= Ranitidine; 31= Salbutamol; 32= Stavudine 30mg.

Figure 3 illustrates that the majority of the most sold generic prices were consistent across the facilities, with only a few varying. Examples of products with larger price variations were amitriptyline, atenolol, ibuprofen, hydrochlorthiazide, glibenclamide, loperamide and fluconazole 150mg

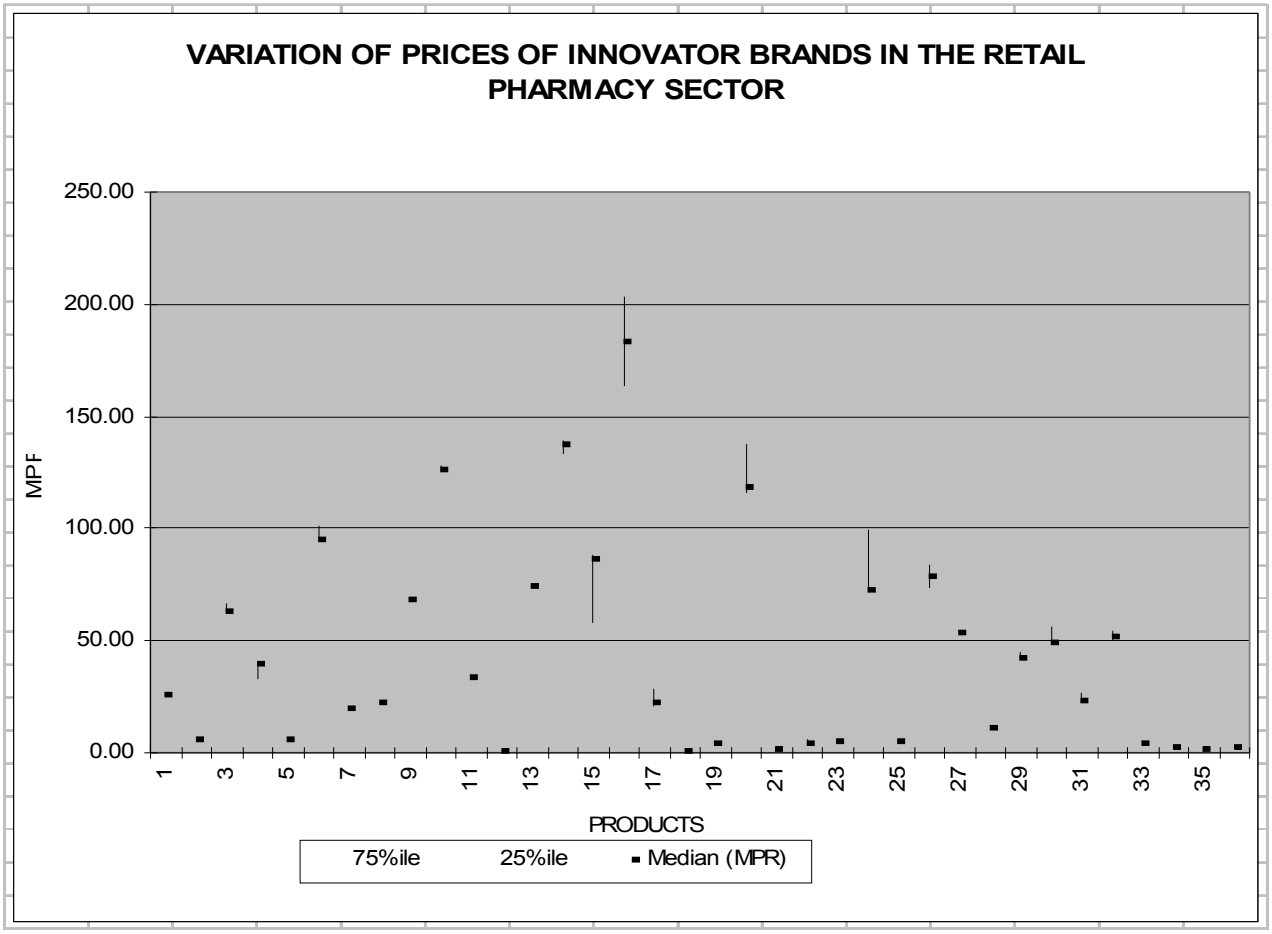

Figure 4: Price Variation of Innovator Brand Products in Retail Pharmacies

Products: 1=Acyclovir; 2=Allopurinol; 3=Amytriptyline; 4= Amoxycillin; 5= Amoxycillin/clavulanic Acid; 6= Atenolol; 7= Captopril; 8=Carbamazepine; 9= Ciprofloxacin; 10= Diazepam;11= Diclofenac;12= Efavirenz; 13= Fluconazole 200mg; 14= Fluconazole 150mg; 15=Fluoxetine; 16= Glibenclamide; 17=Ibuprofen; 18= Indinavir; 19= Lamivudine; 20=Loperamide; 21= Losartan; 22= Metformin; 23= Methylphenidate; 24= Metoclopramide; 25= Nevirapine; 26= Nifedipine 10mg; 27= Nifedipine retard; 28= Omeprazole; 29= Phenytoin; 30= Prednisone; 31 Promethazine; 32= Ranitidine;33= Salbutamol Inhaler; 34=Stavudine 30mg; 35= Stavudine 40mg; 36= Zidovudine 30mg.

Figure 4 illustrates that only a smaller proportion of the innovator brands had noticeable price variations. These were Fluoxetine, glibenclamide, loperamide, metoclopramide.

C) The majority of the medicines were more expensive than the international reference.

Only 8.33% innovator brand, 12.50% most sold generic and 12.50% lowest price generic had MPR s less than 2 (see table 7) and were not more expensive than the MSH prices.

Table 7: Retail Pharmacy Medicine Prices which Compared Well with the International Reference Prices.

	LOCAL PRICE / INTERNATIONAL REFERENCE PRICE RATIO (median MPR)		
Product	Innovator Brand (8.33% had MPR less than 2)	Most Sold Generic (12.5% had MPR less than 2)	Lowest Price Generic (12.50% had MPR less than 2)
Efavirenz	1.17	~	~
Amoxycillin /clavulanic	~	1.55	1.68
Indinavir	1.09	~	~
Losartan	1.32	~	~
Prednisone	~	1.75	1.83
Salbutamol inhaler	~	1.92	1.92
Stavudine 30mg	~	1.58	1.58

~ means not applicable

The MPR ranges of the products in this sector are shown in table 8 and figure 5

Table 8: Price Ranges in the Retail Pharmacy Sector

MPR Range	Innovator Brand %	Most Sold Generic %	Lowest Price Generic %
1 to 19.99	41.67 (8.33 %MPR s $\leq$ 2)	78 (12.50% MPR s $\leq$ 2)	84.38 (12.50% MPR s $\leq$2)
20 to 39.9	16.67	15.63	12.50
40 to 59.9	11.11	3.13	0.00
60 to 79.9	13.89	0.00	0.00
80 to 99.9	5.56	3.13	3.13
above 100	11.11	0.00	0.00

Products identified to have very high prices compared to the international reference are shown below, with their MPR s in brackets:

Innovator Brands (MPR s $\geq$ 40)
Amitriptyline (63.32), Amoxycillin (39.47), Atenolol (95.06), Ciprofloxacin (68.36), Diazepam (125.97), Fluconazole 150mg(137.13), Fluconazole 200mg (74.21), Fluoxetine (86.51), Glibenclamide (183.47), Loperamide (118.13), Metochlopramide monohydrate (72.46), Nifedipine 10mg (79.14), Nifedipine retard (53.37), Phenytoin (42.08), Prednisone (49.45) and Ranitidine (51.57).

Lowest Price Generics (MPR s> 10)
Amitriptyline (18.69), Atenolol (19.33), Carbamazepine (12.99), Ciprofloxacin (16.45), Fluconazole 150mg (87.16), Fluconazole 200mg (27.75), Glibenclamide (12.58), Hydrochlothiazide (28.89), Loperamide (30.71) and Nifedipine 10mg (22.30).

Reasons identified to contribute to these high prices are the following:

- Insufficient generic competition resulting in high ex- manufacturer prices
- Suppliers of generic medicines pricing products only slightly below the innovator brand version

- Variable fees for distribution- In South Africa the distribution fee is presently negotiated between the manufacturer and the distributor and is not capped.
- Variable retail mark-ups- Retailers have been adding various other fees to the dispensing fee and the manufacturer exit price.

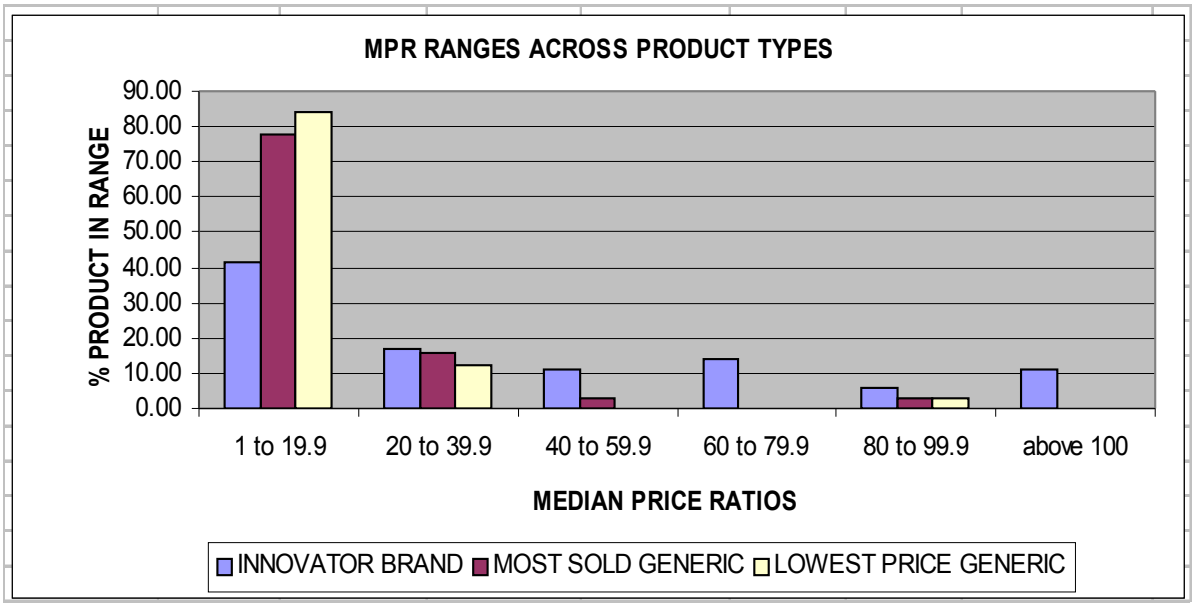

Figure 5: MPR Ranges in the Retail Pharmacy Sector

D) Some ARV s in the sample had MPR s around 2 signifying efficient procurement of these medicines. This is probably as a result of the innovator companies honouring their commitment to price reduction schemes for sub- Saharan Africa.

Table 9: An Illustration of ARV Prices in the Retail Pharmacies

PRODUCT	PRODUCT TYPE	LOCAL PRICE / INTERNATIONAL REFERENCE PRICE RATIO (MEDIAN MPR)
Efavirenz 600mg tab	IB	1.17
Indinavir 400mg caps	IB	1.09
Stavudine 40mg tab/cap	IB	2.01
Zidovudine 100mg tab/cap	IB	2.25
Nevirapine 200mg tab/cap	IB	5.35
Lamivudine 150mg tab/cap	IB	4.03
Stavudine 30mg tab/cap	IB	2.26
	MSG	1.58
	LPG	1.58

E) The innovator brand was 6.13 times (42.08 for the innovator brand divided by 6.86 of the most sold generic) more expensive than the most sold and lowest price

generics. Price comparisons in pairs of product types are shown in table 10 and 11 with examples of individual products in table 13.

F) The most sold and the lowest price generic prices were close to each other (MPR ratio of matched pairs was1.05**).** See table 12 and 13 for individual products**.**

Table 10: Price Comparisons Between Matched Pairs of Innovator Brand and Most Sold Generics in Private Retail Pharmacies

Price Comparisons of Matched Pair Product Types Includes Core and Supplementary Medicines (n=42)		
Matched Pairs	Innovator Brand	Most sold Generic
Number of listed medicines for which prices were found in 4+ outlets	29	29
Summary of Medicine-specific Median Price Ratios for Medicines found in 4+ outlets		
Median MPR	42.08	6.86
25 %ile MPR	19.75	3.16
75 % MPR	74.21	18.96
Minimum MPR	2.26	1.55
Maximum MPR	183.47	87.17
Reference Price Data Used =MSH 2003		

Table 11: Price Comparisons Between Matched Pairs of Innovator Brands and Lowest Priced Generics in the Private Retail Pharmacies

Price Comparisons of Matched Pair Product Types Includes Core and Supplementary Medicines (n=42)		
Matched Pairs	Innovator Brand	Lowest price Generic
Number of listed medicines for which prices were found in 4+ outlets	29	29
Summary of Medicine-specific Median Price Ratios for Medicines found in 4+ outlets		
Median MPR	42.08	6.57
25 %ile MPR	19.75	3.30
75 % MPR	74.21	12.99
Minimum MPR	2.26	1.58
Maximum MPR	183.47	87.16
Reference Price Data Used =MSH 2003		

G) The prices of some innovator brands were similar to those of the generics (low brand premiums). *Examples are listed below with the brand premiums in brackets: Carbamazepine (1.70); Fluconazole 150mg (1.57); Metformin (1.00); Methylphenidate (1.93); stavudine 30mg (1.43);*

Examples of products with high brand premiums (High IB/LPG ratio):

Prednisone (26.99), Glibenclamide(14.58), Diazepam (18.59), Amoxycillin (11.96), Fluoxetine (13.36).

Table 12: Price Comparisons Between Matched Pairs of Most Sold Generics and Lowest Priced Generics in the Retail Pharmacies

Price Comparisons of Matched Pair Product Types **Includes Core and Supplementary Medicines (n=42)**		
Matched Pairs	Most Sold Generic	Lowest Price Generic
Number of listed medicines for which prices were found in 4+ outlets	32	32
Summary of Medicine-specific Median Price Ratios for Medicines found in 4+ outlets		
Median MPR	6.82	6.52
25 %ile MPR	3.09	3.21
75 % MPR	19.05	13.86
Minimum MPR	1.55	1.58
Maximum MPR	87.17	87.16
Reference Price Data Used =MSH 2003		

A few examples of randomly selected products are shown in table 11 to indicate that the innovator brands were more expensive than the generics, and that the most sold and the lowest price generics were nearly equal to each other:

Table 13: Examples of Products showing higher Innovator Brand Prices and nearly Equal Prices for Most Sold and Lowest Price Generics in Retail Pharmacies.

PRODUCT	INNOVATOR BRAND MEDIAN MPR	MOST SOLD GENERIC MEDIAN MPR	LOWEST PRICE GENERIC MPR	INNOVATOR BRAND/MSG RATIO	INNOVATOR BRAND/LPG RATIO	MOST SOLD/ LOWEST PRICE GENERIC RATIO
Acyclovir tabs	26.33	6.86	4.58	3.84	5.75	1.50
Amitriptyline tabs	63.32	18.96	18.69	3.34	3.39	1.01
Amoxycillin caps	39.47	3.16	3.3	12.49	11.96	0.96
Atenolol tabs	95.06	19.33	19.33	4.92	4.92	1.00
Glibenclamide tabs	183.47	28.76	12.58	6.38	14.58	2.29
Carbamazepine tabs	22.1	12.99	12.99	1.70	1.70	1.00
Diazepam tab	125.97	6.77	6.77	18.61	18.61	1.00
Metoclopramide tabs	72.46	9.28	9.28	7.81	7.81	1.00

3.2 THE PRIVATE HOSPITAL PHARMACY SECTOR

The price analysis was done for medicines found in four or more private hospital pharmacy outlets and the availability was determined by considering all the medicines found in these outlets. The results are extracted from annexure 4.

3.2.1 Availability of the Medicines in the Private Hospital Pharmacies

A summary of the overall availability results in the private hospital pharmacies is shown in table 14.

Table 14: Overall Availability in Private Hospital Pharmacies (n=15)

	AVAILABILITY		
	Includes Both Core and Supplementary Medicines (n=42)		
	Innovator Brand	Most Sold Generic	Lowest Price Generic
Median Availability	53.3%	30.0%	53.3%
25 %ile Availability	35.0%	8.3%	26.7%
75 %ile Availability	60.0%	53.3%	78.3%
Reference Price Data Used = MSH 2003			

The median availability results are graphically represented as follows:

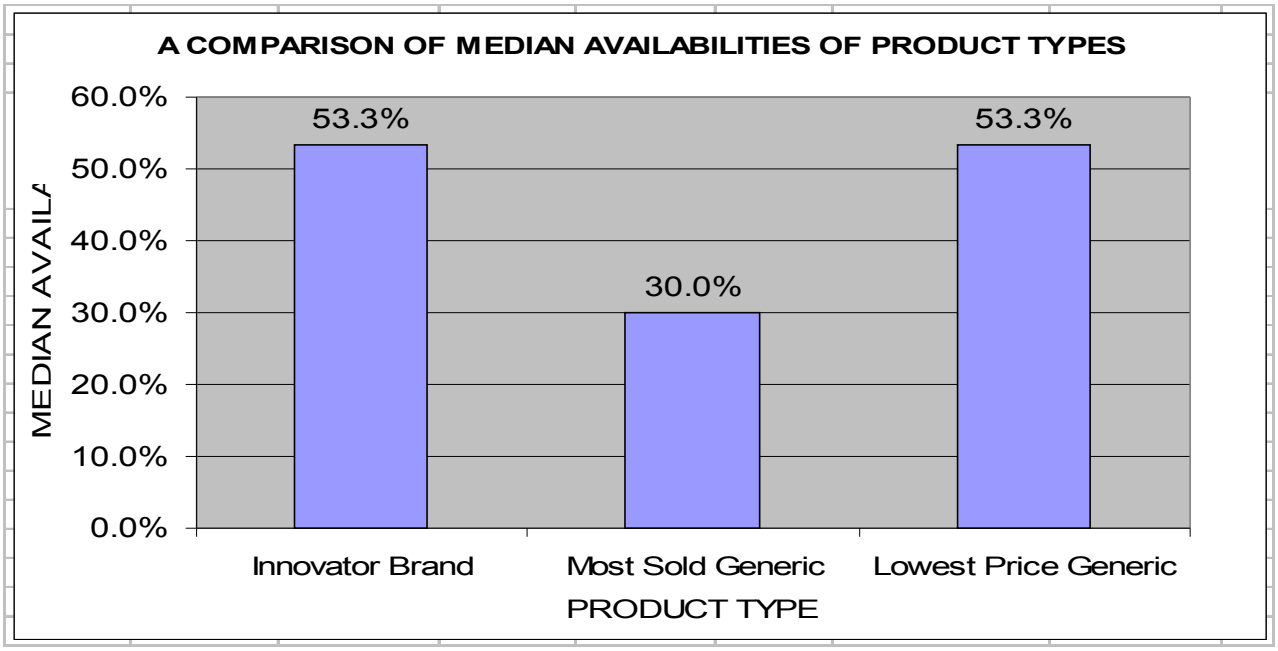

Figure 6: Median Availabilities in the Private Hospital Pharmacies

3.2.1.1 Availability Findings in the Private Hospital Sector

A) The availabilities of the lowest price generics and the innovative brand products were equal in the private hospital pharmacies (they are both 53.3%). This means

that patients had options to generics in these facilities. Availability of the most sold generic was lower at 30%.

B) Some products had a higher availability of the innovator brand than for its generic. Examples of these have been sighted in Table 15. Some of the possible reasons for this are the following:

- Non substitutable products, for example, carbamazepine and phenytoin
- Few or new generics, for example, methylphenidate .

Table 15: Examples of Products with High Innovator Brand Availability In the Private Hospital Pharmacies

CONDITION TREATED	PRODUCT	PRODUCT TYPE	MEDIAN AVAILABILITY
Epilepsy	Carbamazepine 200mg tab	Innovator Brand	93.33%
		Most Sold generic	60.00%
		Lowest Price generic	66.67%
Attention Deficit Hyperactivity Disorder	Methylphenidate 10mg tab	Innovator Brand	46.67%
		Most Sold generic	6.67%
		Lowest Price generic	6.67%
Hypertension, Angina	Nifedipine 10mg cap	Innovator Brand	60.00%
		Most Sold generic	26.67%
		Lowest Price generic	33.33%
Epilepsy	Phenytoin 100mg cap/tab	Innovator Brand	73.33%
		Most Sold generic	6.67%
		Lowest Price generic	13.30%

C) Some products had a high generic availability compared to innovator brands

Examples of these are shown in table16. The majority of the products fall in this category.

Table16: Examples of Products with High Generic Product Availability in the Private Hospital Pharmacies

CONDITION TREATED	PRODUCT	PRODUCT TYPE	MEDIAN AVAILABILITY
Gout	Allopurinol 300mg tab	Innovator Brand	40.00%
		Most Sold Generic	73.33%
		Lowest Price Generic	86.67%
Depression	Amitriptyline 25 mg tab	Innovator Brand	26.67%
		Most Sold Generic	80.00%
		Lowest Price Generic	100.00%
Antibiotic for respiratory Tract Infection, Urinary tract infections, otitis	Amoxycillin 250mg cap	Innovator Brand	40.00%
		Most Sold Generic	60.00%
		Lowest Price Generic	93.33%
Respiratory tract infections, otitis media, soft tissue infections	Amoxycillin / clavulanic acid (250mg/125mg)	Innovator Brand	46.67%
		Most Sold Generic	26.67%
		Lowest Price Generic	93.33%
Asthma	Beclomethasone inhaler 0.1 mg per dose	Innovator Brand	13.33%
		Most Sold Generic	60.00%
		Lowest Price Generic	73.33%
Antibiotic for urinary tract infections	Ciprofloxacin 50mg tab	Innovator Brand	53.33%
		Most Sold Generic	33.33%
		Lowest Price Generic	93.33%
Athritis and other inflammatory condtions	Ibuprofen 400mg tab	Innovator Brand	6.67%
		Most Sold Generic	46.67%
		Lowest Price Generic	73.33%
Nausea and vomiting	Metoclopramide monohydrochloride 10mg tab	Innovator Brand	33.33%
		Most Sold Generic	66.67%
		Lowest Price Generic	86.67%

D) Nearly equal availability of generic and innovator brand product was observed in some products

Examples of these are illustrated in table 17**.** A possible reason for this is that they compare well in price, for example, metformin. It cannot be explained for products like atenolol and diazepam, which have very high brand premiums, why the availability of the innovator brand product and the generic products is nearly equal. Possible reasons could be:

- That these innovator brands were acquired at discount prices before the implementation of the legislation that prohibits discounts and bonuses. The implication of this is that the patient did not benefit from the discounts but the hospital pharmacy did.

- That the medicine was or still is in the formulary

Table 17: Examples of Products with Nearly Equal Innovator Brand and Generic Product Availability in the Private Hospital Pharmacies.

CONDITION TREATED	PRODUCT	PRODUCT TYPE	MEDIAN AVAILABILITY
Hypertension, Myocardial infarction, Angina	Atenolol 50mg tab	Innovator Brand	53.33%
		Most Sold Generic	40.00%
		Lowest Price Generic	66.67%
Anxiety	Diazepam 5mg tab	Innovator Brand	53.33%
		Most Sold Generic	46.67%
		Lowest Price Generic	53.33%
Diabetes mellitus	Metformin 500mg tab	Innovator Brand	60.00%
		Most Sold Generic	53.33%
		Lowest Price Generic	66.67%

E) ARV s were available in most private hospitals. However, there were hospitals, which did not carry the ARV s in the national treatment guidelines list. According to the National Antiretroviral Treatment Guidelines-First Edition

Regimen 1(first line ARV therapy) medicines are:

- **NonPregnant Adult**: Stavudine 30mg or 40mg, Lamivudine150mg and Efavirenz 400mg or 600mg.
- **Pregnant Adult**: Stavudine 30mg or 40mg, Lamivudine150mg and Nevirapine 200mg

Post exposure prophylaxis medicines are Zidovudine 300mg and Lamivudine 150mg

The availability of the ARV s in the private hospital pharmacies is shown in table 18.

Table 18: Availability of ARV s in the Private Hospital Pharmacies

PRODUCT	PRODUCT TYPE	MEDIAN AVAILABILITY
Efavirenz 600mg tab	Innovator Brand	60.00%
	Most Sold Generic	0.00%
	Lowest Price Generic	0.00%
Indinavir 400mg tab	Innovator Brand	33.33%
	Most Sold Generic	0.00%
	Lowest Price Generic	0.00%
Lamivudine 150mg tab	Innovator Brand	73.33%
	Most Sold Generic	6.67%
	Lowest Price Generic	6.67%
Nevirapine 200mg tab	Innovator Brand	53.33%
	Most Sold Generic	0.00%
	Lowest Price Generic	0.00%
Stavudine 30mg cap/tab	Innovator Brand	53.33%
	Most Sold Generic	26.67%
	Lowest Price Generic	26.67%
Stavudine 40mg cap/tab	Innovator Brand	53.33%
	Most Sold Generic	26.67%
	Lowest Price Generic	26.67%
Zidovudine 100mg caps	Innovator Brand	66.67%
	Most Sold Generic	0.00%
	Lowest Price Generic	0.00%

Ten out of 15 facilities (67%) had a complete post exposure prophylaxis regimen; Nine out of 15 (60%) had a complete regimen 1 for non-pregnant people and seven out of 15 (47%) had a complete regimen 1 for pregnant women.

F) Some products had very little or no availability. For example**,**

- Antimalarial, sulfadoxine– pyrimethamine - Availability was zero – malaria is not endemic in the Gauteng province, hence the low availability.
- Fluphenazine - used to treat psychiatric disorders and is mainly kept in psychiatric hospitals. There were very few psychiatric hospitals or hospitals with psychiatric departments in the sample, hence the low availability of fluphenazine in this sector.

3.2.2. Medicine Prices in the Private Hospital Pharmacy Sector

Table 19 shows a summary of results of the medicine prices in the private hospital pharmacies. Data analysis was based on medicines found in more than four facilities for 37 innovator brands, 28 most sold generics and 32 lowest price generics.

Table 19: A Summary of Medicine Prices in the Private Hospital Pharmacies

Medicine Prices in Private Hospital Pharmacies (n=15) **Includes Both Core and Suplementary Medicines (n=42)**			
	Innovator Brand	Most Sold Generic	Lowest Price Generic
Number of medicines found in 4+outlets	37	28	32
Summary of medicine specific median price ratios for medicines found in 4+ otlets			
Median MPR	26.35	6.82	6.45
25 %ile MPR	4.91	3.08	3.33
75 %ile MPR	67.40	19.05	13.70
Minimum MPR	1.03	1.48	1.48
Maximum MPR	176.42	87.17	87.17
Reference Price Data Used=MSH 2003			

3.2.2.1 Findings in the Private Hospital Pharmacy Medicine Prices

A) Innovator brands were 26.35 times more expensive than the international reference prices (2535% above the MSH price); The most sold generics were 6.82 times more (582% above MSH) and the lowest price generics 6.45 times more (545% above MSH).

B) The prices were variable for some products across hospital facilities.

Figures 7,8 and 9 illustrate this for all the products, which had MPR values. The noticeable variation is as follows:

- *Innovator brand:* About 16% (6 products out of 37) of the products, namely, amoxycillin, fluconazole 150mg, fluoxetine, glibenclamide, loperamide and nifedipine 10mg.
- *Most sold generic:* About 32% (9 out of 28 products) of the products, namely, amoxycillin, co trimoxazole, fluoxetine, ciprofloxacin, fluconazole 150mg,glibenclamide, hydrochlothiazide, ibuprofen and nifedipine 10mg.

- *Lowest price generic:* About 40% (13 out of 32 products), namely, Amitriptyline, atenolol, captopril, ciprofloxacin, co trimoxazole suspension, diclofenac, fluoxetine, fluconazole 150mg, glibenclamide, hydrochlorthiazide, ibuprofen, loperamide and nifedipine 10mg.

Fluconazole 150mg, glibenclamide, loperamide and nifedipine 10mg appear to be varied in both the IB and MSG.

Price variation at retail level can be a symptom of competition on the dispensing fee, and this is allowed if the competition occurs below the legislated dispensing fee. At manufacturer level it is a symptom of varied ex manufacturer prices (SEP). Although manufacturers are allowed to decrease prices, SEP s for the same medicine are not supposed to vary at a point in time as all the retailers must acquire the medicines at the same ex manufacturer price. Even though the patient could be benefiting from the price competition, it is at a higher level compared to the international reference prices. Examples of products where the prices are high and varied in both the LPG and IB are:
Fluconazole 150mg, fluoxetine , glibenclamide, loperamide and nifedipine 10mg.

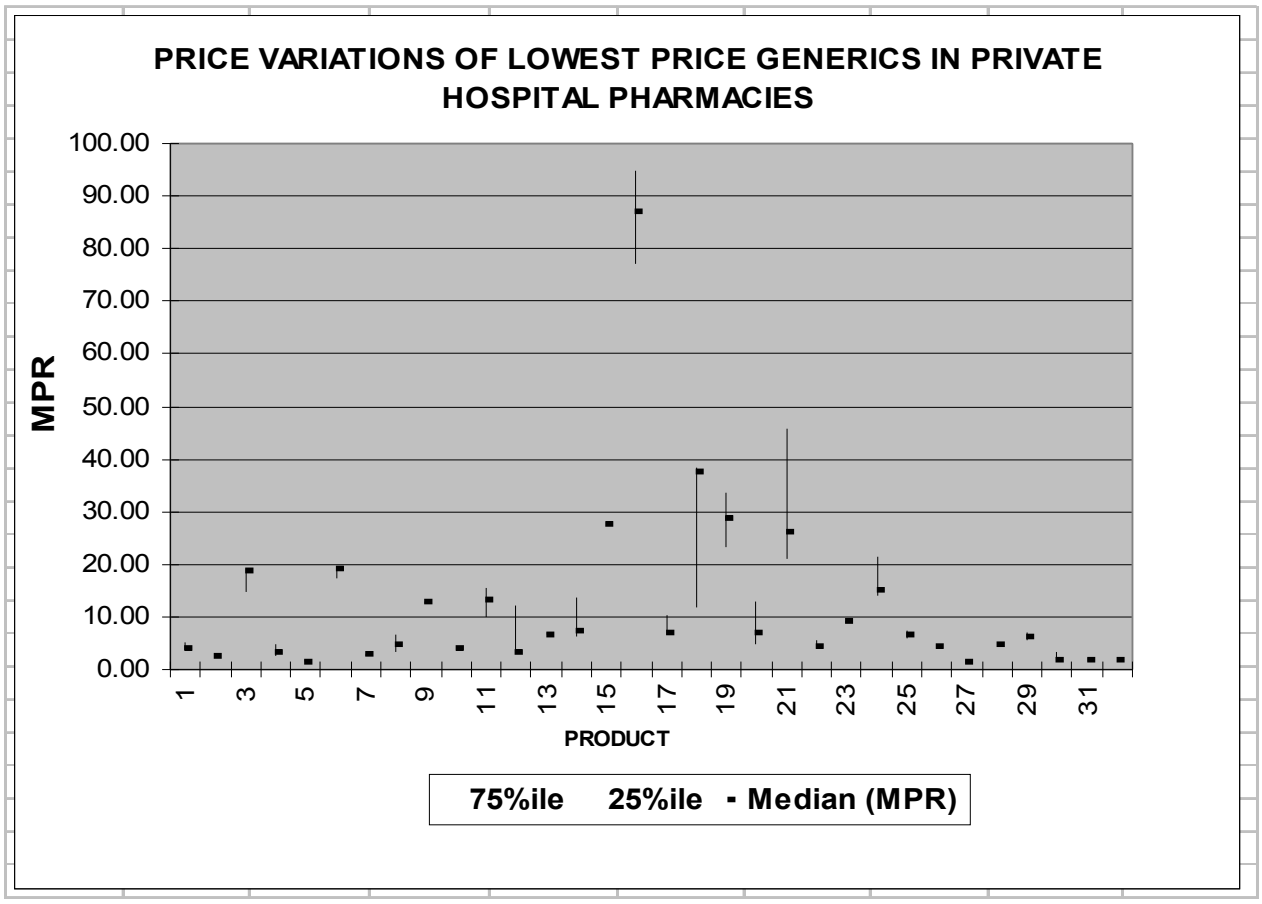

Figure 7: Lowest Price Generic Price Variation in the Private Hospital Pharmacies

Products: 1= Acyclovir; 2= Allopurinol; 3= Amitriptyline; 4=Amoxycillin;5= Amoxycillin/clavulanic Acid; 6=Atenolol; 7=Beclomethasone inhaler;8=Captopril; 9=Carbamazepine; 10=Ceftriaxone; 11=Ciprofloxacin; 12=Cotrimoxazole suspension; 13=Diazepam; 14=Diclofenac;15=Fluconazole 200mg;16= Fluconazole 150mg;17= Fluoxetine; 18= Glibenclamide; 19=Hydrochlorthiazide; 20=Ibuprofen; 21=Loperamide; 22=Metformin; 23=Metoclopramide; 24=Nifedipine 10mg; 25=Nifedipine retard; 26=Omeprazole; 27=Prednisone; 28=Promethazine; 29=Ranitidine; 30=Salbutamol; 31=Stavudine 30mg; 32=Stavudine 40mg.

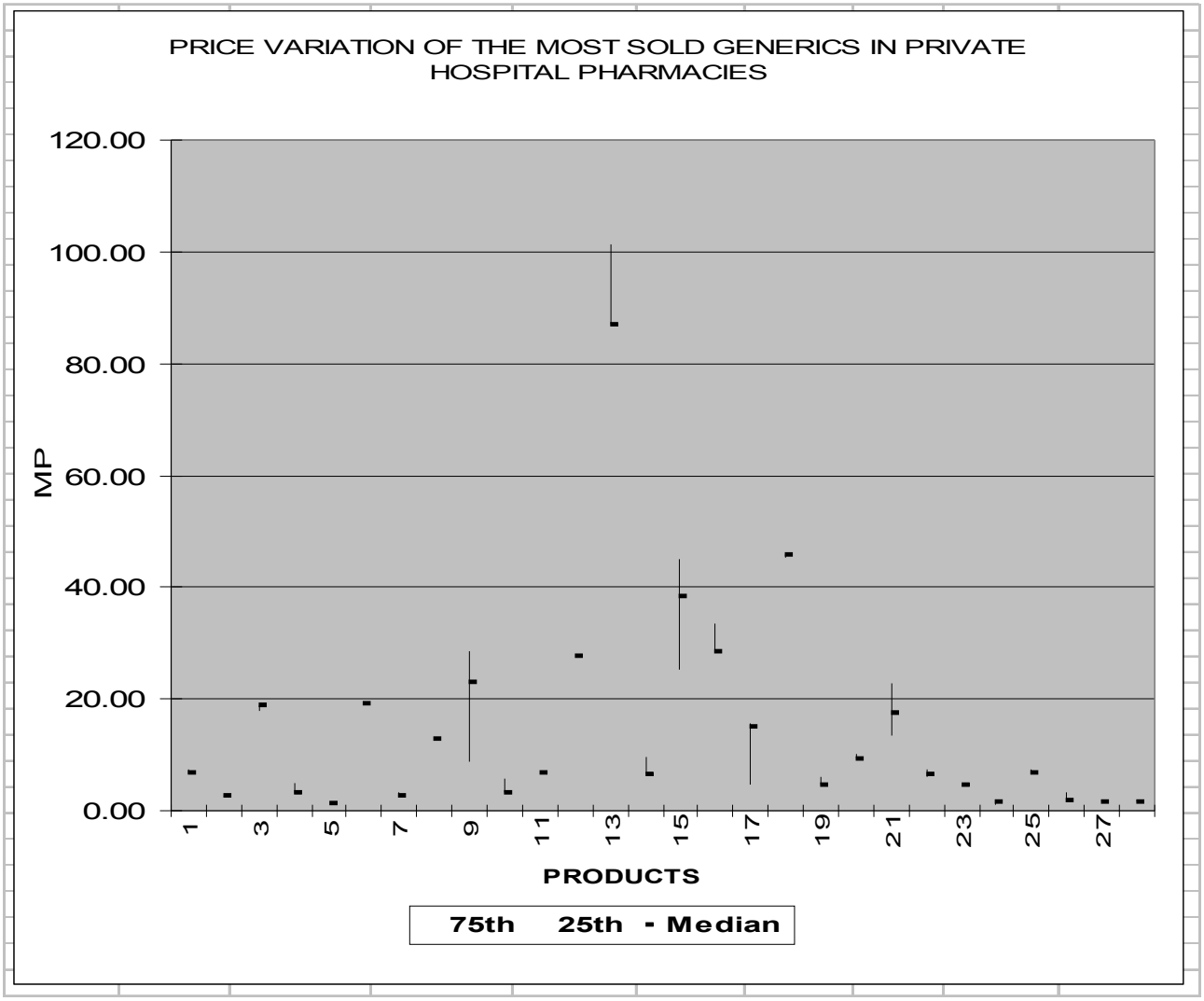

Figure 8: Most Sold Generic Price Variation in the Private Hospital Pharmacies

Products: 1=Acyclovir; 2=Allopurinol; 3=Amitriptyline; 4=Amoxycillin; 5=Amoxycillin/clavulanic acid; 6=Atenolol; 7=Beclomethasone inhaler; 8=Carbamazepine; 9=Ciprofloxacin; 10=Cotrimoxazole; 11=Diazepam; 12=Fluconazole 200mg; 13=Fluconazole150mg; 14=Fluoxetine; 15=Glibenclamide; 16=Hydrochlorthiazide; 17=Ibuprofen; 18=Loperamide; 19= Metformin; 20= Metoclopramide; 21= Nifedipine 10mg; 22= Nifedipine Retard; 23=Omeprazole; 24=Prednisone; 25=Ranitidine; 26= Salbutamol inhaler; 27=Stavudine 30mg; 28=Stavudine 40mg

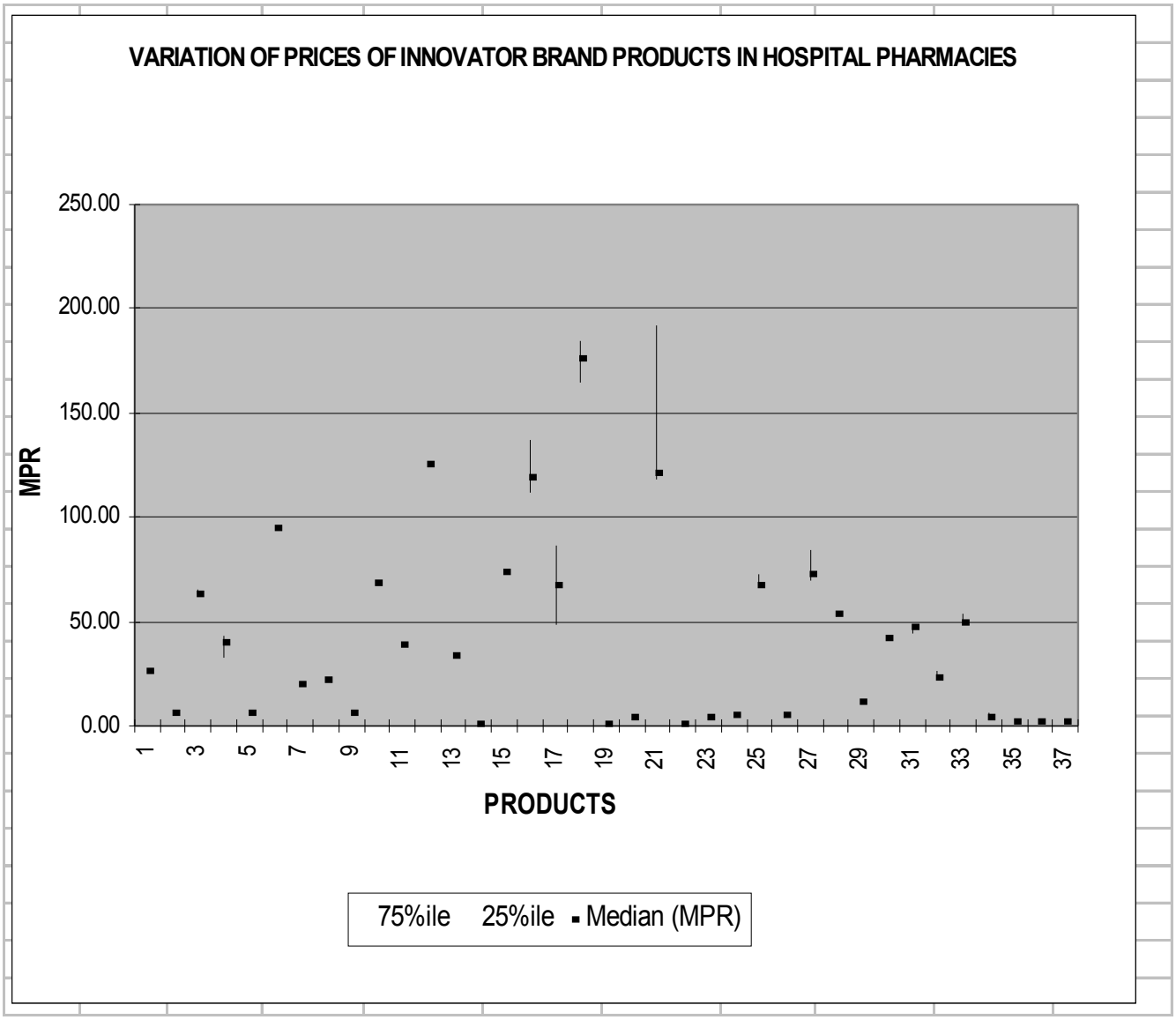

Figure 9: Innovator Brand Price Variation in the Private Hospital Pharmacies.

Products: 1=Acyclovir;2=Allopurinol; 3=Amitriptyline; 4=Amoxycillin; 5=Amoxycillin/clavulanic Acid; 6=Atenolol;7=Captopril; 8=Carbamazepine; 9=Ceftriaxone; 10=Ciprofloxacin; 11=Co-trimoxazole; 12= Diazepam; 13=Diclofenac; 14=Efavirenz; 15=Fluconazole 200mg; 16=Fluconazole 150mg; 17=Fluoxetine;18=Glibenclamide; 19=Indinavir; 20=Lamivudine; 21=Loperamide; 22=Losartan; 23=Metformin;24=Methylphenidate; 25=Metoclopramide; 26=Nevirapine; 27=Nifedipine 10mg; 28=Nifedipine Retard; 29=Omeprazole; 30= Phenytoin; 31=Prednisone i;32=Promethazine; 33=Ranitidine; 34 Salbutamol inhaler; 35=Stavudine 30mg; 36= Stavudine 40mg; 37=Zidovudine

C) Some products had prices which were close to the international reference prices (less than or equal to 2).

This indicates that patients in the retail private hospitals were paying prices comparable to the international reference prices which are for not for profit organisations.

8.11% innovator brand, 17.86% most sold generic and 15.63 lowest price generics had prices close to the international reference price with MPR s around one, signifying an efficient procurement system. (See table 20).

Table 20: Private Hospital Pharmacy Medicine Prices which Compared Well with the International Reference Price.

	LOCAL PRICE / INTERNATIONAL REFERENCE PRICE RATIO (median MPR)		
PRODUCT	Innovator Brand (8.11% had MPR less than 2)	Most Sold Generic (17.86% had MPR less than 2)	Lowest Price Generic (15.63% had MPR less than 2)
Efavirenz	1.06	~	~
Amoxycillin /clavulanic acid	~	1.48	1.48
Indinavir	1.03	~	~
Losartan	1.32	~	~
Prednisone	~	1.65	1.66
Salbutamol inhaler	~	1.92	1.92
Stavudine 30mg	~	1.77	1.77
Stavudine 40mg	~	1.71	1.71

~ means not applicable

The price ranges are illustrated in table 21, which has been formulated from annexure 2.

Table 21: Price Ranges in the Private Hospital Pharmacies

MPR RANGE	INNOVATOR BRAND %	MOST SOLD GENERIC %	LOWEST PRICE GENERIC %
0 TO 19.99	43.24 (8.11 % MPRs are <2)	78.5 (17.86% MPR s are <2)	84.38 (15.63% MPR s are <2)
20 TO 39.99	13.57	14.29	12.5
40 TO 59.99	13.57	3.57	0
60 TO 79.99	16.22	0	0
80 TO 99.99	2.71	3.57	3.13

Products identified to have very high prices compared to the international reference are shown below, with their MPR s in brackets:

<u>Innovator Brand</u> (MPR>40)

Amitiptyline (63.32), amoxicillin (40.53), atenolol (95.06), ciprofloxacin (68.36), diazepam (125.97), fluconazole 200mg (74.21), fluconazole 150mg(119.09), fluoxetine (67.49), glibenclamide (176.42), loperamide (121.62), metoclopramide (67.40), nifedipine (73.17), nifedipine retard (53.37), phenytoin (42.08), prednisone (46.99) and ranitidine (50.06).

Lowest Price Generics *(MPR>10)*

Amitriptyline (18.96), atenolol (19.33), carbamazepine (12.99), ciprofloxacin (13.24), fluconazole 200mg (27.75), fluconazole 150mg (87.17), glibenclamide (37.79), hydrochlorthiazide (28.69), loperamide (26.19) and nifedipine 10mg (15.06)

Possible reasons for high MPR s are:

- Little generic competition, for, example, hydrochlorthiazide exists only as two generics and the innovator brand is not marketed in South Africa.
- Some generic products priced just below the innovator brand

D) All ARV s, except lamivudine and nevirapine had prices close to the international reference prices.

Table 22: An illustration of ARV Prices in the Private Hospital Pharmacies

PRODUCT	PRODUCT TYPE	LOCAL PRICE / INTERNATIONAL REFERENCE PRICE (MEDIAN MPR)
Efavirenz 600mg tab	IB	1.06
Indinavir 400mg caps	IB	1.03
Stavudine 40mg tab/cap	IB	2.15
Zidovudine 100mg tab/cap	IB	2.25
Nevirapine 200mg tab/cap	IB	**5.35**
Lamivudine 150mg tab/cap	IB	**3.80**
Stavudine 30mg tab/cap	IB	2.34
	MSG	1.77
	LPG	1.77

E) The price of the innovator brand of metformin was similar to the generics' (median MPR s 4.61 for the innovator brand and 4.60 for both generics).

F) MPR comparisons in matched pairs of product types in which prices were found (See tables 23, 24 and 25) **revealed the following:**

- The innovator brand (MPR 50.06) was 7.39 times more expensive than the most sold generic (MPR 6.77).
- The innovator brand was also 6.33 times more expensive than the lowest price generic (MPR 6.40).

- The most sold generics and the lowest price generics were nearly equal in price with a ratio of 1.03.

Table 23: Price Comparisons Between Matched pairs of Innovator Brand and Most Sold Generics in The Private hospital Pharmacies

Price Comparisons Across Products Types Includes Core and Supplementary medicines (n=42)		
Matched Pairs	Innovator Brand	Most Sold Generic
Number of listed medicines for which prices were found in 4+ outlets	25	25
Summary of Medicine-specific Median Prices Ratios for Medicines found in 4+ outlets		
Median MPR	50.06	6.77
25 %ile MPR	11.56	3.16
75 %ile MPR	73.17	18.96
Minimum MPR	2.15	1.48
Maximum MPR	176.42	87.17
Reference Price Data used = MSH 2003		

Table 24: Price Comparisons Between Matched pairs of Innovator Brand and Lowest Price Generics in The Private hospital Pharmacies

Price Comparisons Across Products Types Includes Core and Supplementary medicines (n=42)		
Matched Pairs	Innovator Brand	Lowest Price Generic
Number of listed medicines for which prices were found in 4+ outlets	29	29
Summary of Medicine-specific Median Prices Ratios for Medicines found in 4+ outlets		
Median MPR	40.53	6.40
25 %ile MPR	11.56	3.38
75 %ile MPR	68.36	13.24
Minimum MPR	2.15	1.48
Maximum MPR	176.42	87.17
Reference Price Data used = MSH 2003		

Table 25: Price Comparisons Between Matched pairs of Most Sold and Lowest Price Generics in The Private Hospital Pharmacies.

Price Comparisons Across Products Types Includes Core and Supplementary medicines (n=42)		
Matched Pairs	Most Sold Generic	Lowest Price Generic
Number of listed medicines for which prices were found in 4+ outlets	28	28
Summary of Medicine-specific Median Prices Ratios for Medicines found in 4+ outlets		
Median MPR	6.82	6.63
25 %ile MPR	3.08	3.08
75 %ile MPR	19.05	16.03
Minimum MPR	1.48	1.48
Maximum MPR	87.17	87.17
Reference Price Data used = MSH 2003		

3.3 THE DISPENSING DOCTOR SECTOR

Twenty-six dispensing doctor outlets were visited. The summarised results are in annexure 10. Most of the dispensing doctors charged an all-inclusive fee which included consultation and medicines for cash patients. This has resulted in the number of doctors with usable medicine price data for this survey to be decreased to 15. The availability results were generated by the workbook on all the 26 facilities surveyed.

3.3.1 Availability Results in the Dispensing Doctor Facilities

A summary of the availability results is presented in table 26 and figure 10.

Table 26: Overall Availability in the Dispensing Doctor Facilities

	AVAILABILITY		
	Both Core and Supplementary Medicines (n= 42)		
	Innovator Brand	Most Sold Generic	Lowest Price Generic
Median availability	3.8%	7.7%	25.0%
25 %ile availability	0.0%	0.0%	4.8%
75 %ile availability	7.7%	14.4%	41.3%
Reference Price Data Used =MSH 2003			

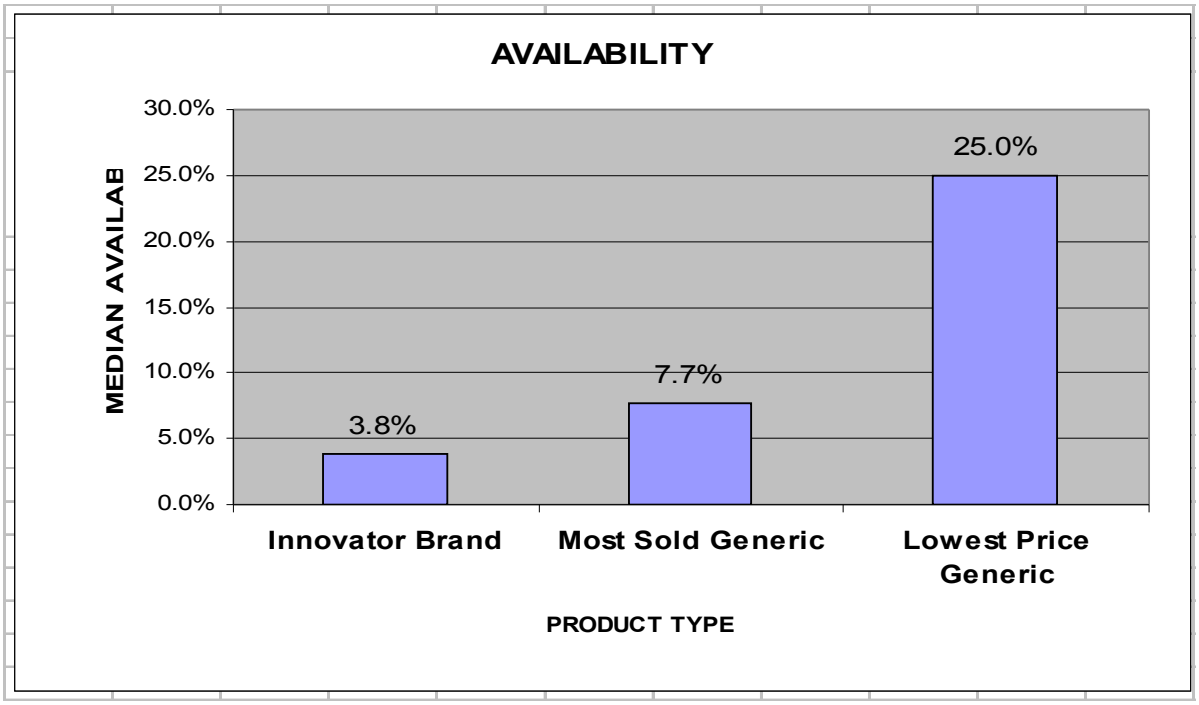

Figure 10: Median Availabilities in the Dispensing Doctor Facilities.

3.3.1.1 Availability Findings in the Dispensing Doctor Facilities

A) The availability of the surveyed medicines was low.

B) None of the facilities had a complete regimen 1 of ARV s. This means that patients needing these medicines would have to wait for this medication, travel to pharmacies to get this treatment, or take partial regimen.

C) **Only one facility (3.8% of the facilities) had a complete Post Exposure Prophylaxis (PEP) for HIV.** According to the National Antiretroviral Treatment Guidelines, first edition, PEP has to be started as soon as possible, within 2 hours of exposure. The patients visiting these doctors were therefore not assured of getting this treatment immediately.

D) There is potential for increased ARV resistance caused by about 12% of the facilities having only one or two of the medicines in regimen 1, if the complete regimen is not given.

E) There were some medicines in the survey which were commonly kept by more than 50% of the facilities. These are shown in table 27.

Table 27: Products with more than 50% Availability in the Dispensing Doctor Sector.

CONDITION TREATED	PRODUCT	AVAILABILITY
	LOWEST PRICE GENERICS	
Gout	Allopurinol	53.33%
Depression	Amitriptyline	60.00%
Respiratory tract infections	Amoxycillin	80.00%
Respiratory tract infections	Amoxycillin / clavulanic	53.33%
Asthma	Beclomethasone inhaler	53.33%
Urinary tract infection	Ciprofloxacin	53.33%
Urinary tract infection	Co-trimoxazole	66.67%
Anxiety	Diazepam	60.00%
Arthritis	Diclofenac	53.33%
Depression	Fluoxetine	53.33%
Diabetes Mellitus	Glibenclamide	73.33%
Diarhoea	Loperamide	80.00%
Diabetes Mellitus	Metformin	53.33%
Nausea and Vomiting	Metoclopramide	66.67%
Allergic conditions	Prednisone	100.00%
	MOST SOLD GENERICS	
Asthma	Beclometasone inhaler	53.33%
Allergic conditions	Prednisone	73.33%

3.3.2 Medicine Prices in the Dispensing Doctor Facilities

The number of medicines qualifying to be included for analysis was low (10 most sold generics, 24 lowest price generic and zero innovator brands). Therefore the analysis was based on matched pairs found in a minimum of four facilities. The results are summarised in table 28.

Table 28: A Summary of the Medicine Prices in the Dispensing Doctor Facilities

Medicine Prices in the Dispensing Doctor Facilities (n=15)

Includes both core and supplementary medicines (n=42)

	Analysis Includes All medicines			**Analysis Includes Only Medicines with Prices Found in Both Types in Pair**					
	Innovator Brand	Most Sold Generic	Lowest price Generic	Innovator Brand	Most Sold Generic	Innovator Brand	Lowest price Generic	Most Sold Generic	Lowest price Generic
Number of Listed Medicines For Which Prices Were Found In 4+ outlets									
	0	10	24	0	0	0	0	10	10
Summary of Medicine-specific Median Price ratios for Medicines found in 4+ outlets									
Median MPR		3.95	4.41					3.95	4.66
25 %ile MPR		2.65	2.63					2.65	2.62
75 %ile MPR		17.67	10.86					17.67	12.69
Min. MPR		1.50	1.50					1.50	1.50
Max. MPR		79.50	79.50					79.50	79.50

Reference Price Data Used = MSH 2003

3.3.2.1 Findings in the Dispensing Doctor Medicine Prices

A) **There were no innovator brand product results** (very few facilities kept innovator brands).

B) **The prices of the generics were generally high compared to the international reference prices.**

Only 20% of the MSG and 12.50% of the lowest price generics had MPR s close to the international reference price. The mark ups also contributed to the different prices. See table 29.

Table 29: Price Ranges in the Dispensing Doctor Facilities

MPR Range	Innovator Brand %	Most Sold Generic %	Lowest Price Generic %
0-19.99	0	80 (20% of all products had MPR ≤2)	95.83 (12.50% of all products had MPR≤2)
20- 39.99	0	10	0
40-59.99	0	0	0
60-79.99	0	10	4.2
80-100	0	0	0

Products identified to have very high prices compared to the international reference are shown below, with their MPR s in brackets:

Lowest Price Generics (MPR >10)

Amitriptyline (16.96), atenolol(11.40), ciprofloxacin (13.37), fluconazole 150mg (79.50), glibenclamide (10.68), hydrochlorthiazide (14.86) and nifedipine 10mg (12.91).

C) **Prices of most LPG were varied in the different facilities**.

This is illustrated in figure 11. This is expected as the brands of the lowest price generics were different in the facilities.

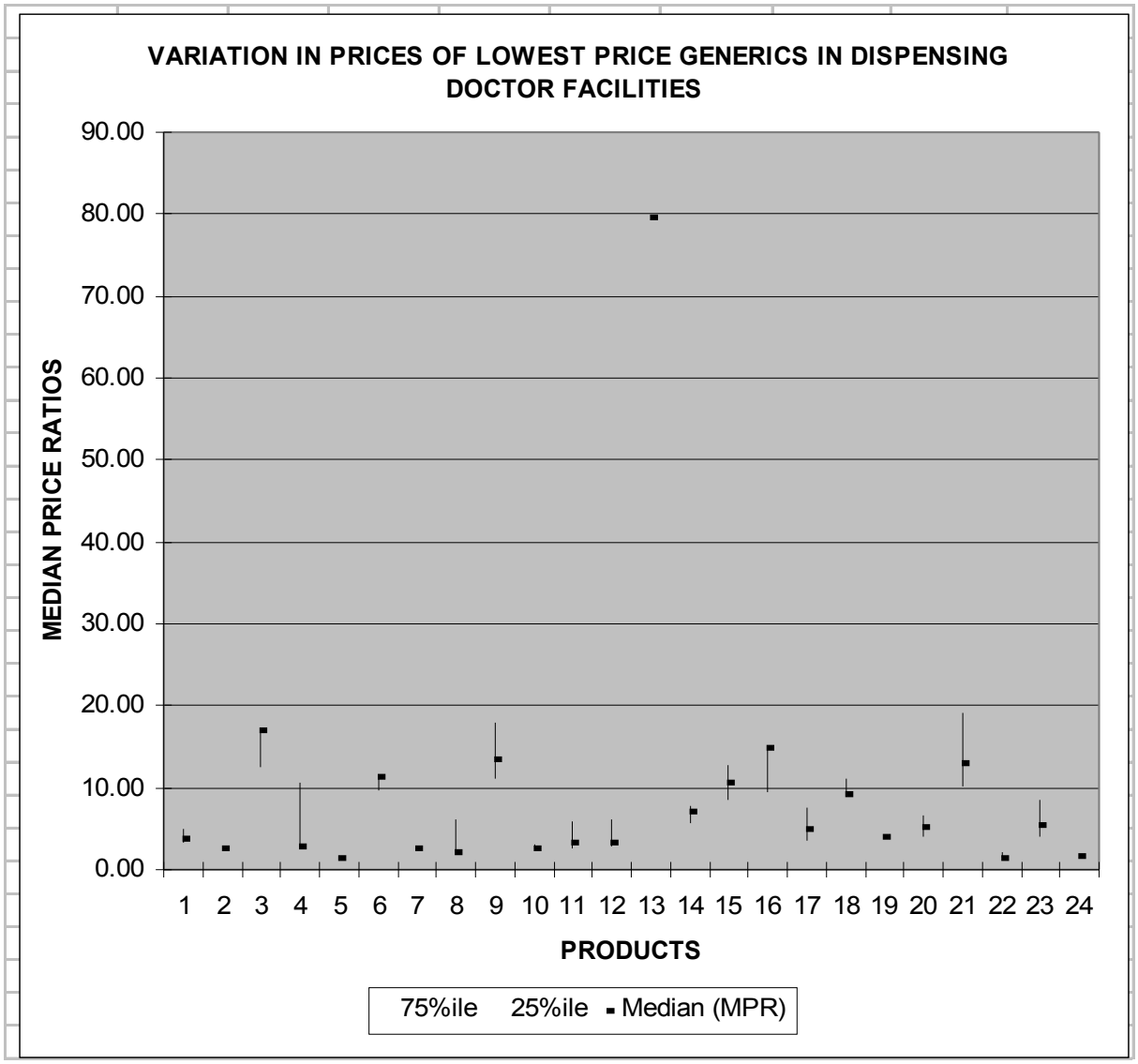

Figure 11: An Illustration of Price Variations in the Lowest Price Generics found in Dispensing Doctor Facilities.

1=Acyclovir; 2= Allopurinol; 3=Amitriptyline; 4=Amoxycillin;5=Amoxycillin/clavulanic acid; 6= Atenolol; 7=Beclomethasone inhaler; 8=Captopril; 9=Ciprofloxacin;10=Co trimoxazole Susp; 11=Diazepam; 12=Diclofenac; 13=Fluconazole 150mg; 14=Fluoxetine; 15=Glibenclamide; 16=Hydrochlorthiazide; 17=Ibuprofen; 18=Loperamide;19=Metformin; 20= Metoclopramide; 21= Nifedipine 10mg ; 22= Prednisone; 23=Promethazine; 24= Salbutamol inhaler.

Products with noticeable variation were amitriptyline, amoxycillin, atenolol, captopril, ciprofloxacin, diazepam, diclofenac, fluoxetine, glibenclamide, hydrochlorthiazide, ibuprofen, loperamide, metoclopramide, nifedipine 10mg and promethazine.

D) There was little variation in the MSG price in this sector. See figure 12.

This means that the particular medicines have been bought at similar prices (according to legislated SEP) and that the mark ups (dispensing fee) were similar.

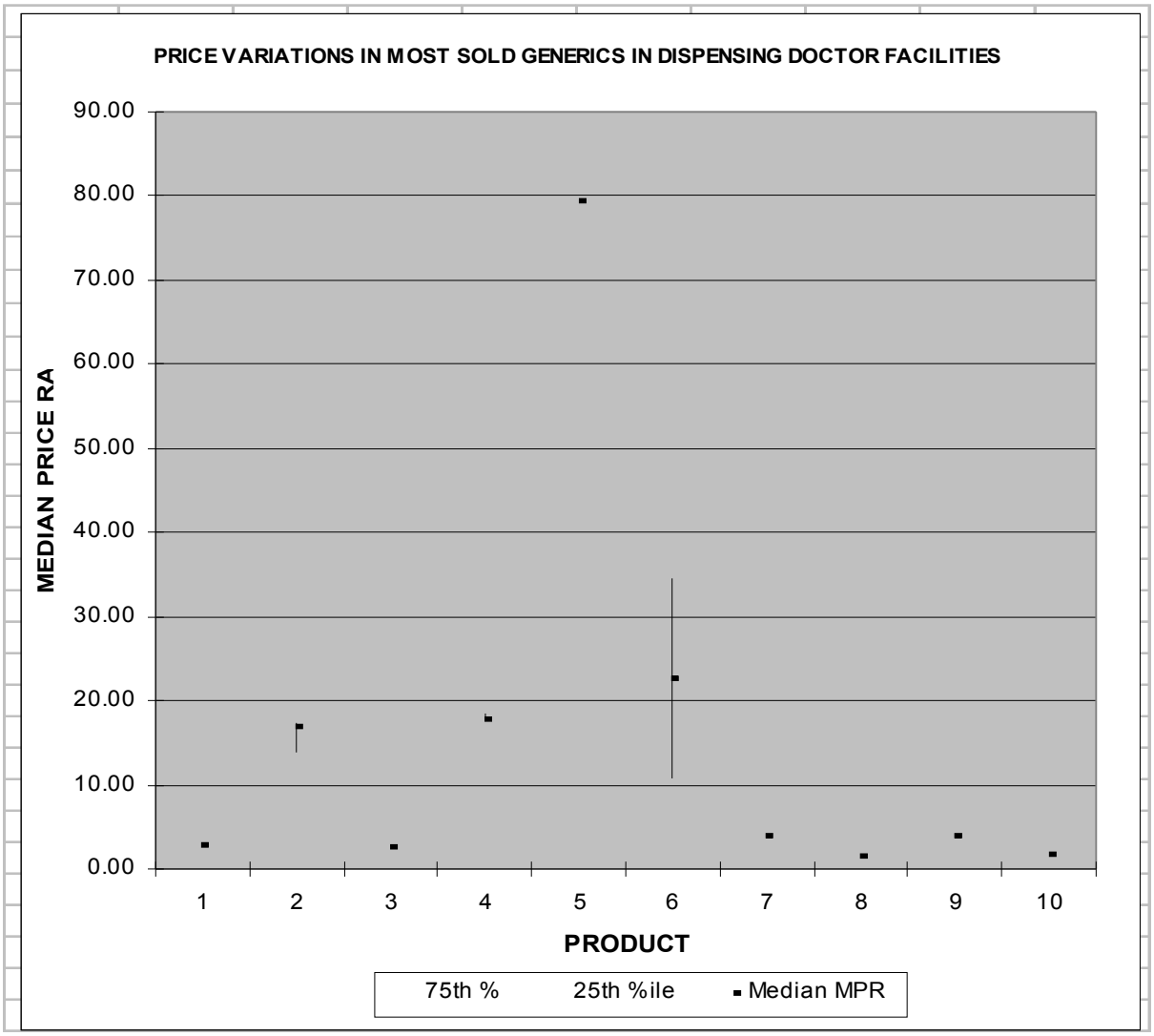

Figure 12: An illustration of the Generally Small Price Variation in Most Sold Generics Found in Dispensing Doctor Facilities

Products: 1=Allopurinol; 2=Amitriptyline; 3= Beclomethasone inhaler; 4= Ciprofloxacin; 5=Fluconazole 150mg; 6= Glibenclamide; 7=Metformin; 8= Prednisone; 9=Promethazine;10=Salbutamol Inhaler.

Glibenclamide most sold generic was the exception, with a very large price variation and a high price compared to the international reference. The source of the variation can be at manufacturer level or at dispensing level. This needs to be further investigated.

E) **The fluconazole150mg price was about 80 times higher than the international reference price in both the most sold and the lowest price generics** (see figure 11 and 12).

F) The price ratio of the most sold generic and the lowest price generics was around one, indicating that the prices are nearly equal.

Table 30: An Illustration of Similar Prices Between the Most Sold and Lowest Price Generics in the Dispensing Doctor Facilities (matched pairs)

	Most Sold Generic	Lowest Price Generic	Ratio
Median MPR	3.95	4.66	0.85
25 %ile MPR	2.65	2.62	1.01
75 %ile MPR	17.67	12.69	1.39
Min. MPR	1.50	1.50	1.00
Max. MPR	79.50	79.50	1.00
Reference Price Data Used = MSH 2003			

3.4 THE GOVERNMENT PROCUREMENT SECTOR

The availability and medicine prices analysis in this sector is slightly different to that of the private sectors discussed in the preceding sections. The availability was checked at the Gauteng Depot but the price analysis was based on the tender prices, which are negotiated centrally at National level for all the depots in the country.

3.4.1 Availability Results in the Government Procurement Sector

The availability data were obtained at depot level and not at patient level. The availability at this depot was calculated by counting the number of products in each product type and dividing this by the number of medicines in the sample. The availability of the medicines is indicated in figure 13.

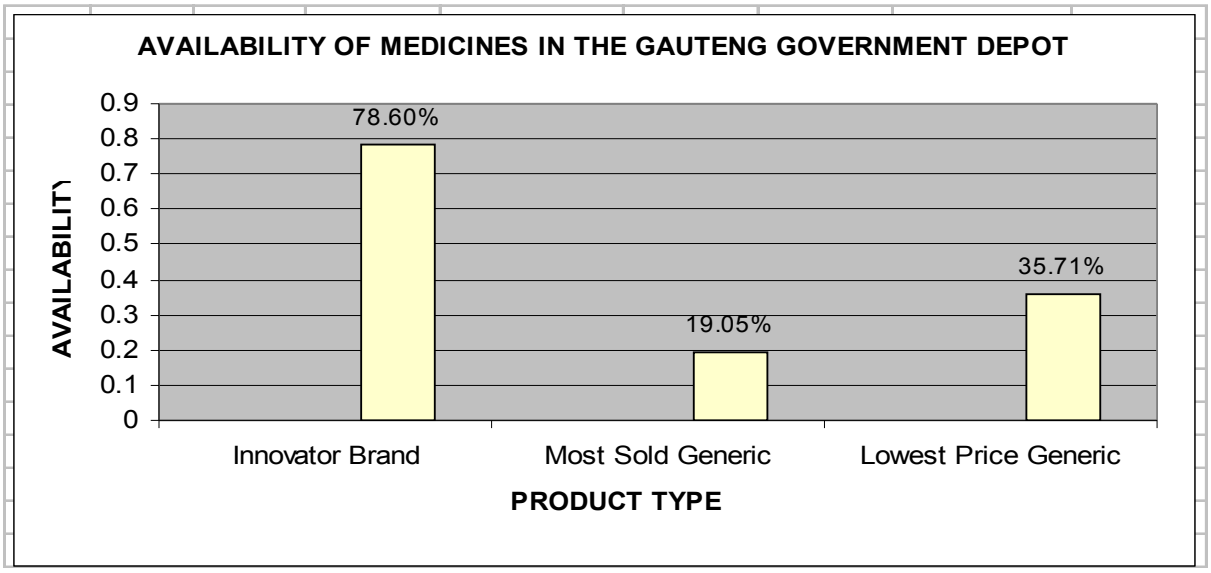

Figure 13: Availability of Medicines in the Gauteng Government Depot.

3.4.1.1 Availability Findings in the Government Procurement Sector

A) Generally most medicines on the list were available. Those that were not available were:

- Sulphadoxine-pyrimethamine, for malaria, is in the Essential Drug list in South Africa, but was not found in this depot because it services non-malarial areas.
- Losartan- Not in the essential drug list.
- Metformin and indinavir– on the essential drug list and reason for unavailability to be investigated.

B) Twenty-four out of the 33 (72.7%) innovator brand products found at the Gauteng depot were available as generics in the National tender list. It was confirmed that some of these products were bought on contract by the Gauteng depot, at higher than tender prices. These products should have been procured as generics at the tender prices.

C) The ARV s in regimen 1 (efavirenz, lamivudine and stavudine for non pregnant people, and nevirapine, lamivudine and stavudine for pregnant people) and post exposure prophylaxis treatment (zidovudine and lamivudine) were available.

3.4.2 Medicine Prices in Government Procurement

As explained above the medicine procurement prices were obtained at the National Department of Health as the tenders are done centrally in South Africa. Table 31 gives a summary of the medicine specific MPR s for medicines in the government procurement at central level.

Table 31: Prices for medicines found in Government Procurement in South Africa.

	Medicine Prices at Central Procurement (n= 1) Includes Both Core and Supplementary Medicines (n=42)		
	Innovator Brand	**Most Sold Generic**	**Lowest Price Generic**
No. of medicines. included	12	14	28
	Summary of Medicine-specific Median Price Ratios (MPRs) For Medicines With 1+ Procurement Prices		
Median MPR	1.64	1.85	1.62
25 %ile MPR	1.08	1.25	1.12
75 %ile MPR	2.75	3.14	2.45
Minimum MPR	0.84	0.66	0.62
Maximum MPR	4.51	32.35	32.35
Reference Price Data Used = MSH 2003			

3.4.2.1 Findings in the Government Procurement Medicine Prices

A) **The procurement prices were high when compared to the international reference prices:** innovator brands- 1.64 times; most sold generic-1.85 times; lowest price generic-1.62 times. The MPR ranges of these medicines are illustrated in figure 14.

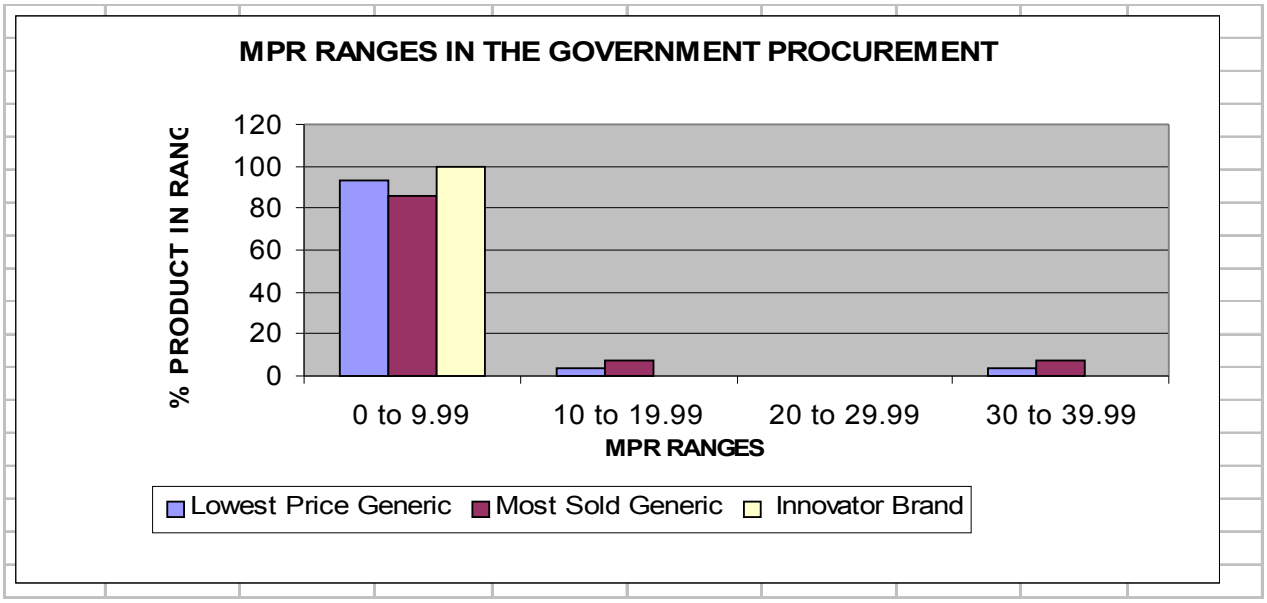

Figure 14: Price Ranges in Government Procurement Sector in South Africa

Most of the MPR s fell between zero and 9.99 for all product types. In this range, only 8.33% innovator brands, 14.29% most sold generics and 21.43% lowest price generics had MPR s less than 1.2, indicating good procurement prices. Figure 15 shows the spread of the MPR s in the range 0 to 9.99. In the range 10 to 19.99 there is one product , phenytoin, with an MPR of 13.45 for the generics. The range 30 to 39.99 also contains one product, fluconazole 150mg with an MPR of generics equal to 32.35. These are very high MPR s for procurement and the cause of this must be investigated.

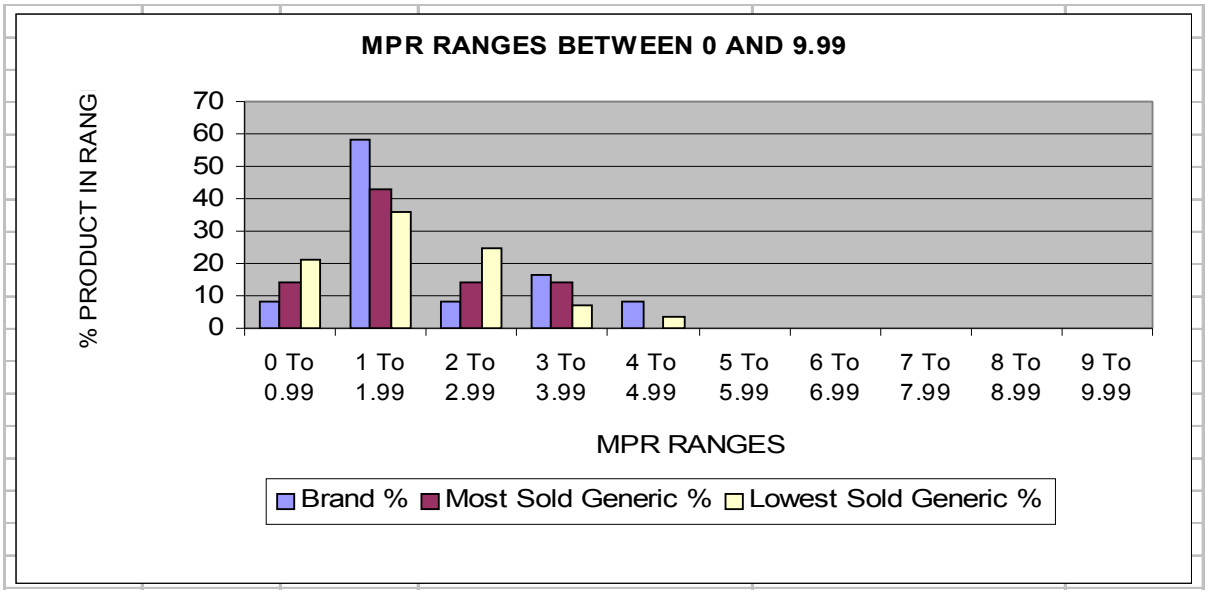

Figure15: MPR Ranges Between Zero and 9.99 in the Government Procurement Sector

B) The brand products in the sample (median MPR 1.64 in matched pair comparisons) are 1.43 times more expensive than the generic products (median MPR 1.15 for both the most sold and lowest price generic).

The results are summarised in table 32.

Table 32: A Comparison of Prices in Matched Pairs in the Procurement Sector

Price Comparisons in Matched Pairs

Analysis Includes Only Meds. With 1+ Procurement Prices for Both Types in Pair

	Brand	Most Sold	Brand	Lowest Price	Most Sold	Lowest Price
No. of meds. included	2	2	2	2	14	14
Median MPR	1.64	1.15	1.64	1.15	1.85	1.85
25 %ile MPR	1.60	1.12	1.60	1.12	1.25	1.25
75 %ile MPR	1.69	1.19	1.69	1.19	3.14	3.14
Minimum MPR	1.55	1.08	1.55	1.08	0.66	0.66
Maximum MPR	1.74	1.22	1.74	1.22	32.35	32.35

Reference Price Data Used= MSH 2003

Stavudine 30mg and 40mg were the matched pairs found in this sector.

Stavudine 30mg: The innovator brand (MPR 1.74) was 1.42 times more expensive than both generics (MPR 1.22).
Stavudine 40 mg: The innovator brand (MPR 1.55) was 1.44 times more expensive than both types of generics (MPR 1.08).

C) The most sold generic was the same product as the lowest price generic in this sector, therefore no price comparison was necessary in this pair.

3.5 MARK- UP AND PRICE COMPONENTS

Prices can be seen as links in a chain stretching from the manufacturer to the consumer. The workbook allows for comparisons of the median final price for each medicine with the manufacturers unit price to be made, so as to determine how much is added to the manufacturers' prices in the distribution process to the patient. The added amount is the cumulative mark-up.

The components of medicine prices differ by country. In South Africa, the following components have been considered:

- Value Added Tax (VAT)
- Distribution costs, from the manufacturer to the retailers, called logistics fee
- Dispensing fee

It has been confirmed from the Department of Trade and Industry that all pharmaceuticals are imported into South Africa free of duties, but with full VAT payable. The ex – manufacturer or importer price to be considered is expected to include profit, cost of the item and all applicable import costs, like insurance and freight charges.

As has been mentioned before, there were additional charges such as the administration fee and survival fee, which were observed at the sectors. These were considered in addition to the above price components, although, as the manual recommended, were not entered in the workbook for purposes of calculating the cumulative mark-ups. However, their effect has been discussed.

3.5.1 Cumulative Mark Ups

Annexure 5 shows price composition of some of the medicines in the survey sample and annexure 6 shows medicine price components considered in South Africa in some medicines. Examples from these annexures have been used for discussion purposes.

Annexure 5 shows the items involved in the calculation of the mark up as the following:

1. ***Manufacturer Pack Price***

   This is represented by the SEP less logistic fee and VAT

2. ***Manufacturer Pack Size***

   Represents the number of units, for example, tablet or dose, found in a pack.

3. ***Manufacturer Unit Price (MUP)***

   This is automatically calculated in the workbook when manufacturer pack price and pack size have been entered.

4. ***Ratio: MUP to reference unit price***

   This is generated by the workbook. It can be equated to an MPR of a medicine.

5. ***Sector Median Unit Price (SMUP)***

   The workbook calculates this from the data entered for each facility in a particular sector.

6. ***Percentage Mark up***

   This is the ratio of SMUP to MUP and is generated by the workbook.

The following table shows one of the products in annexure 5**.**

Table 33: An Extract from Annexure 5 Showing Cumulative Mark ups and Price Ratios of Glibenclamide

Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold Generics	Lowest Price Generics
Glibenclamide	5 mg	cap/tab	Government . Procurement	Manuf.Pack Price			3.010
				Manuf. Pack Size (#Units)			56
				Manuf. Unit Price (MUP)			0.0537
				Ratio MUP to Ref. Unit Price			2.24
				Sector Median Unit Price (SMUP)			0.0537
				%Mark-up (SMUP/MUP)			-0.1%
			Private Hospital Pharmacy	Manuf.Pack Price	86.020	5.510	5.510
				Manuf. Pack Size (#Units)	30	30	30
				Manuf. Unit Price (MUP)	2.8673	0.1837	0.1837
				Ratio MUP to Ref. Unit Price	119.56	7.66	7.66
				Sector Median Unit Price (SMUP)	4.2309	0.9231	0.9064
				%Mark-up (SMUP/MUP)	47.6%	402.6%	393.5%
			Retail Pharmacy	Manuf.Pack Price	86.020	5.510	5.510
				Manuf. Pack Size (#Units)	30	30	30
				Manuf. Unit Price (MUP)	2.8673	0.1837	0.1837
				Ratio MUP to Ref. Unit Price	119.56	7.66	7.66
				Sector Median Unit Price (SMUP)	4.4000	0.6897	0.3017
				%Mark-up (SMUP/MUP)	53.5%	275.5%	64.3%
			Dispensing Doctor	Manuf.Pack Price	86.020	5.510	5.510
				Manuf. Pack Size (#Units)	30	30	30
				Manuf. Unit Price (MUP)	2.8673	0.1837	0.1837
				Ratio MUP to Ref. Unit Price	119.56	7.66	7.66
				Sector Median Unit Price (SMUP)		0.5430	0.2562
				%Mark-up (SMUP/MUP)		195.6%	39.5%

The trade names of the innovator brand and the most sold generics that were used in this survey were indicated in the data collection form and therefore data of the same brand per

product was collected across the facilities. In the case of the lowest price generic, this was determined by what is available in the individual facilities. Therefore there were different lowest price generics across facilities. For the purposes of this section the lowest price generics per sector in annexure 5 have been determined by selecting the lowest price generic that appeared the most in each private sector in the data collection forms of the facilities visited. For the state procurement, the lowest price generic that was identified as such by the national office tender section was used. Table 34 indicates the results for a few products. These products were chosen with the aim to cover the common diseases in the country.

Table 34: Lowest Price Generics of Some Medicines

PRODUCT	DISPENSING DOCTOR	RETAIL PHARMACY	PRIVATE HOSPITAL PHARMACY	STATE PROCUREMENT
Atenolol 50mg tab	Hexablock	Tenbloka	Tenbloka	Adco Atenolol
Beclomethasone inhaler 0.05mg/dose	Beclate	Beclate	Beclate	Beclate
Carbamazepine 200mg tab	Degranol	Degranol	Degranol	Degranol
Ciprofloxacin 500mg tab/cap	Cifran	Ciplox	Ciprohexal	Cifran
Diazepam 5mg cap/tab	Pax	Pax	Pax	Betapam
Glibenclamide 5mg cap/tab	Glycomin	Glycomin	Glycomin	Glycomin
Metformin 500mg cap/tab	Rolab Metformin	Rolab Metformin	Rolab Metformin	Merck-Metformin
Ibuprofen 400mg tab	Ranfen	Inza	Inza	Inza
Amoxycillin/clavulanic acid (250/125mg	Ranclav	Augmaxil	Clamentin	Augmentin
Fluconazole 150mg tab/cap	Fluzol	Fluzol	Fluzol	Fluzol

Since the promulgation of the pricing regulations in South Africa, manufacturers and importers sell medicines at the same price (the SEP), determined by the individual manufacturer or importer, to all persons other than the state. (The department of health has records of all this information). Therefore, the ratio MUP/reference unit price for a particular medicine must be the same in all private sectors but different for the state (see glibenclamide example in table 33). It is indicated in this table how procurement of a particular medicine by the government and private sectors compared and how each sector compared with the international reference price. Table 35 shows the ratios in annexure 5 and ratio comparisons for products which had results in both the state and all the three private sectors. The private sectors' ex manufacturer prices (SEP s) in the records of the Department of Health were used to compile annexure 5.

Table 35: Comparison of Procurement Prices in the Government and Retail Sectors

PRODUCT	PRODUCT TYPE	STATE RATIO (MUP/Ref unit price)	RETAIL SECTOR RATIO (MUP/Ref unit price)	COMPARISON OF THE RATIOS IN THE PRIVATE AND STATE SECTORS	COMMENT
Beclomethasone inhaler	IB	*	1.85	*	
	MSG	1.32	1.67	1.27	Retail procurement price more than state
	LPG	1.32	1.67	1.27	Retail procurement price more than state
Ciprofloxacin 500mg tabs	IB	*	43.64	*	
	MSG	2.15	12.5	5.81	Retail procurement price more than state
	LPG	**	**	**	
Diazepam 5mg tab	IB	*	84.37	*	
	MSG	*	4.72	*	
	LPG	**	**	**	
Glibenclamide 5mg tabs	IB	*	119.56	*	
	MSG	*	7.66	*	
	LPG	2.24	7.66	3.42	Retail procurement price more than state
Metformin 500mg tabs	IB	*	3.02	*	
	MSG	*	2.49	*	
	LPG	**	**	**	
Fluconazole 150mg caps/tabs	IB	*	90.96	*	
	MSG	38.98	51.29	1.32	Retail procurement price more than state
	LPG	38.98	51.29	1.32	Retail procurement price more than state
Amoxycillin/clavulanic acid (250/125) tabs	IB	0.84	3.65	4.35	Retail procurement price more than state
	MSG	*	0.91	*	
	LPG	**	**	**	
Atenolol 50mg tabs	IB	*	65.18	*	
	MSG	*	11.38	*	
	LPG	**	**	**	
Ibuprofen 400mg tabs	IB	*	13.72	*	
	MSG	3.28	3.14	0.96	Retail procurement price less than state
	LPG	**	**	**	
Carbamazepine 200mg tabs	IB	*	4.96	*	
	MSG	*	4.85	*	
	LPG	1.52	4.85	3.19	Retail procurement price more than state

In the table one star symbol indicates that there was no data available and a double star indicates that the lowest price generic identified in the private sector was different to the one found in the government. Therefore no comparisons could be made for these products.

3.5.1.1 Findings of Cumulative Mark-ups in the Sectors

Table 35 shows the following:

A) The ex manufacturer prices in both the retail and state sectors were mostly higher than the international reference prices for some products.

B) **There were some products whose ex manufacturer prices compared well with the international reference.** Examples are **:**

- Innovator brand amoxycillin /clavulanic acid in the government procurement- 0.84 times the international reference price – 16% cheaper in South Africa
- Most sold generic amoxycillin/clavulanic acid in the private sector- 0.91 times the international reference price (9% cheaper in South Africa).

C) The procurement prices were very high for the retail sectorcompared to the state for some products.

For example, the most sold generic ciprofloxacin was 481% more expensive.

D) The State procurement price was more than the retail for some products

For example, ibuprofen 400mg tab was about four percent more expensive in the State compared to retail.

E) **High mark ups, contributing to a higher price to the patient, were observed.**

For example, 402.6% for glibenclamide most sold generic in private hospitals.

Possible reasons for the varied and high mark-ups can be the following:

- High and varied administration fees at various facilities
- Different dispensing fees
- High and varied logistics fees
- VAT

F) A glibenclamide generic, glycomin, had a widest mark-up range of between 195.6% and 402,6% in the retail sector

G) Annexure 5 shows that the mark ups on most generics were generally higher than on innovator brands. Figures 16 and 17 illustrate the mark ups of a few products in the sample.

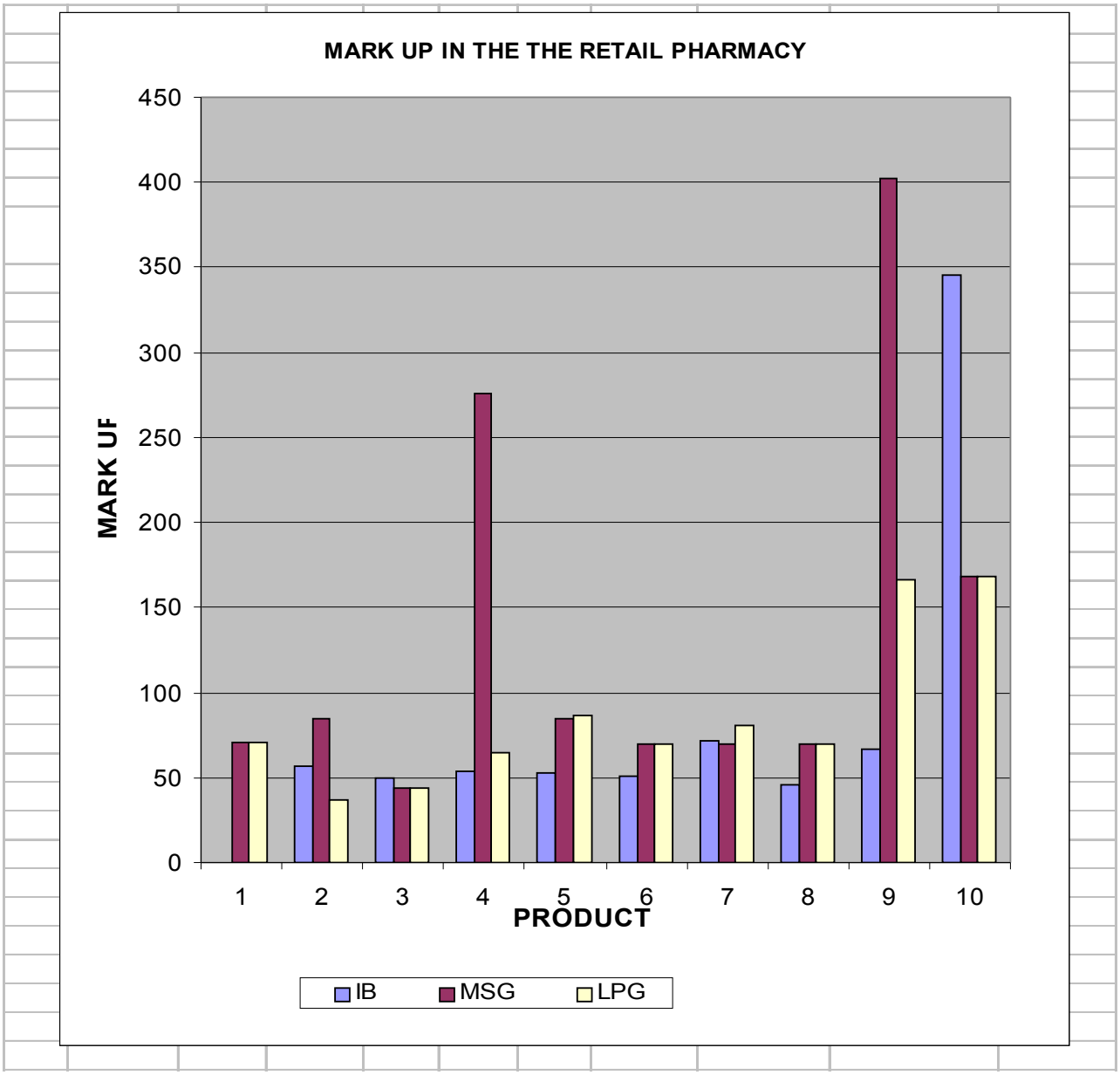

Figure 16: Mark Ups in the Retail Pharmacy Sector

Products: 1=Beclomethasone inhaler; 2=Ciprofloxacin; 3=Diazepam;4=Glibenclamide; 5=Metformin;6=Fluconazole 150mg; 7=Amoxycillin/clavulanic acid; 8=Atenolol; 9=Ibuprofen; 10= Carbamazepine.

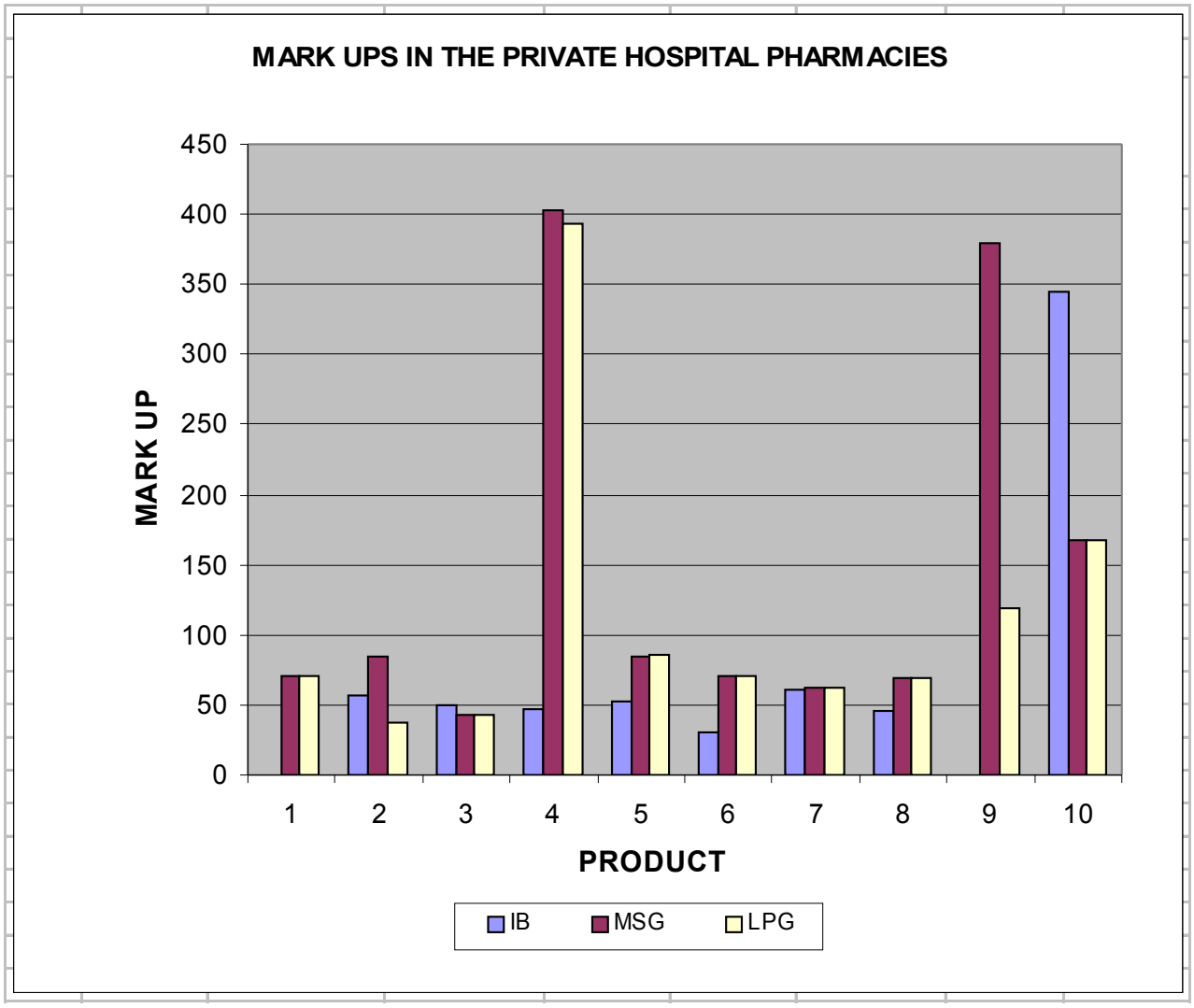

Figure 17: Mark Ups in the Private Hospital Sector

Products: 1=Beclomethasone inhaler; 2=Ciprofloxacin; 3=Diazepam;4=Glibenclamide; 5=Metformin;6=Fluconazole 150mg ; 7= Amoxycillin/clavulanic acid; 8=Atenolol; 9=Ibuprofen;10=Carbamazepine

3.5.2 Components of Medicine Prices

This section aims to show the extent to which the individual components contribute to the increase in price when added to the ex manufacturer price. Data of the medicine price components considered for South Africa were entered into the workbook, which automatically calculated the cumulative mark-ups. A few commonly used medicines out of the sample of 42 were selected and entered for this purpose. Results for these medicines are in annexure 6. Data from annexure 5 and 6 were combined to give the findings in annexure 7. The mark ups are shown in figures 18,19 and 20 (also see annexure 7).

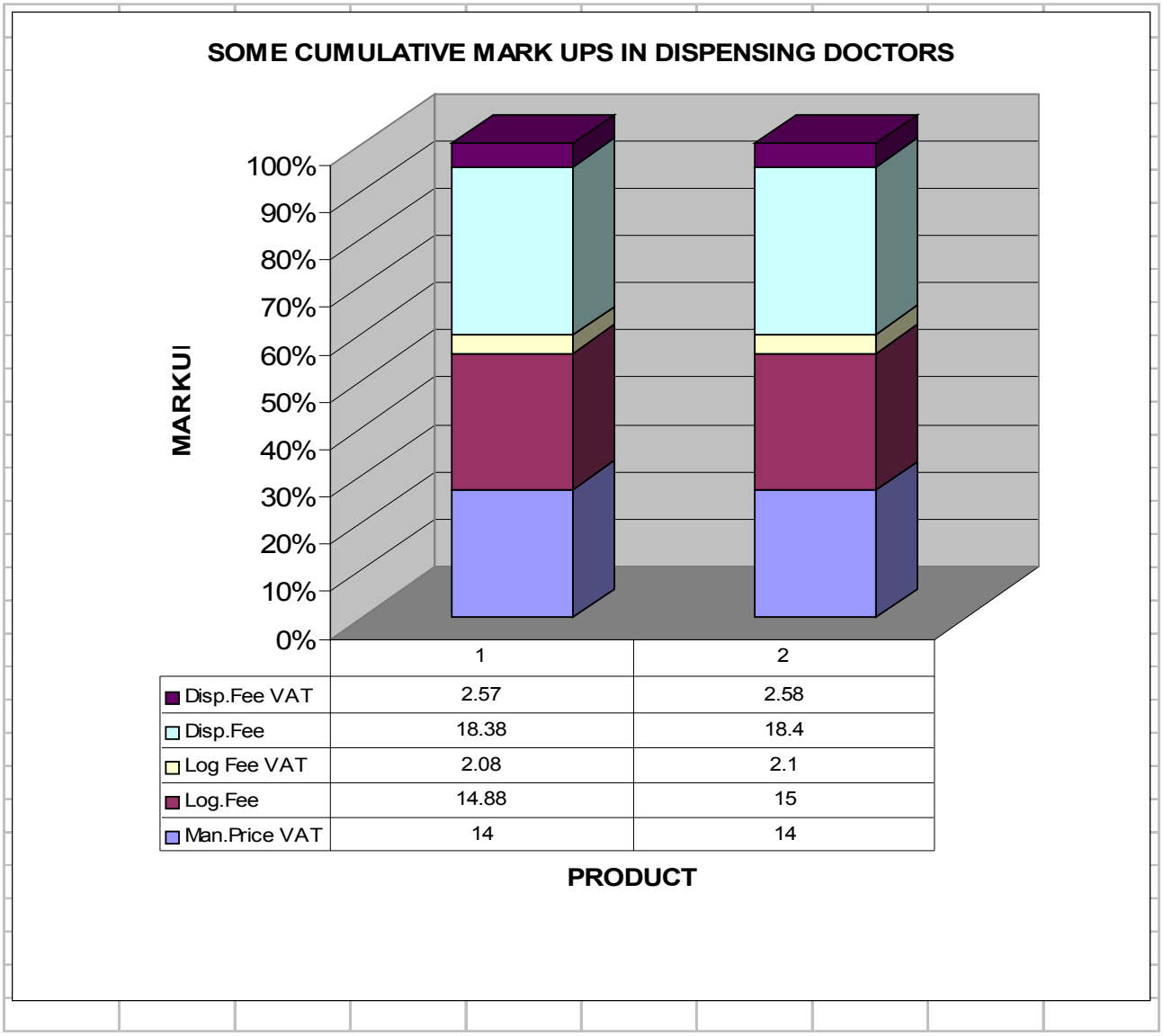

Figure 18: Cumulative Mark Ups of MSG Glibenclamide (1) and MSG Fluconazole 150mg (2) in Dispensing Doctor Facilities.

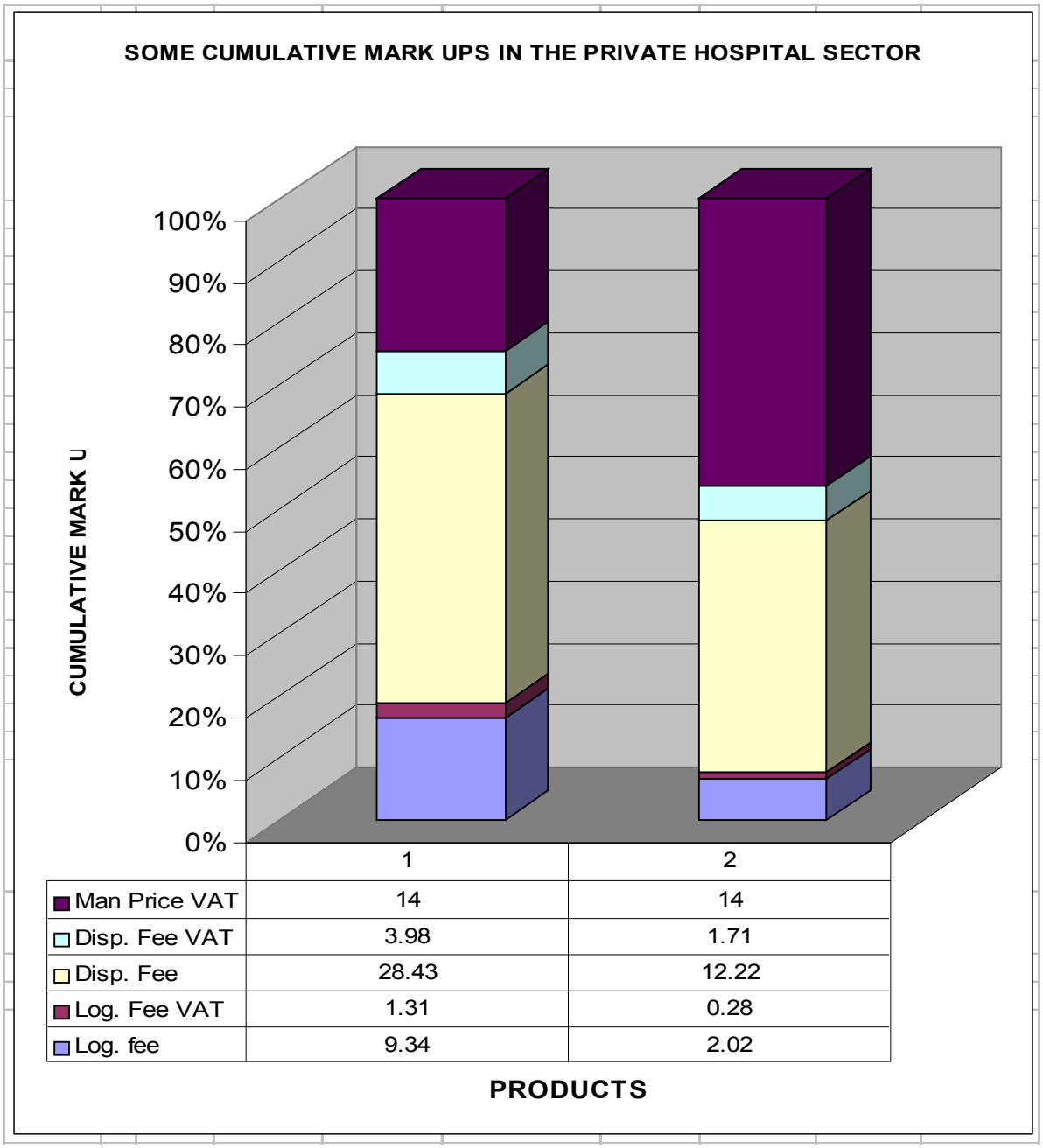

Figure 19: Cumulative Mark ups of IB Glibenclamide (1) and IB Fluconazole 150mg (2) in the Private Hospital Pharmacy Sector.

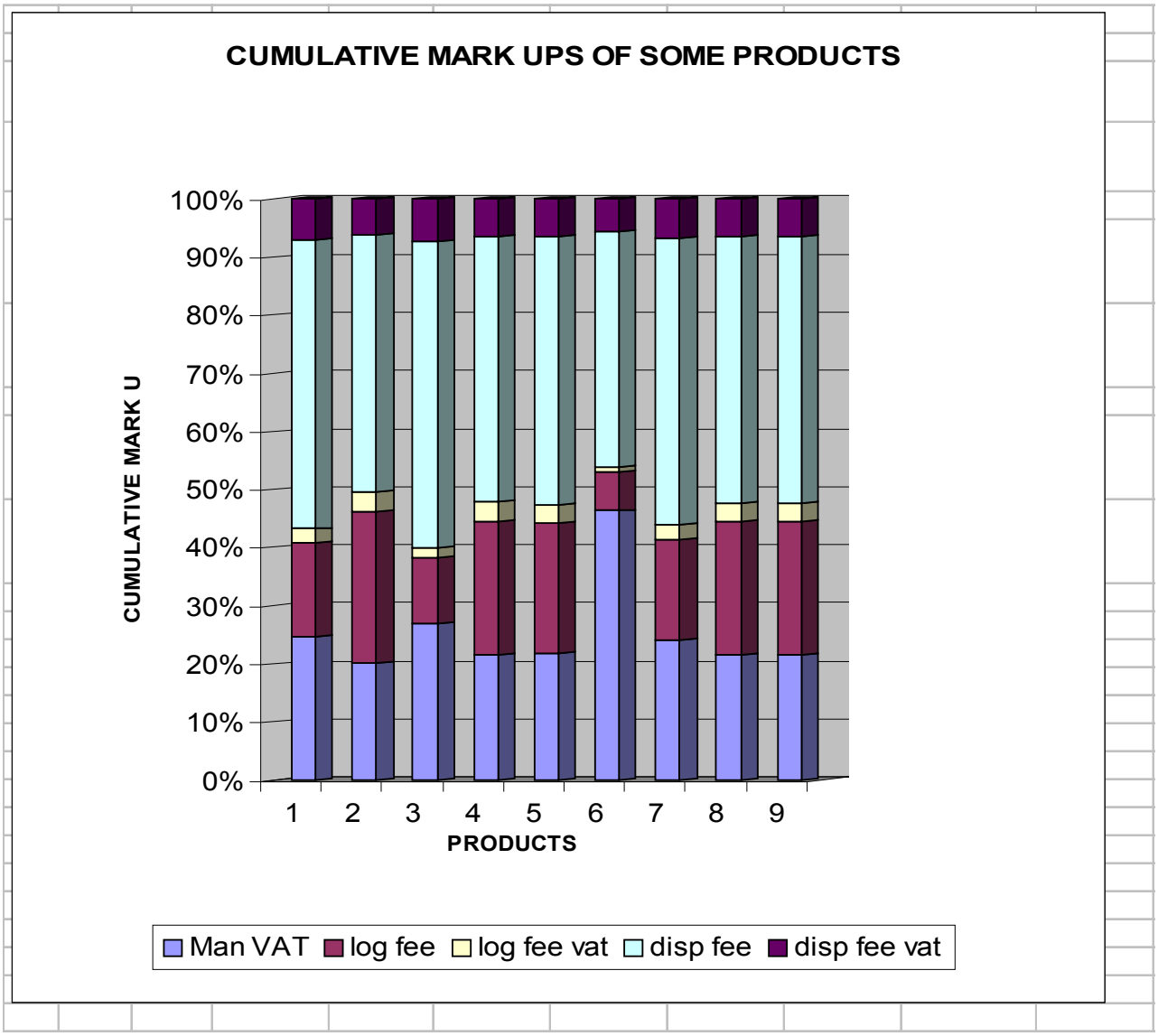

Figure 20: Cumulative Mark ups in the Retail Pharmacy Sector

Products: 1=IB Glibenclamide; 2=IB Beclomethasone inhaler; 3=IB Ciprofloxacin 4=MSG Diazepam; 5=IB Diazepam; 6=IB Fluconazole 150mg; 7=IB Carbamazepine; 8=MSG Carbamazepine; 9= MSG Fluconazole 150mg.

3.5.2.1 Findings in Cumulative Mark ups

A) The dispensing fee was the largest component of mark up, followed by VAT and the logistic fee for products less than R100.

Example: Glibenclamide in the retail pharmacy:

- Total legitimate mark up was 57.05% of manufacturers price.
- Of this mark up: Dispensing fee was 50%
  Total Vat 34%
  Logistics fee 16%. This is illustrated in figure 21.

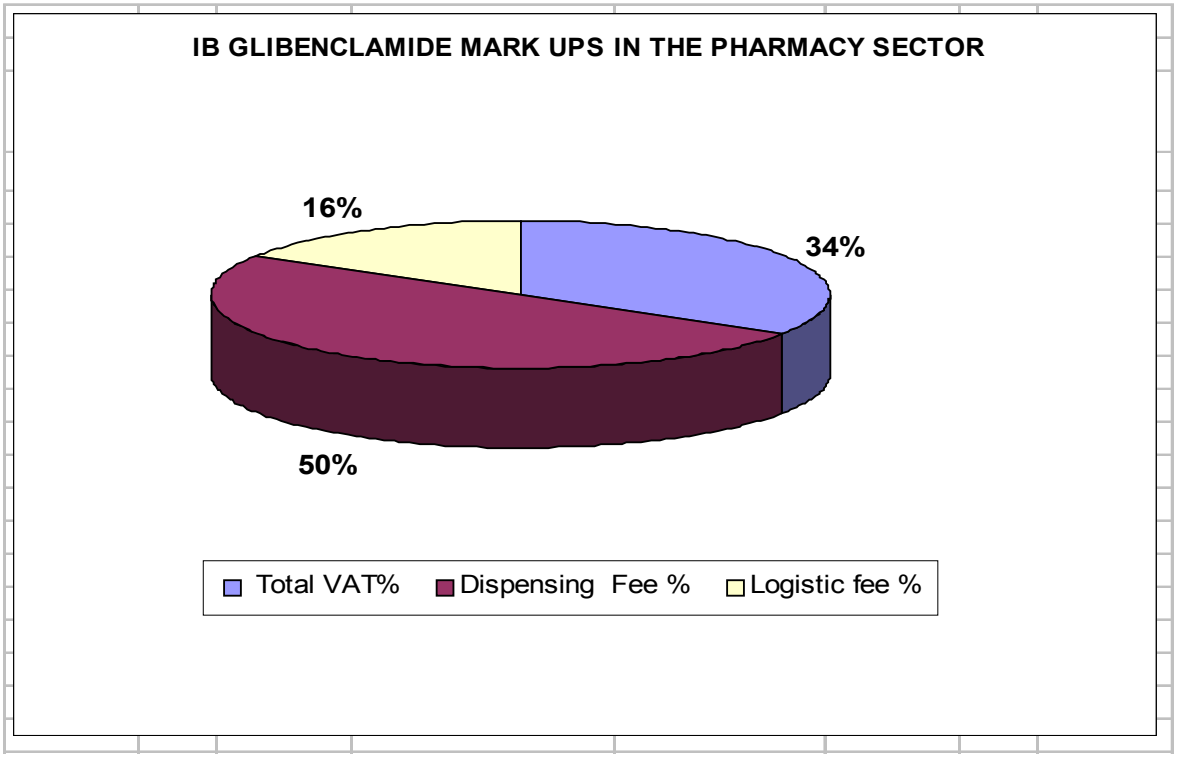

Figure 21: Composition of Glibenclamide Mark up in the Retail Pharmacies

As the manufacturer price increases above R100, the rand value of the dispensing fee remains the same, and that of the logistics fee and VAT increase.

B) The higher than expected mark ups indicated an existing non-compliance to the medicine pricing regulations at retail level.

The actual mark ups (SMUP/MUP in annexure 5) are different to mark ups expected if medicine pricing regulations were followed (cumulative mark ups in annexure 6). See examples as found in annexure 7, in figures 22,23 and 24 in the different sectors.

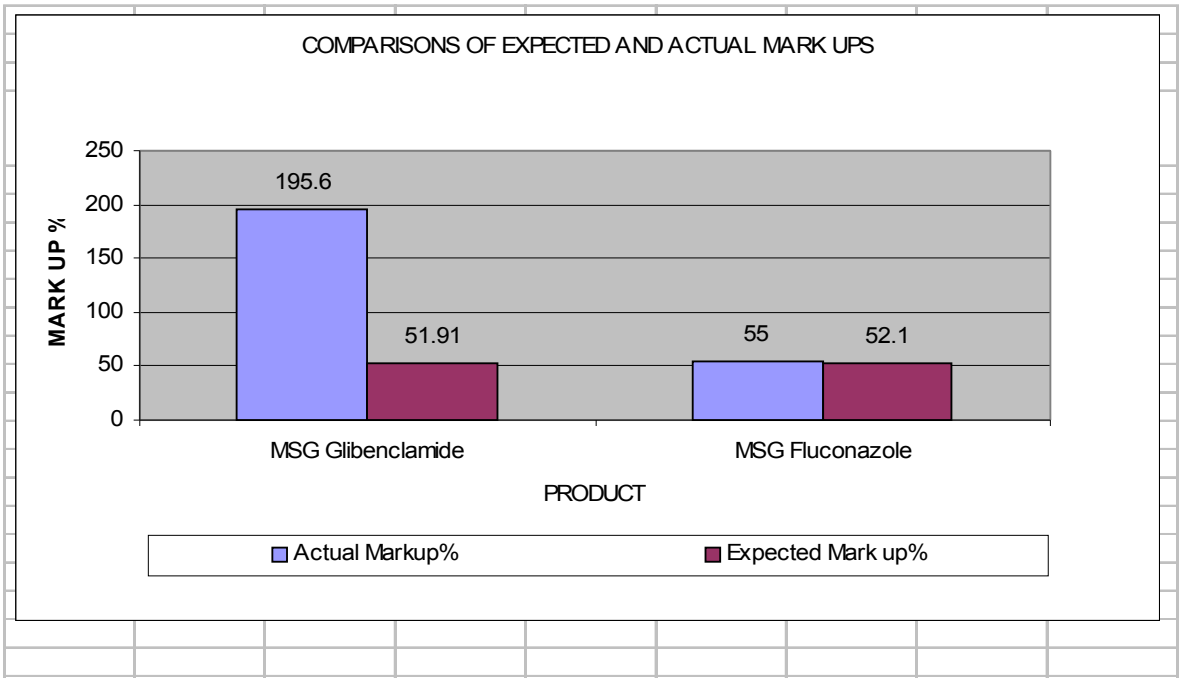

Figure 22: A Comparison of Expected and Actual Mark Ups in the Dispensing Doctor Sector.

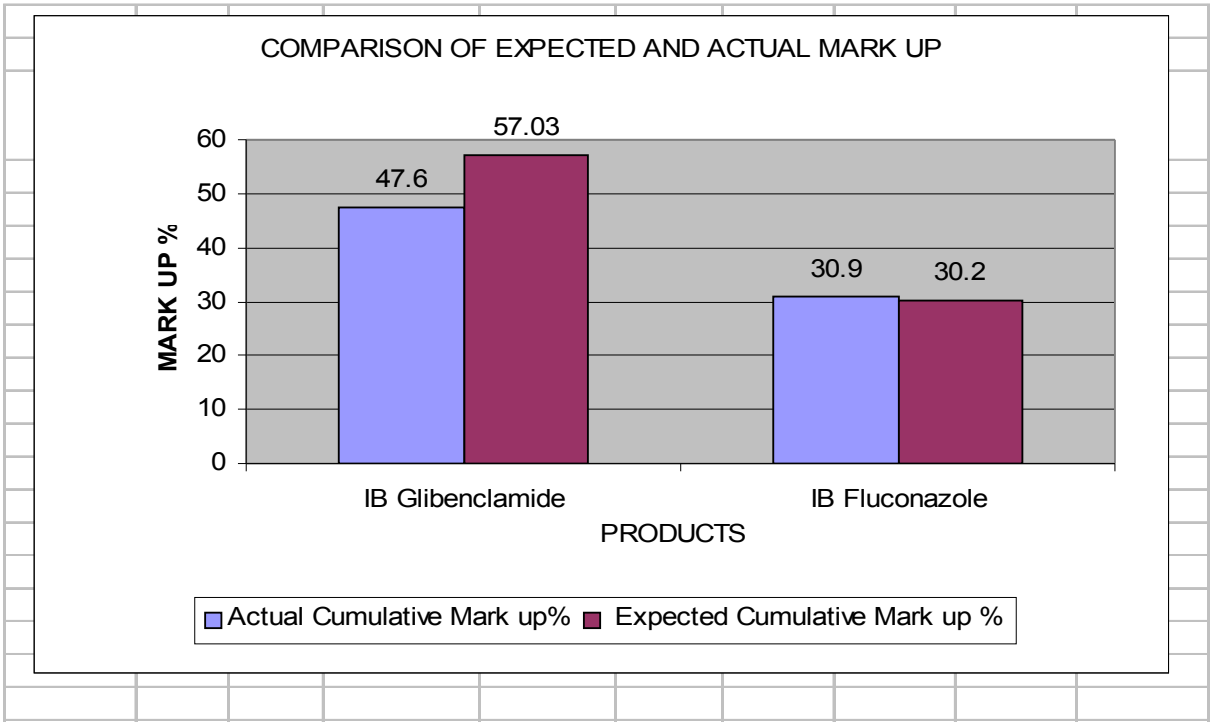

Figure 23: A Comparison of Actual and Expected Mark Ups in the Private Hospital Pharmacy Sector

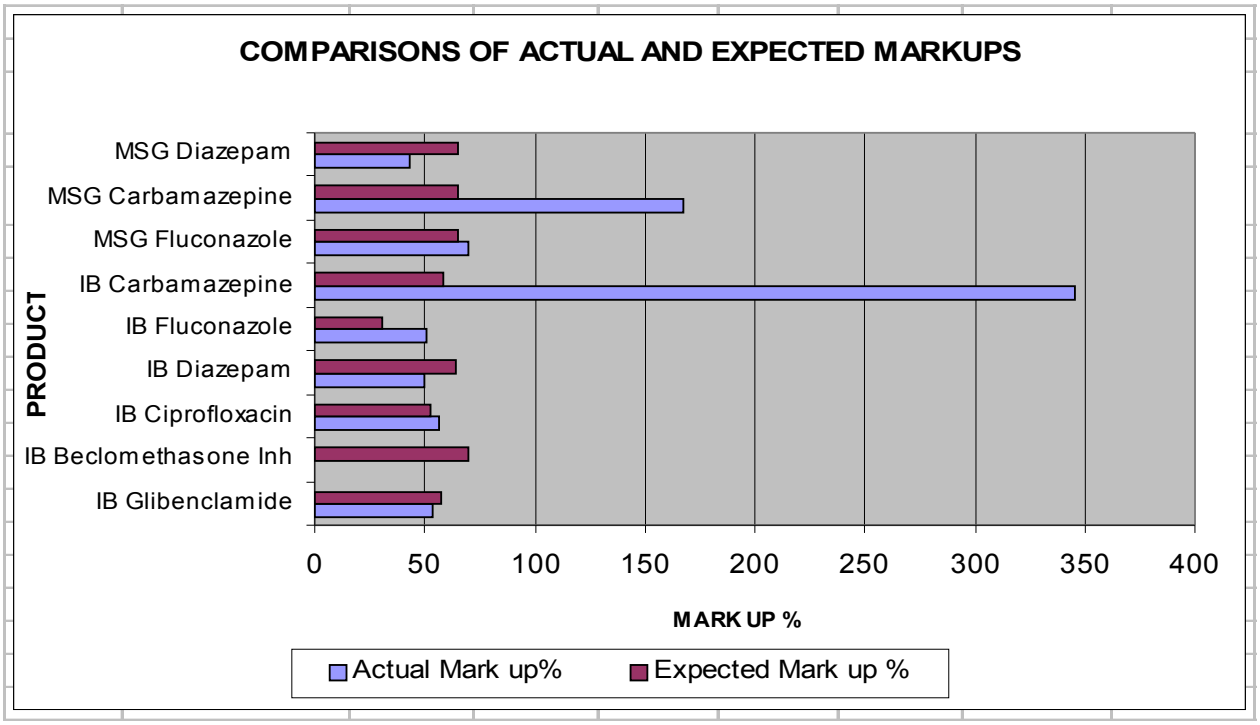

Figure 24: A Comparison of Expected and Actual Mark ups in the Retail Pharmacy Sector.

The lower cumulative mark-ups (expected mark- up according to the regulations) observed in figures 23 and 24, may indicate that the SEP values obtained from the National Department of Health (NDOH) database are not up to date. This could be due to some manufacturers not informing the NDOH of price decreases.

C) The largest component of the patient price was the manufacturer price.

D) The dispensing fee component as a percentage of the total price decreased as the price above R100 increased.

E) VAT formed 12% of the total cost to the patient regardless of the price of the medicine. In South Africa VAT is levied at 14%. A study on 57 countries by the European commission found that average VAT rates were high, between 11-12%[7]. The 57 countries included 80% of the population of all African, South American, Asian (except Japan), Caribbean, Micronesian and Melanesian countries[8]. According to the manual[9], VAT ranges

[7] European Commission: Working document on developing countries' duties and taxes on essential medicines used in the treatment of major communicable diseases; page 3. (Brussels,10 March 2003; Ref. 135/03).
[8] European Commission: Working document on developing countries' duties and taxes on essential medicines used in the treatment of major communicable diseases; page 2. (Brussels,10 March 2003; Ref. 135/03).

[9] Medicine Prices- A new approach to measurement-2003 edition.

from 2% to 25% in some European countries. Examples for C, D and E are extracted from annexure 7 and presented in table 36 and figures 25 and 26.

Table 36: Examples of Expected Price Components of Products in Pharmacy.

PRODUCT	PRODUCT TYPE, SECTOR	MANUFAC. PRICE VAT EX (RANDS)	TOTAL VAT	LOG. FEE VAT EX (RANDS)	DISP. FEE VAT EX (RANDS)	PATIENT PRICE . (RANDS)
Glibenclamide 5mg tab (30)	IB- hospital Pharmacy	86.02	16.58	8.03	24.45	135.08
	IB-retail Pharmacy	86.02	16.58	8.03	24.45	135.08
Fluconazole 150mg(4)	IB- hospital Pharmacy	212.8	34.03	4.29	26	277.12
	IB- retail Pharmacy	212.8	34.03	4.29	26	277.12

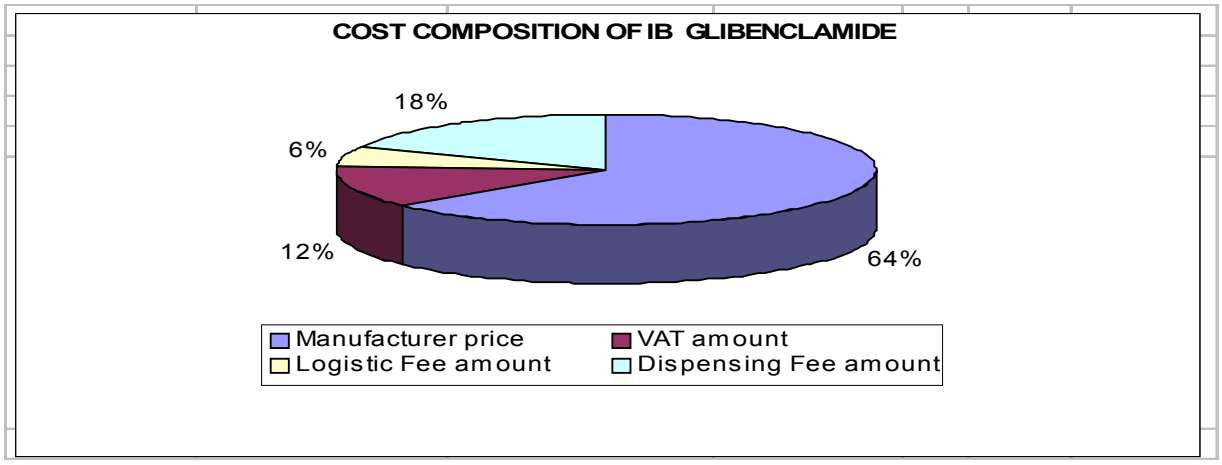

Figure 25: Composition of Patient Cost for Innovator Brand Glibenclamide in the Pharmacy Sector

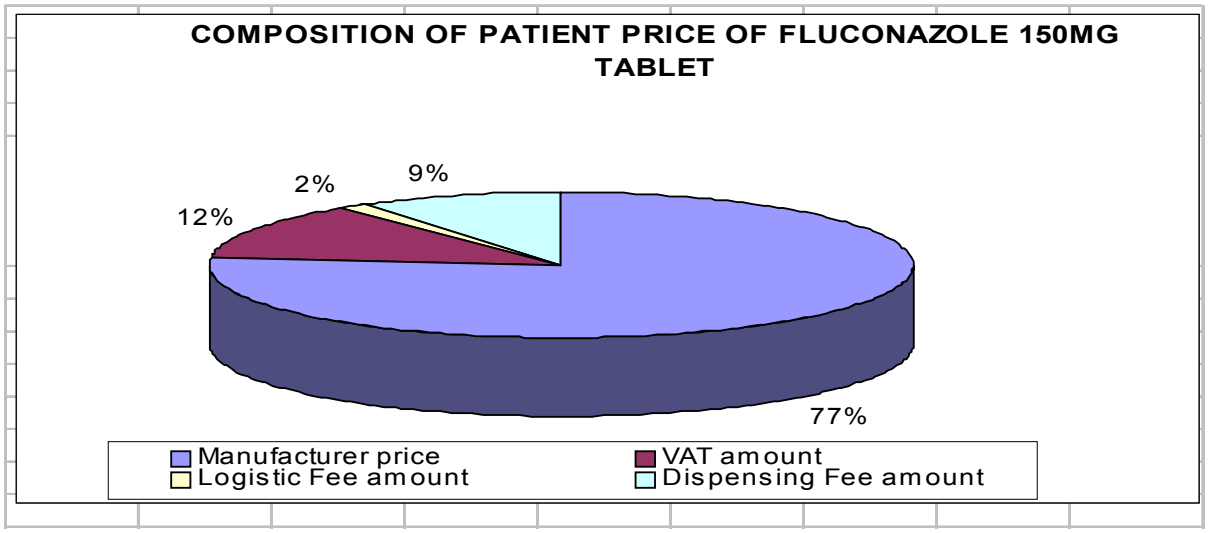

Figure 26: Components of Price to the Patient for Innovator Brand Fluconazole 150mg in the Retail and Hospital Pharmacy sector.

F) Logistics fees of similar products with similar pack sizes were generally higher for innovator brands than for generics.

The data for logistics fees for the core list of medicines were extracted from the database at the Department of Health. Innovator brand logistic fees were compared to most sold generic logistic fees -see table 37.

Table 37: A Comparison of the Logistics fees of Innovator Brand and Most Sold Generics in the core list

	Innovator Brands	Most sold Generics	
Product	**Logistics Fee in rands (VAT exclusive)**	**Logistic Fee in rands (VAT exclusive)**	**Ratio (Innovator Brand/Most Sold Generic**
Acyclovir 200mg tab 25	39.30	11.05	3.56
Amitriptyline 25mg tab 100	3.32	11.20	0.30
Amoxycillin 250mg cap 15s	5.39	1.54	3.49
Atenolol 50mg tab 30	3.72	2.78	1.34
Beclomethasone inhaler 50mcg/dose 200 doses	6.58	5.16	1.28
Captopril 25mg tabs 60s	13.32	*	*
Carbamazepine 200mg tabs 100	18.38	13.91	1.32
Ceftriaxone 1 gram vial	6.50	5.32	1.22
Ciprofloxacin 500mg 10s	4.88	5.82	0.84
Diazepam 5mg tabs 90	22.16	0.55	40.10
Fluconazole 200 mg tabs 28s	24.68	59.50	0.41
Fluoxetine 20mg caps 30	22.41	4.57	4.90
Fluphenazine decanoate inj	4.60	*	*
Glibenclamide 5mg tabs 100	13.61	5.26	2.59
Indinavir 400 mg tabs180s	0.00	*	*
Losartan 50 mg tabs 30s	2.50	*	*
Metformin 500mg tabs 100s	4.38	6.53	0.67
Nevirapine 200mg tabs 60s	25.22	*	*
Nifedipine retard 20mg tabs 60	18.62	4.13	4.51
Omeprazole 20mg tabs 28	3.07	*	*
Phenytoin 100mg caps /tabs 100s	2.50	2.61	0.96
Pyrimethamine /Sulphadoxine tabs (25/500) 12	16.41	*	*

* Indicates that there were no values obtained.

As components of medicine prices, logistics fees have contributed to the high MPR values of most of the medicines.

3.6 AFFORDABILITY OF THE MEDICINES

A day's wages of a lowest paid government worker was investigated and found to be R90.58 in December 2004. The workbook calculated affordability of chosen medicines based on this figure. The medicines were chosen to cover most of the common diseases. Affordability was expressed as the number of days a lowest paid government worker would have to work in order to pay for a full course of the medicine. The results are shown in annexure 8 and are summarised in table 38.

Table 38: A Summary of Affordability Results in Retail Sectors.

	NUMBER OF DAYS								
	INNOVATOR BRAND			MOST SOLD GENERIC			LOWEST PRICE GENERIC		
PRODUCT and **CONDITION**	HOSP	RETAIL PHARM	DOC	HOSP	RETAIL PHARM	DOC	HOSP	RETAIL PHARM	DOC
Glibenclamide; **Diabetes**	2.8	2.9	~	0.6	0.5	0.4	0.6	0.2	0.2
Hydrochlorthiazide; **Hypetension**	~	0.2	~	0.2	0.2	~	0.2	0.2	0.1
Atenolol; **Hypertension**	1.7	1.7	~	0.3	0.3	~	0.3	0.3	0.2
Amoxycillin; **RTI**	0.9	0.9	~	0.1	0.1	~	0.1	0.1	0.1
Cotrimoxazole; **UTI**	0.6	~	~	0.1	0.1	~	0.1	0.1	0
Ciprofloxacin; **UTI**	1.4	1.4	~	0.5	0.5	0.4	0.3	0.3	0.3
Diclofenac; **Arthritis**	0.7	0.7	~	~	0.1	~	0.1	0.1	0.1
Amitriptyline; **Depression**	2.8	2.8	~	0.8	0.8	0.7	0.8	0.8	0.7
Salbutamol Inhaler; **Asthma**	0.6	0.6	~	0.2	0.2	0.2	0.2	0.2	0.2
Ranitidine; **Peptic Ulcer**	4.8	5	~	0.7	0.7	~	0.6	0.6	~
Carbamazepine; **Epilepsy**	2.6	2.6	~	1.5	1.5	~	1.5	1.5	~
Fluconazole; **Dermal candida**	3.1	3.5	~	2.3	2.3	2.1	2.3	2.3	2.1
Indinavir; **HIV infection**	4.2	4.4	~	~	~	~	~	~	~
Lamivudine: **HIV infection**	1.6	1.7	~	~	~	~	~	~	~
Efavirenz; **HIV infection**	2.4	2.7	~	~	~	~	~	~	~
Nevirapine; **HIV infection**	4.9	4.9	~	~	~	~	~	~	~
Stavudine 30mg; **HIV infection**	0.7	0.7	~	0.5	0.5	~	0.5	0.5	~
Stavudine 40mg; **HIV infection**	0.7	0.7	~	0.6	~	~	0.6	~	~
Zidovudine; **HIV infection**	4.8	4.8	~	~	~	~	~	~	~

~ indicates that none or less than four prices were found for the medicines therefore no affordability was calculated.
RTI = Respiratory Tract Infection
UTI = Urinary Tract Infection.

3.6.1 Affordability Findings

Table 38 indicates the following findings:

A) Medicines were generally more affordable in the dispensing doctor sector than in the pharmacy sectors. The main reason for this was that the legislated dispensing fee is lower for the dispensing doctors than for the other sectors.

B) As expected, Innovator brands were less affordable in the sectors than the generics.

C) There were innovator brands that were less affordable in the retail pharmacy sector than in the hospital pharmacy sector

D) The Glibenclamide generics were about three times better in price in the retail pharmacy and dispensing doctor sectors than in the hospital pharmacies. For example the median treatment price of the lowest price generic was R54.38 in hospital, R18.10 in the retail pharmacy and R15.37 in the dispensing doctor.

E) ARV s were more affordable in private hospital pharmacies than in retail pharmacies. For example, for a month's course, a non-pregnant lowest paid government patient on regimen 1 spent a 5.1day wages (about R454.12) in retail pharmacy and a 4.7day wages (about R427.92.) in private hospital pharmacies. A pregnant patient spent a 7.3 days worth of wages (about R650.21) while she spent 7.2 days worth of wages (R646.05). (See table 39 and 40)

Table 39: A Comparison of Affordability of Regimen 1 Medicines for Non- pregnant Patients in Retail and Hospital Pharmacy Sectors.

PRODUCT	TREATMENT DURATION (DAYS)	TOTAL NUMBER OF UNITS PER TREATMENT	PRODUCT TYPE	NUMBER OF DAYS WAGES (RETAIL PHARM)	NUMBER OF DAYS WAGES (HOSP PHARM)	MEDIAN TREATMENT PRICE (RETAIL PHARM)	MEDIAN TREATMENT PRICE (HOSP. PHARM)
Lamivudine 150mg tab	30	60	Innovator Brand	1.7	1.6	R 150.18	R 141.82
Efavirenz 600mg tab	30	30	Innovator Brand	2.7	2.4	R 243.95	R 221.51
Stavudine 40 mg tab	30	60	Innovator Brand	0.7	0.7	R 59.99	R 64.19
			TOTAL	**5.1**	**4.7**	**R 454.12**	**R 427.52**

Table 40: A Comparison of Affordability of Regimen 1 Medicines for Pregnant Patients in Retail and Hospital Pharmacies.

PRODUCT	TREATMENT DURATION (IN DAYS)	TOTAL NUMBER OF UNITS PER TREATMENT	PRODUCT TYPE	NUMBER OF DAYS WAGES (RETAIL PHARM)	NUMBER OF DAYS WAGES (HOSP PHARM)	MEDIAN TREATMENT PRICE (RETAIL PHARM)	MEDIAN TREATMENT PRICE (HOSP. PHARM)
Lamivudine 150mg tab	30	60	Innovator Brand	1.7	1.6	R 150.18	R 141.82
Nevirapine 200mg tab	30	60	Innovator Brand	4.9	4.9	R 440.04	R 440.04
Stavudine 40 mg tab	30	60	Innovator Brand	0.7	0.7	R 59.99	R 64.19
			TOTAL	**7.3**	**7.2**	**R 650.21**	**R 646.05**

F) Carbamazepine and fluconazole generics were less affordable when compared to other medicines' generics which can be acquired at less than a days wage.

3.7 INTERSECTOR COMPARISONS

This section deals with comparisons of availability, medicine prices and affordability in the sectors.

3.7.1 Availability Comparisons Between Sectors

Availabilities of the different sectors are shown in table 41. In the private sector, the availability was recorded in the workbook if four or more products were available in a sector. For the government sector availability was calculated manually as a percentage of available medicines out of the 42 surveyed. Since the availability was done at only 1 depot, no comparisons were made.

Table 41: An Illustration of Availabilities in the Private Sectors.

	Median Percent Availability		
	Hospital Pharmacies (n=15)	Retail Pharmacies (n=30)	Dispensing Doctors (n=26)
Brand	53.3%	40.0%	3.8%
Most Sold	30.0%	46.7%	7.7%
Lowest Price	53.3%	71.7%	25.0%
Reference Prices Used: MSH 2003 (For Private Sector) and Manual Calculation (For Government sector)			

3.7.1.1 Findings in Inter-sector Availability Comparisons

A) The dispensing doctors had a lower availability of medicines than the other private sectors.

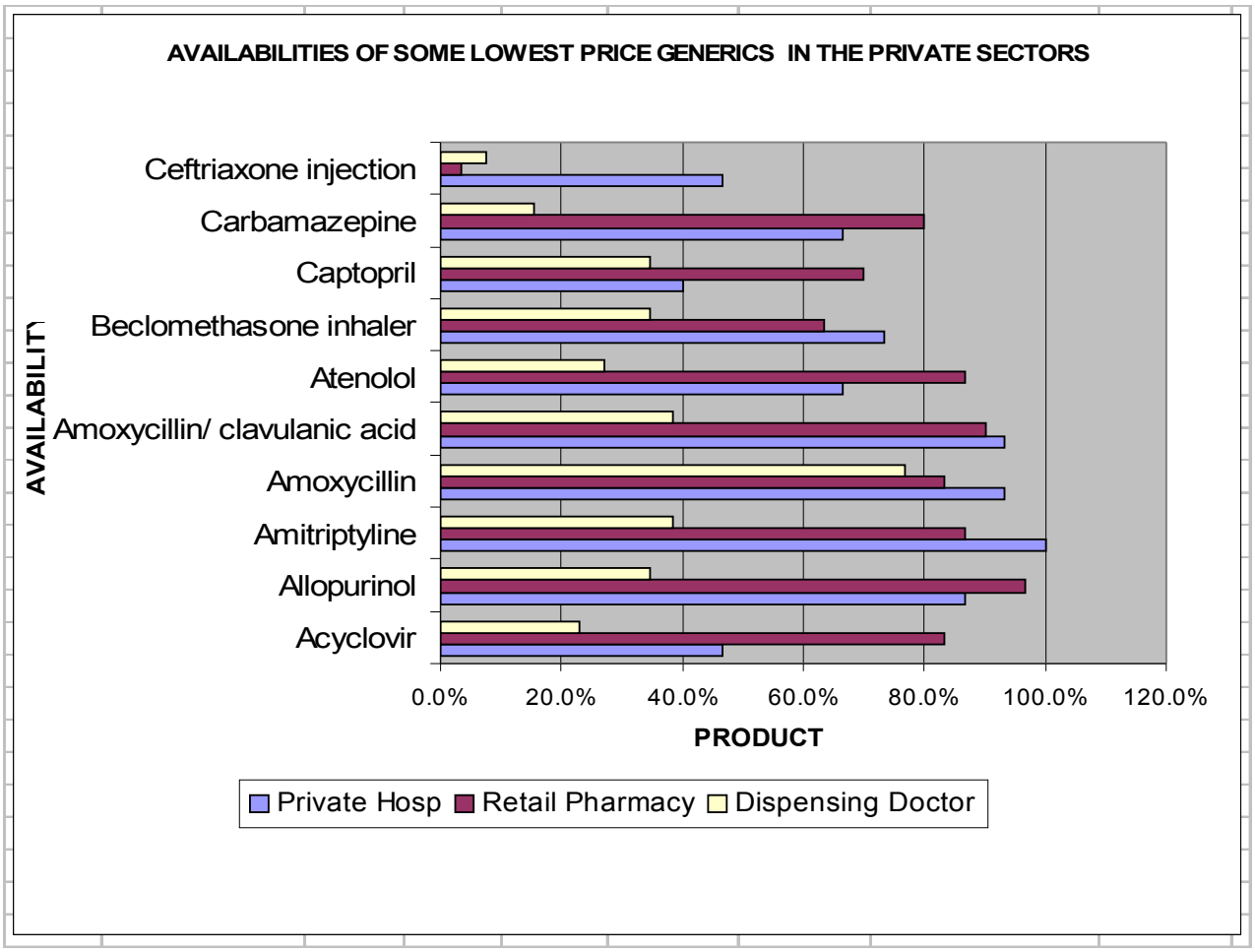

Figure 27: Examples of the Lower Availabilities of Medicines in the Dispensing Doctor Facilities.

B) **The retail pharmacy sector had a greater availability of generics than the other sectors.** This indicates that patients were able to get a cheaper version of a medicine in the retail sector.

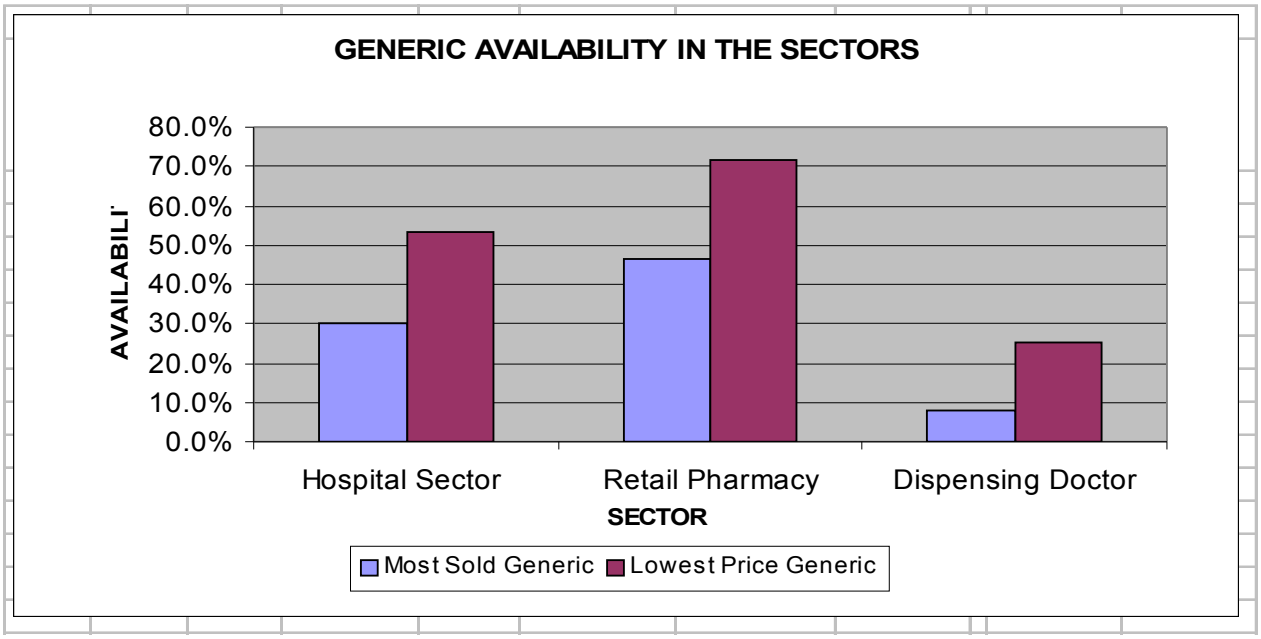

Figure 28: High Generic Availability in the Retail Pharmacy Sector.

C) Innovator brand and generic products were equally available in the private hospital pharmacies.

This provided an opportunity for patients to choose a cheaper medicine where both the brand and a generic were available.

D) Innovative brands were more available in the hospital sector than in other private sectors. Examples of randomly selected products are in figure 29.

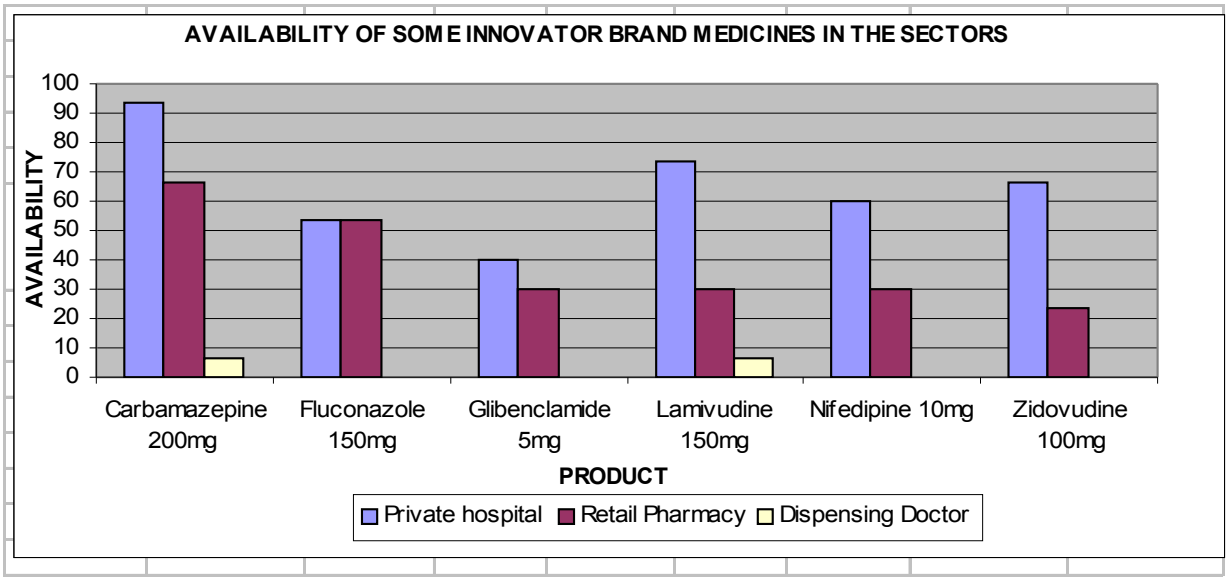

Figure 29: An Example of the Higher Innovator Brand Product Availability in Private Hospitals.

3.7.2 Inter-sector Comparisons of Medicine Prices

Inter-sector comparisons of patient prices were done in the private sector only as public patients paid an all inclusive fee. Comparisons between the sectors were based on medicines with prices found in both sectors (matched pairs).

3.7.2.1 Findings in the Inter-sector Comparisons of Medicine Prices

A) Private Hospital/ Dispensing Doctor Comparison

i) **The most sold generics were 15.1% cheaper at the dispensing doctor facilities than at the private hospital pharmacies and the lowest price generics were 35.3% cheaper.** Table 42 indicates the result.

Table 42: An Illustration of the Lower Patient Prices at the Dispensing Doctor Sector Compared to the Private Hospital Pharmacies.

	Private Hospital Pharmacies (n=15)	Dispensing Doctors (n=15)	Number of Meds. in Both Sectors	Ratio Disp Doc/Hosp
	Median MPR s			
Brand	No Value	No Value	0	No Value
Most Sold	4.60	3.90	9	84.9%
Lowest Price	6.82	4.41	24	64.7%
Reference Price Data Used=MSH 2003				

Exceptions are illustrated in table 43: The patients paid higher prices at the doctors' facilities for the products indicated in this table (See Annexure 2 for individual medicine median MPR s). Dispensing doctor prices were expected to be lower than the prices at the pharmacies because of the legislated lower dispensing fee for doctors.

Table 43: Products which were more Expensive at the Dispensing Doctors than at the Hospital Pharmacies

PRODUCT	NUMBER OF TIMES MORE EXPENSIVE (Dispensing Doctor MPR/Private hospital MPR)	Median MPR DIFFERENCE	MSH REFERENCE PRICE	NUMBER OF UNITS PER COURSE	PATIENT PRICE DIFFERENCE (RANDS)	COMMENT
Amoxycillin Clavulanic Acid (LPG)	1.03	0.05	1.7671	15	1.33	Prices higher at doctor
Allopurinol (MSG)	1.01	0.04	0.5352	30	0.64	Prices higher at doctor
Ciprofloxacin (LPG)	1.01	0.13	0.186	10	0.24	Prices higher at doctor
Fluoxetine (LPG)	1.01	0.09	0.1766	30	0.48	Prices higher at doctor
Promethazine (LPG)	1.11	0.54	0.0234	15	0.19	Prices higher at doctor

(Patient Price Difference = Median MPR Difference x MSH reference Price x Pack Size)

(See MSH reference prices in annexure 9).

ii) Both the dispensing doctor sector and the private hospital sector had lowest price generics, which had very high prices compared to the international reference prices (MPR s >10). The medicines common to both, with MPR s greater than 10, are: *amitriptyline, atenolol, ciprofloxacin, fluconazole 150mg , glibenclamide , hydrochlorthiazide and nifedipine 10mg.*

iii) The prices of the medicines mentioned above under ii) have also been found to be varied across facilities in both the dispensing doctor and the private hospital sector. The exception was fluconazole in the dispensing doctor sector.

iv) The price of fluconazole LPG is high for both the dispensing doctors (MPR 79.50) and the private hospitals (MPR 87.17).

B) Retail Pharmacy /Private hospital pharmacy Comparisons

i) Retail pharmacies and private hospital pharmacies had the majority of patient prices very close to each other. The ratios of the median MPR s are 100% for the innovator brands and the most sold generics and 98.3% for the lowest price generics. A

possible reason for this is the fact that these sectors have the same dispensing fee structure.

Table 44: A Comparison Between Private Hospital and Retail Pharmacy Medicine Prices

	Private Hosp. (n=15)	Retail Pharmacy (n=30)	Number of Medicines in Both Sectors	Ratio Retail Pharmacy to Private Hospital Pharmacy
	Median MPR s			
Brand	26.35	26.33	35	100.0%
Most Sold	6.86	6.86	27	100.0%
Lowest Price	6.63	6.52	30	98.3%
Reference Price Used = MSH 2003				

There were products, which were exceptions to this finding:

Examples:

- **Glibenclamide**
  - Prices were high and varied in these two sectors
  - The most sold generic and lowest price generic prices were higher in the hospital sector than the retail sector (see Annexure 2).
  - The most sold generic mark up was higher in the hospital sector (402.6%) compared to the retail pharmacy sector (275.5%).
  - The innovator brand price was higher in the retail pharmacies than in the private hospital sector.
  - The innovator brand mark up in the retail pharmacy sector was higher (53.5%) than the hospital sector's (47.6%).

Table 45: An Illustration of the Different Patient Prices of Glibenclamide in the Retail and Hospital Pharmacy Sectors.

PRODUCT TYPE	NUMBER OF TIMES MORE EXPENSIVE (Retail pharmacy MPR/Private hospital MPR)	Median MPR DIFFERENCE (Retail Pharm MPR minus Hospital Pharm MPR)	MSH REFERENCE PRICE 2003	PACK SIZE	PATIENT PRICE DIFFERENCE (RANDS)	COMMENT
Innovator Brand	1.06	7.04	0.024	30	5.07	Patient paid more in retail Pharmacy
Most Sold Generic	0.75	-9.73	0.024	30	-7.01	Patient paid more in Hospital
Lowest Price Generic	0.33	-25.21	0.024	30	-18.15	Patient paid more in Hospital

(Patient Price Difference (in Rands) = Median MPR Difference x MSH reference Price x Pack Size)

- **Nifedipine**
  - Innovator brand prices were higher in the retail pharmacies than in the hospital pharmacies.
  - Generic prices were higher in the hospital sector

Table 46: An Illustration of the Different Patient Prices of Nifedipine in the Retail and Hospital Pharmacy Sectors.

PRODUCT TYPE	NUMBER OF TIMES MORE EXPENSIVE (Retail pharmacy MPR/Private hospital MPR)	MPR DIFFERENCE **(Retail Pharm. MPR minus Hosp. Pharm.** MPR)	MSH REFERENCE PRICE	PACK SIZE	PATIENT PRICE DIFFERENCE (RANDS)	COMMENT
Innovative Brand	1.08	5.97	0.0643	30	11.52	Patient paid more in retail Pharmacy
Most Sold Generic	1.27	4.75	0.0643	30	9.16	Patient paid more in Hospital
Lowest Price Generic	1.48	7.24	0.0643	30	13.97	Patient paid more in Hospital Pharmacy

(Patient Price Difference (in Rands) =Median MPR Difference x MSH reference Price x Pack Size)

C) Retail Pharmacy/Dispensing Doctor Comparison

i) The most sold generics were 12.7% cheaper at the dispensing doctors than at the retail pharmacies. The lowest price generics were 32.4% cheaper at the dispensing doctors. Dispensing doctors have a lower dispensing fee than retail pharmacies and this was one of the contributing factors to the lower prices in this sector.

ii) Both the dispensing doctor sector and the retail pharmacy sector had lowest price generics, which had very high prices compared to the international reference prices (MPR s >10). The medicines common to both, with MPR s greater than 10, are: *amitriptyline, atenolol, ciprofloxacin, fluconazole 150mg , glibenclamide , hydrochlorthiazide and nifedipine 10mg.*

iii) The prices of the medicines mentioned above under ii) have also been found to be varied across facilities in both the dispensing doctor and the retail pharmacy sector. The exception was fluconazole in the dispensing doctor sector.

iv) The price of fluconazole LPG is high for both the dispensing doctors (MPR 79.50) and the retail pharmacy (MPR 87.16).

Table 47: A Comparison of Retail Pharmacy and Dispensing Doctor Medicine Prices

	Retail Pharmacy (n=30)	Dispensing Doctor (n=15)	Number of Meds. in Both Sectors	Ratio: Dispensing Doctor to Retail Pharmacies
	Median MPR			
Brand			0	
Most Sold	4.52	3.95	10	87.3%
Lowest Price	6.52	4.41	24	67.6%
Reference Price Used = MSH 2003				

Exceptions:

a) Patients paid more at the dispensing doctors' facilities than in the retail pharmacies for allopurinol (MSG), fluoxetine (LPG) and promethazine (LPG).

Table 48: Products, which were more Expensive at the Dispensing Doctor Facilities than at the Retail Pharmacies

PRODUCT	NUMBER OF TIMES MORE EXPENSIVE (Dispensing doctor MPR/Retail Pharmacy MPR)	MPR DIFFERENCE (Doctor MPR minus Retail Pharm MPR)	MSH REFERENCE PRICE	PACK SIZE	PATIENT PRICE DIFFERENCE (RANDS)	COMMENT
Allopurinol (MSG)	1.01	0.04	0.5352	30	0.64	Prices higher at doctor
Fluoxetine (LPG)	1.08	0.49	0.1766	30	2.60	Prices higher at doctor
Promethazine (LPG)	1.21	0.92	0.0234	15	0.32	Prices higher at doctor

(Patient Price Difference (in Rands) = MPR Difference x MSH reference Price x Pack Size)

3.7.3 Inter- sector Comparisons of Affordability of Medicines

The following findings were observed in annexure 8

A) Some medicines were more affordable at the dispensing doctors than at the private hospital and retail pharmacies. Examples in figure 30).

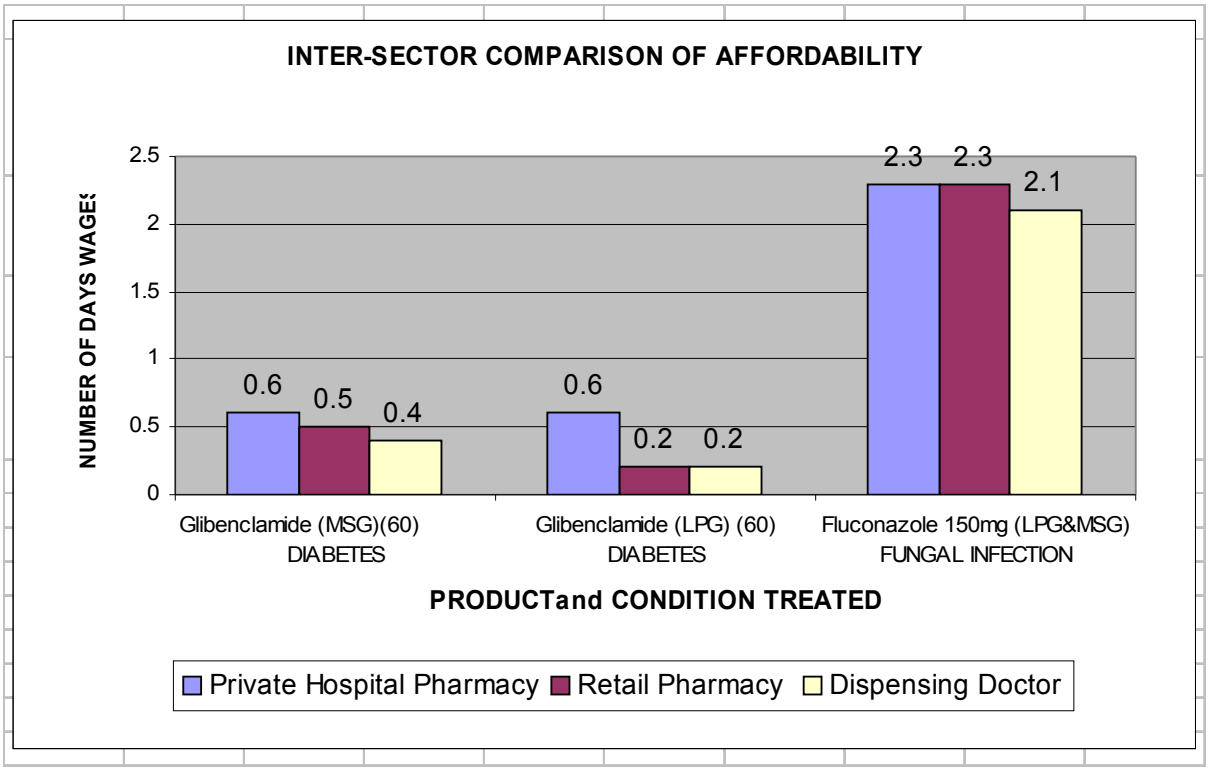

Figure 30: Inter-sector Affordability Comparison of some Generics.

B) Some treatments were less affordable in private hospital pharmacies compared to retail pharmacies.

Example- Glibenclamide generics for diabetes- see figure 30.

C) Some treatments were less affordable at the retail pharmacies than at the hospital pharmacies. These were mostly the innovator brands- see figure 31

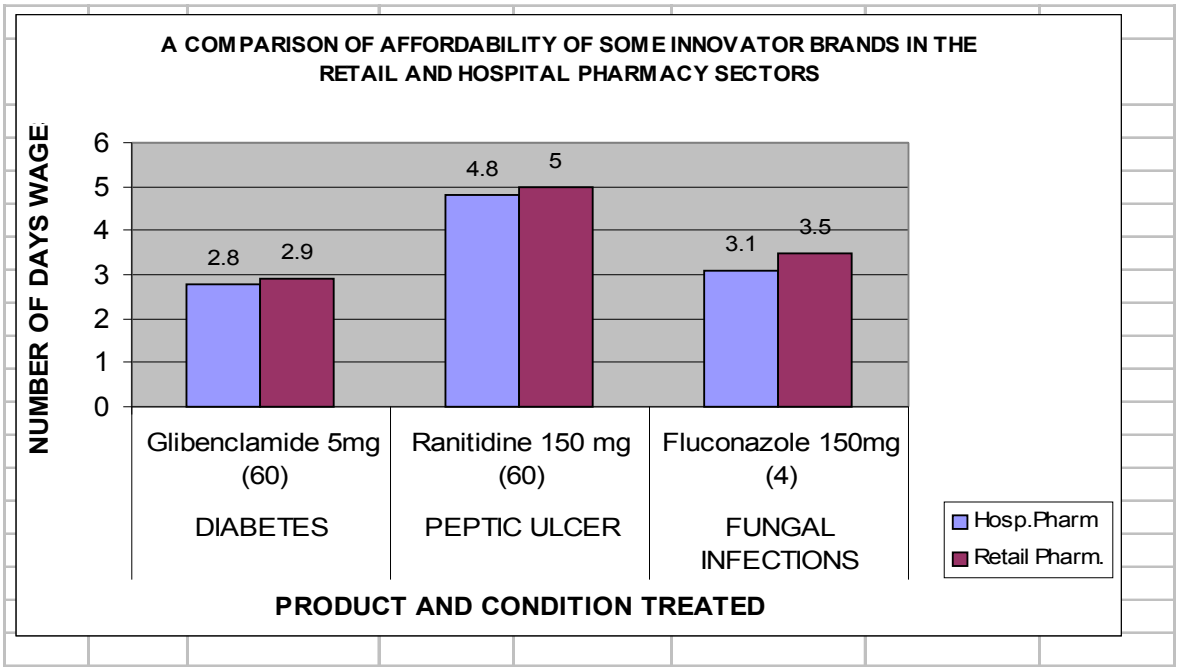

Figure 31: Examples of Products which were less Affordable at the Retail Pharmacies Compared to Hospital Pharmacies.

D) Affordability of some medicines at the dispensing doctor facilities was equal to that at the private hospital and retail pharmacies.

Possible reasons for this could be:

- The medicines are overpriced at the dispensing doctor facilities due to high mark ups
- The medicines were sold at lower dispensing fees at the retail sectors.

Affordability is expected to be greater at the dispensing doctor facilities if medicine pricing regulations are adhered to

E) Most medicines were equally affordable at the private hospital and retail pharmacy sectors- see figure 32.

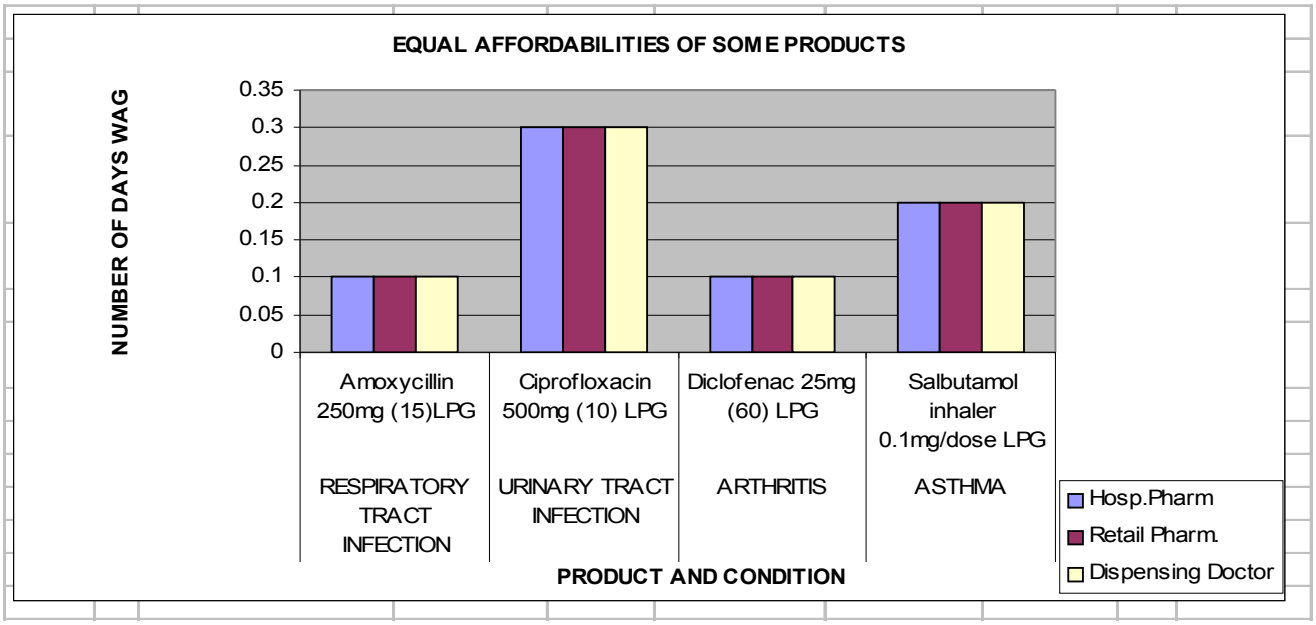

Figure 32: Examples of Products which were Equally Affordable in All Private Sectors.

3.8 COMPARISONS OF PRICES IN SOUTH AFRICA (GAUTENG PROVINCE) AND OTHER AFRICAN COUNTRIES

Price and affordability comparisons of the core medicines have been made between South Africa and medians of a group of countries which participated in the survey. Only the medicines in the core list were included in this comparison as this was an almost common basket to compare across countries. The countries involved were Ethiopia, Ghana, Kenya, Nigeria, Tanzania, Uganda, Zimbabwe and South Africa (Gauteng Province).

3.8.1 Findings

A) Medicine prices in Gauteng were higher than the prices in the other African countries:

- Government procurement LPG were 88% more expensive
- Retail pharmacy LPG were 83% more expensive
- Retail pharmacy IB were 52% more expensive

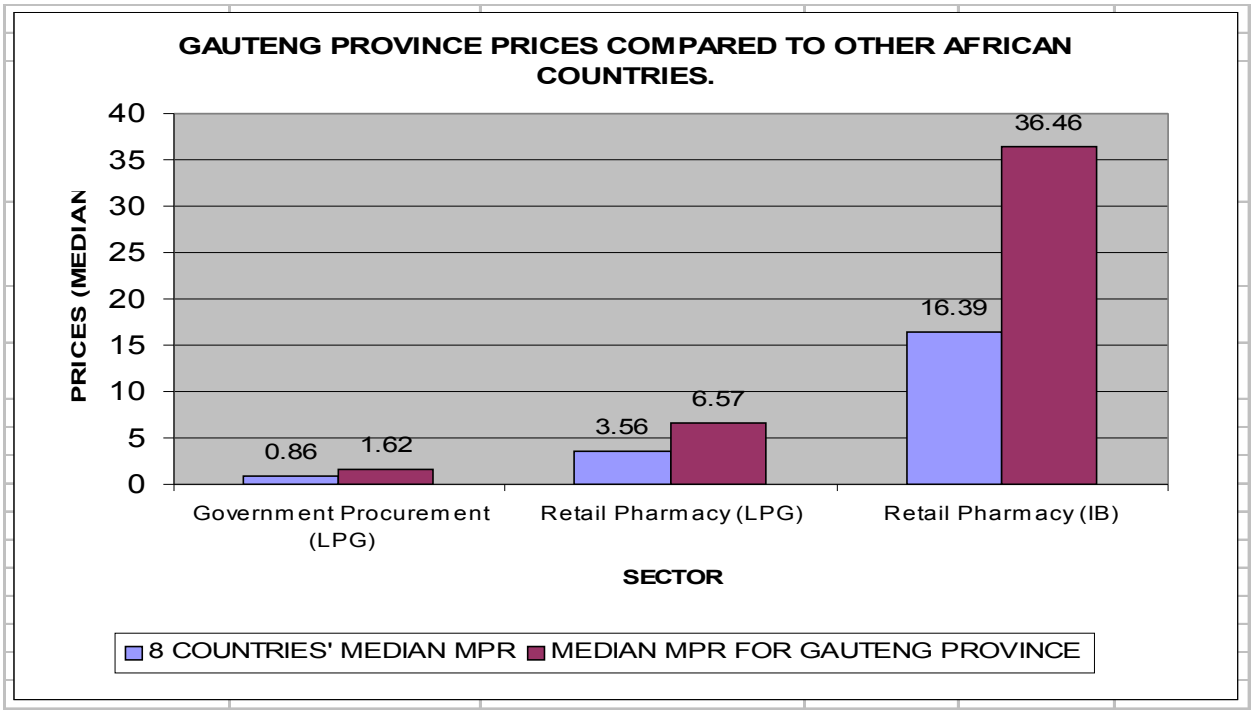

Figure 33: Higher Prices in Gauteng Compared to Some African Countries.

The higher prices have also been illustrated by the stock graph in figure 34 (Gauteng median higher than the eight country median). Figure 34 also shows that the prices in Gauteng province were variable.

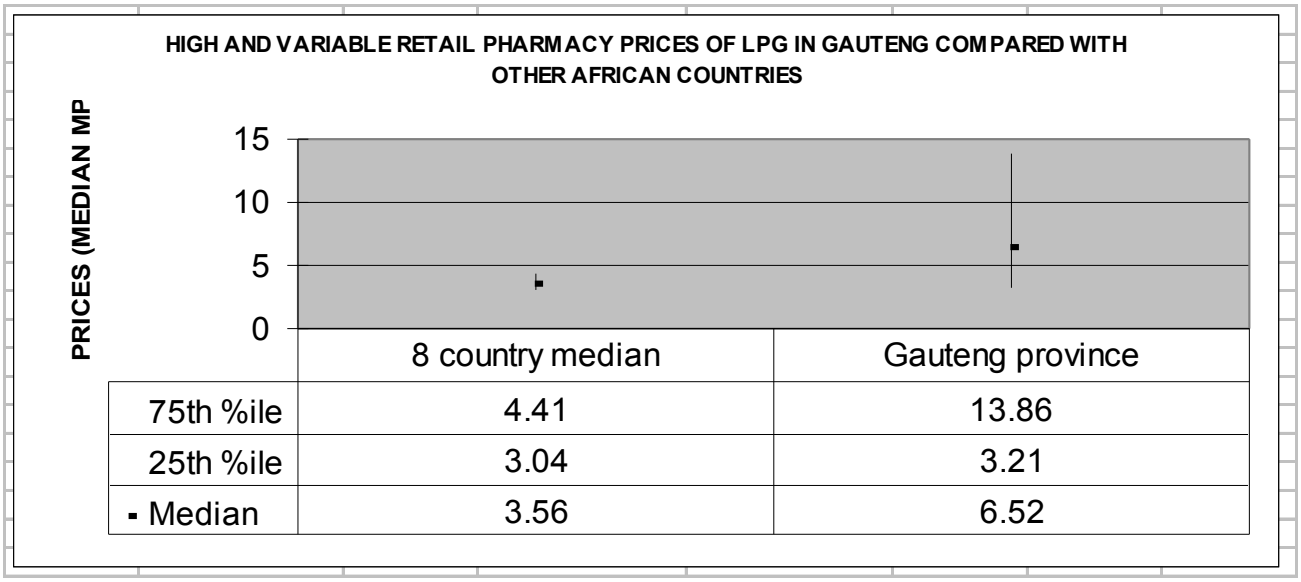

Figure 34: Higher and more varied Retail Pharmacy Prices in Gauteng Province compared to the Eight African Countries.

Examples of products with results in countries are the following:

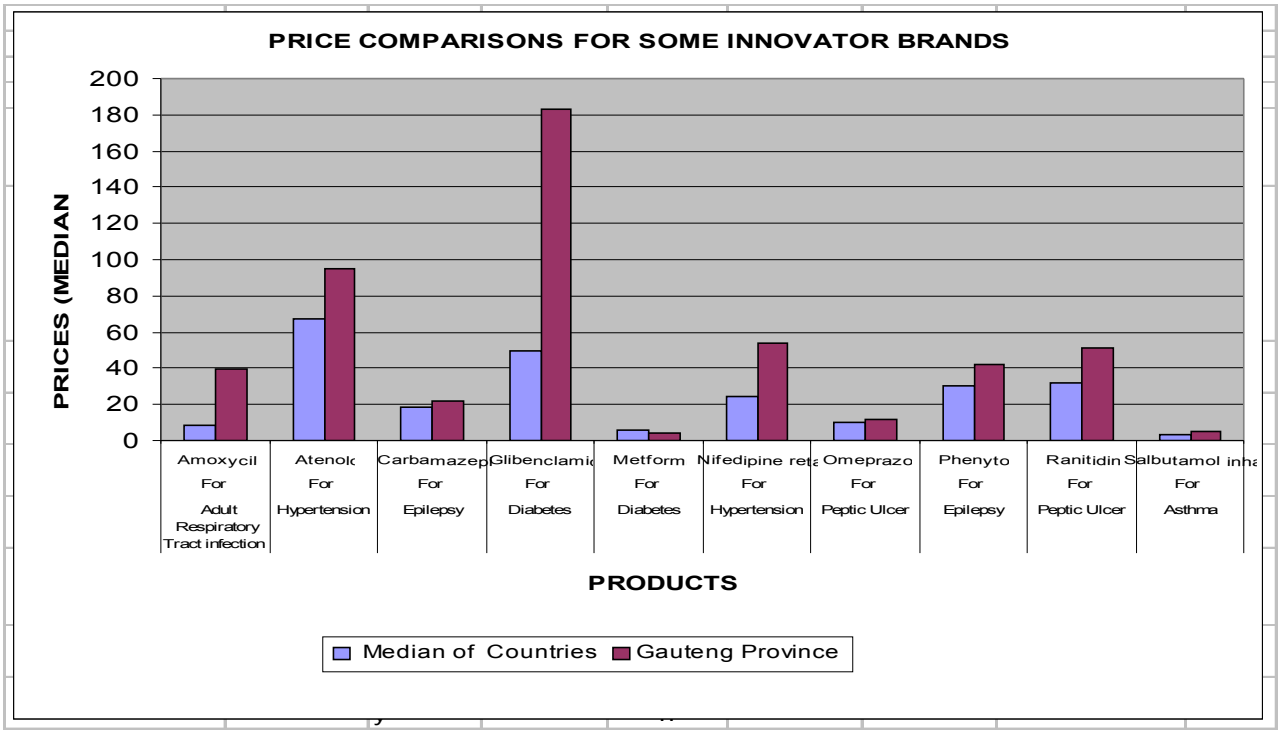

Figure 35: Higher Innovator Brand Retail Pharmacy Prices in Gauteng Province Compared to Some African Countries Participating in the Survey.

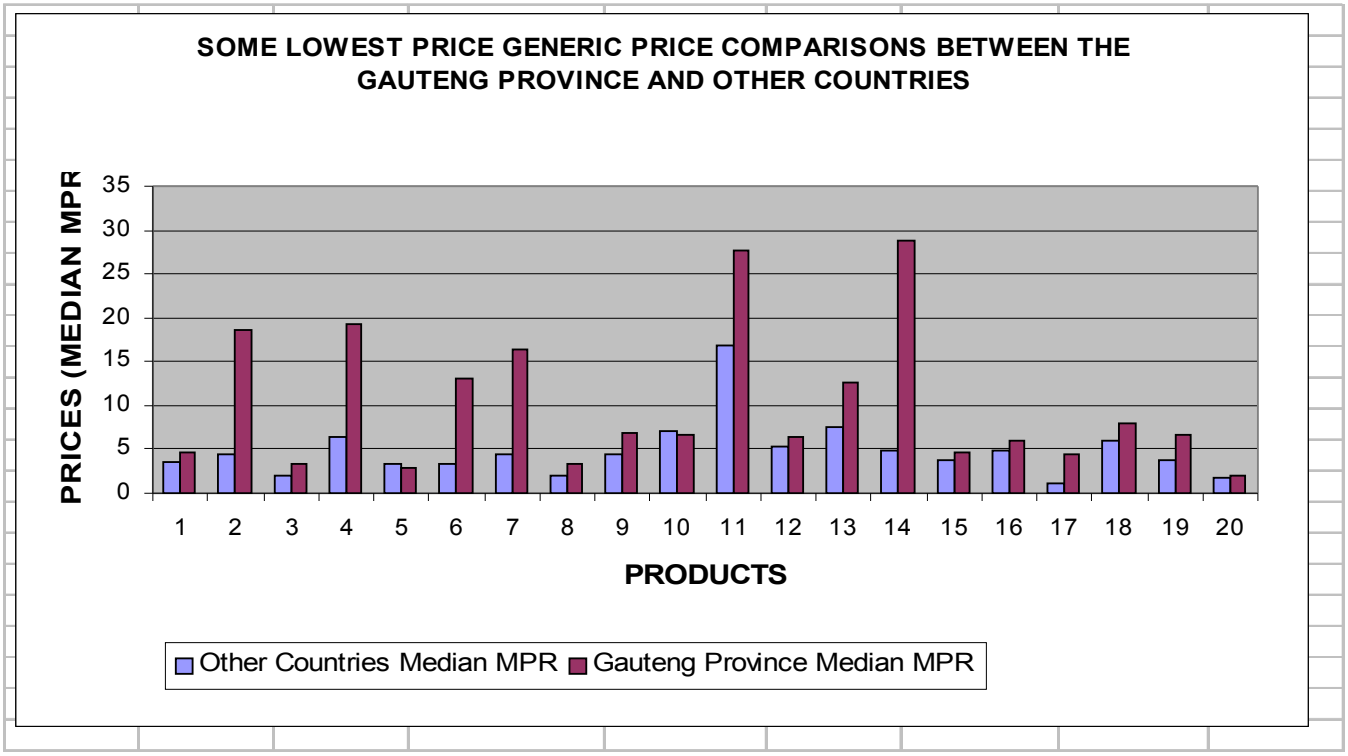

Figure 36: An illustration of the Higher LPG Retail Pharmacy Prices in Gauteng Compared to Some African Countries Participating in the Survey.

Products: 1= Acyclovir; 2=Amitriptyline; 3=Amoxycillin; 4= Atenolol; 5= Captopril; 6=Carbamazepine; 7= Ciprofloxacin; 8= Cotrimoxazole suspension; 9=Diazepam; 10=Diclofenac; 11=Fluconazole 200mg; 12=Fluoxetine; 13= Glibenclamide; 14=Hydrochlorthiazide;15= Metformin; 16=Nifedipine Retard;17=Omeprazole;18=Phenytoin;19=Ranitidine; 20=Salbutamol inhaler

Captopril price was the exception as it was lower in Gauteng province.

B) Affordability of medicines by the lowest paid government worker was better in the Gauteng province compared to other African countries who participated in the survey.

In other words, a Gauteng province lowest paid government worker spent a wages of a less number of days on medicines for a particular condition.

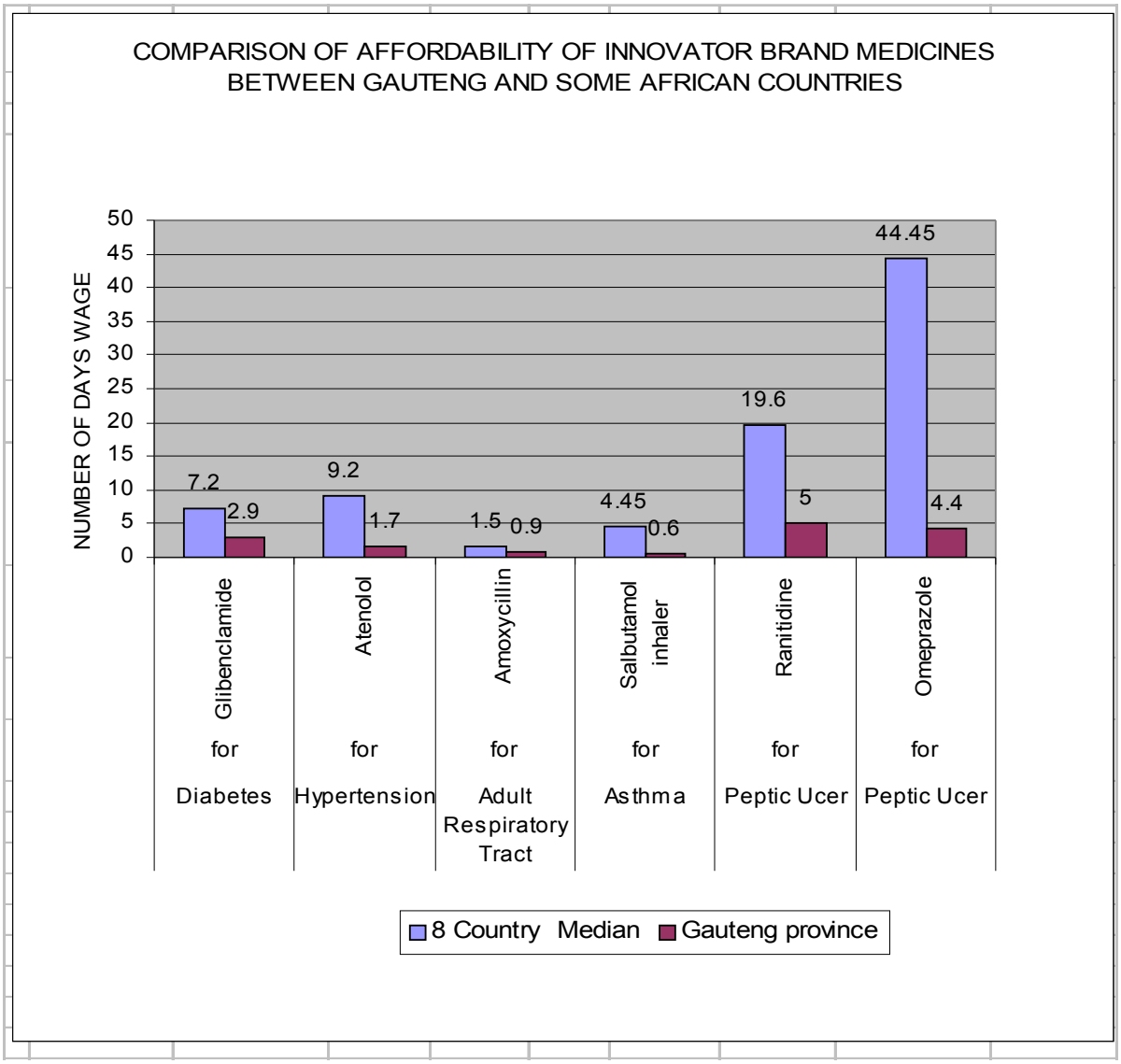

Figure 37: Better Affordability of Certain IB Medicines in Gauteng Province Retail Pharmacies Compared to some African Countries.

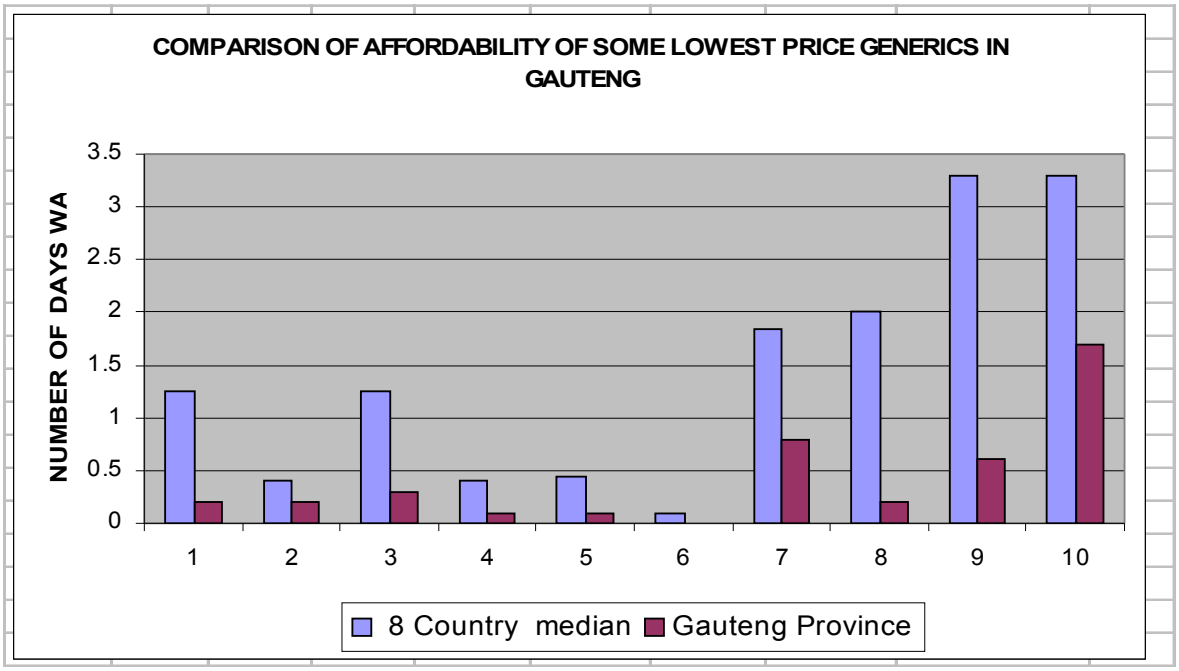

Figure 38: Better Affordability of Certain LPG in Gauteng Province Compared to Some African Countries

Products:1=Glibenclamide;2=Hydrochlorthiazide;3=Atenolol;4=Amoxycillin;5=Cotrimoxazole; 6=Ciprofloxacin; 7=Amitriptyline; 8=Salbutamol inhaler; 9=Ranitidine; 10=Omeprazole;

4. CONCLUSION

Conclusions on availability, medicine prices and affordability of medicines in the Gauteng Province have been drawn.

4.1 Availability

- Patients would not get most of the surveyed medicines from dispensing doctors as their availability was low in this sector.
- Patients in private hospital and retail pharmacies were likely to obtain medicines immediately as the availability of the medicines was good at these facilities.
- The availability of the medicines at the Gauteng depot was high and the outlets that order from it would not be inconvenienced by out of stock medicines.
- Some of the medicines available as innovator brands at the Gauteng depot could have been bought as generics which were on the tender system. It seems that there were factors that prevented them from buying these medicines on tender.
- Patients at retail pharmacies were able to make a choice between innovator and cheaper generics, as the generic availability in these sectors was higher.
- The low availability and incomplete regimens of ARV s in the dispensing doctors, retail pharmacies and a few hospital pharmacies means that patients needing these would not immediately get a full course of these medicines.

4.2 Medicine Prices

- In all sectors, the majority of the prices did not compare well with the international reference price. The innovator brands in the pharmacy sectors were about 2400% to 2500% more expensive than the international reference price and the generics were about 600% more (see table 6 and 19). The generics in the dispensing doctor sector were about 300% more expensive than the MSH prices (see table 28). The Gauteng province depot medicine prices were also found to be higher when compared to the other African countries that participated in the same survey.
- The medicine pricing regulations were not adhered to as shown by the mark ups which were higher than expected and varied.
- The observed varied high prices in the retail sector were not to the benefit of the patient as the patient would not be pre informed of the maximum price to pay for a medicine before visiting a facility (there was no transparency in the medicine

prices). Possible causes of the variations are different mark ups and different acquisition prices by the retailers. Retailers are supposed to obtain medicines at the same manufacturers price if the medicine pricing legislation is adhered to.

- The mark ups on generics were generally higher than on innovator brands
- There was a high brand premium to using innovator brands compared to generics. The innovator brand prices were as high as about six times more.
- Prices (MPR s) of ARV s in regimen 1, in all sectors, compared well with the international reference prices. However, to purchase the whole regimen cost about a five-day wages of the lowest paid government worker.
- Patients in South Africa were paying a larger portion of VAT (14%) compared to some other countries (average 12.4 % in a 2003 EU study; 2% minimum and 25% maximum in the manual).
- The manufacturer price component formed the largest portion of the price to the patient and patients could end up paying higher than their international counterparts if these prices do not compare favourably.
- The logistic fee amount paid for the innovator brands was generally higher than that paid on the generic products for similar products of same pack size.

4.3 Affordability

- Affordability of products was better at the dispensing doctor sectors than at the pharmacists for the majority of products.
- Affordability of generics was better than that of the innovator brands in all sectors.
- As illustrated in figure 37, affordability of the medicines by the lowest paid Government worker was better for Gauteng province patients compared to some African countries that took part in the survey.

5. RECOMMENDATIONS

5.1 Availability of Medicines

- **Dispensing Doctors:** The low availability of the surveyed medicines does not equip us to draw conclusions about whether the patients do not get properly serviced or not. Doctors stock only what they prescribe and dispense. There is a possibility that different medicines treating the same condition were available. To establish the availability of medicines in facilities, it is recommended that a survey looking into medicines by disease condition be conducted.
- **Dispensing Doctors, retail pharmacists and some private hospitals:** Practitioners must be required to always keep a complete regimen of medicines indicated for a specified condition so as to ensure compliance and avoid resistance development. This is particularly critical to ARV s where it has been found that most facilities had incomplete regimen 1and post exposure prophylaxis treatment.
- **Gauteng depot procurement of innovator brands available as generics on tender*:*** An investigation needs to be done to establish the reasons for the depot to procure products outside the tender system. It should be established if there were availability problems from the designated suppliers or whether there were other problems leading to this.

5.2 Medicine Prices

- **International benchmarking:** The high medicine prices in Gauteng compared to the international reference prices necessitate that more investigation be carried out in this area. An international benchmarking exercise comparing the prices in South Africa with other countries at same product type level must be carried out, for example, innovator brand against innovator brand.
- **Cost components of the manufacturer price:** It has been mentioned that the manufacturer price formed the largest proportion of the final price to the patient. It has also been mentioned that in South Africa, there are no import duties paid but only 14% VAT. The manufacturer price therefore consists of the cost of the final product + import costs (like CIF) + Manufacturer profit+ VAT. *For the sake of achieving more transparency in medicine prices, it is recommended that more information be obtained on the cost components of the manufacturer price.*

- **Logistics fee differences:** There should be a uniform distribution fee of similar products and this means that the activities being paid for under distribution of medicines, and their cost must be clearly stipulated to all the stakeholders.
- **Transparency of the price of the medicine at each level of the supply chain must be enforced:** This must be improved by publishing the prices paid at manufacturer, logistic and retail level so that all stakeholders can access these when necessary. Patients will then be in a position to know the maximum price they would pay for a medicine.
- **The Dispensing Fee:** Dispensing is a professional activity and its value is independent of the cost of the medicine. However, there are operating costs involved in carrying out dispensing within legislation parameters. Therefore Dispensing practitioners have both a retail and a professional element in their dispensaries. *To promote compliance to the medicine pricing legislation by retailers a dispensing fee that takes into account all the above elements must be agreed upon by the legislators and the practitioners, with the common goal of making medicines more affordable to all South Africans.*
- **Adherence to the medicine pricing legislation:** Penalties must be imposed on supply chain members who contravene the prevailing medicine pricing legislation. A robust inspectorate system which will monitor prices at all levels of the supply chain must be functional.

5.3 Affordability of medicines

- **More Affordable Medicines:** Service providers must be encouraged to dispense cheaper generics whenever possible to improve affordability of medicines.

ANNEXURE 1

Medicine Price Data Collection form

Use one form for each health facility and pharmacy

Date:

Name of town:

Name of health facility:

Health facility/pharmacy ID (mandatory):

Type of health facility:

- ❑ Dispensing Doctor ❑ Private retail pharmacy
- ❑ Private Hospital Pharmacy:

Type of price in facility:

- ❑ Procurement price ❑ Price the patient pays

Name of manager of the facility:

Name of person(s) who provided information on medicine prices and availability (if different):

Data collectors:

MEDICINE PRICE DATA COLLECTION FORM

Most sold: determined nationally **Lowest price: determined at facility**

A	B	C	D	E	F	G	H	I
Generic name, dosage form, strength	**Brand name(s)**	**Manufacturer**	**Available tick ✓ for yes**	**Pack size recom-mended**	**Pack size found**	**Price of pack found**	**Unit price (4 digits)**	**Comments**
Aciclovir tab 200 mg	Zovirax	GSK		25			/tab	
	Adco acyclovir	Adcock Ingram		25				
Lowest price generic equivalent				25				
Allopurinol 300mg tab	Zyloprim	Aspen		500				
	Puricos	Aspen		500				
Lowest price generic equivalent				500				
Amitriptyline tab 25 mg	Tryptanol	MSD		100			/tab	
	Trepiline	Aspen		100				
Lowest price generic equivalent				100				
Amoxicillin caps/tab 250 mg	Amoxil	Aspen		21			/tab	
	Moxypen	Aspen		21				
Lowest price generic equivalent				21				
Amoxicillin(250mg) +clavulanic Acid (125) tab	Augmentin 375	Aspen		15				
	Clamentin	Merck Generics		15				
Lowest price generic equivalent				15				
Atenolol tab 50 mg	Tenormin	Astra Zeneca		60			/tab	
	Tenbloka	Aspen		60				
Lowest price generic equivalent				60				
Beclometasone inhaler 50 mcg/ dose	Becotide	Sekpharma		1 inhaler: 200 doses			/dose	

	Beclate	Cipla Medpro		1 inhaler: 200 doses				
Lowest price generic equivalent				1 inhaler: 200 doses				
Captopril tab 25 mg	Capoten	BMS		60			/tab	
	Adco captopril	Adcock Ingram		60				
Lowest price generic equivalent				60				
Carbamazepine tab 200 mg	Tegretol	Novartis		100			/tab	
	Degranol	Aspen		100				
Lowest price generic equivalent				100				
Ceftriaxone inj 1 g powder	Rocephin	Roche		1 vial			/vial	
	Oframax	Ranbaxy		1 vial				
Lowest price generic equivalent				1 vial				
Ciprofloxacin tab 500 mg	Ciprobay	Bayer		10			/tab	
	Cifran	Ranbaxy		10				
Lowest price generic equivalent				10				
Co-trimoxazole paed suspension (8+40) mg/mL	Bactrim	Roche		100 ml			/mL	
	Purbac	Aspen		100 ml				
Lowest price generic equivalent				100 ml				
Diazepam tab 5 mg	Valium	Roche		100			/tab	
	Pax	Aspen		100				
Lowest price generic equivalent				100				
Diclofenac tab 25 mg	Voltaren	Novartis		100			/tab	
	Adco diclofenac	Adcock Ingrams		100				
Lowest price generic equivalent				100				
Efavirenz 600mg cap	Stocrin	MSD		30				
	-	-						
	-	-						
Fluconazole caps/tab 200 mg	Diflucan	Pfizer		28			/tab	
	Fluzol	Hexal		30				
Lowest price generic equivalent				30				

Fluconazole 150mg cap	Diflucan	Pfizer		1				
	Fluzol	Hexal Pharma		1				
Lowest price generic equivalent				1				
Fluoxetine caps/tab 20 mg	Prozac	Eli Lilly		30			/tab	
	Nuzac	Cipla Medpro		30				
Lowest price generic equivalent				30				
Fluphenazine decanoate inj 25 mg/mL	Modecate	BMS		1 ampoule			/mL	
	-	-		1 ampoule				
Lowest price generic equivalent	-	-		1 ampoule				
Glibenclamide tab 5 mg	Daonil	Aventis		60			/tab	
	Glycomin	Aspen		60				
Lowest price generic equivalent				60				
Gliclazide 80mg tab	Diamicron	Servier		60				
	Glucomed	Parkmed		60				
Lowest price generic equivalent				60				
Hydrochlorothiazide tab 25 mg	Dichlotride	MSD		30			/tab	
	Ridaq	Aspen		30				
Lowest price generic equivalent				30				
Ibuprofen 400mg tab	Brufen	Abbott		30				
	Inza	Aspen		30				
Lowest price generic equivalent				30				
Indapamide 25mg tab	Natrilix	Servier		30				
	Dapamax	Parkmed		30				
Lowest price generic equivalent								
Indinavir caps 400 mg	Crixivan	MSD		180			/caps	
	-	-						
Lowest price generic equivalen	-	-		180				
Lamivudine 150mg tab	3TC	GSK		60				

	Cipla Lamivudine	Cipla Medpro		60				
Lowest price generic equivalent				60				
Loperamide 2mg tab/cap	Imodium	Jansen-Cilag		6				
	Betaramide	Aspen		10				
Lowest price generic equivalent				6				
Losartan tab 50 mg	Cozaar	MSD		30			/tab	
	-	-		30				
Lowest price generic equivalent	-	-		30				
Mebeverine 135mg tab	Colofac	Solvay		20				
	Bevispas	Aspen		20				
Lowest price generic equivalent				20				
Metformin tab 500 mg	Glucophage	Merck		100			/tab	
	Rolab Metformin	Sandoz		100				
Lowest price generic equivalent				100				
Methylphenidate 10mg tab	Ritalin	Norvatis		30				
	Ritaphen	Apen		30				
Lowest price generic equivalent				30				
Metoclopramide monohydrochloride 10mg tabs	Maxolon	Pharmaco		20				
	Clopamon	Aspen		500				
Lowest price generic equivalent				20				
Nevirapine tab 200 mg	Viramune	Boehringer I		60			/tab	
	Nevran	Thembalami		60				
Lowest price generic equivalent				60				
Nifedipine 10mg caps	Adalat	Bayer		30				
	Cardifen	Aspen		30				
Lowest price Generic equivalent				30				
Nifedipine Retard tab 20	Adalat Retard	Bayer		100			/tab	

mg								
	Cipalat retard	Cipla Medpro		100				
Lowest price generic equivalent				100				
Omeprazole caps 20 mg	Losec	Astra Zeneca		30			/caps	
	Omez	Dr Reddy's		30				
Lowest price generic equivalent				30				
Phenytoin caps/tab 100 mg	Epanutin	Pfizer		100			/tab	
	Phenytoin sodium	Aspen		100				
Lowest price generic equivalent				100				
Prednisone 5mg tab	Meticorten	Schering Plough		500				
	Be Tabs Prednisone	Be tabs		1000				
Lowest price generic equivalent				500				
Promethazine 10mg tabs	Phenergan	Aventis		100				
	Receptozine	Be Tabs		1000				
Lowest price generic equivalent								
Pyrimethamine with sulfadoxine tab (25+500) mg	Fansidar	Roche		3			/tab	
	-	-						

Lowest price generic equivalent	-	-						
Ranitidine tab 150 mg	Zantac	Aspen		60			/tab	
	Ultac	Cipla Medpro		60				
Lowest price generic equivalent				60				
Salbutamol inhaler 0.1 mg per dose	Ventoline	Aspen		1 inhaler: 200 doses			/dose	
	Venteze	Aspen		1 inhaler: 200 doses				
Lowest price generic equivalent				1 inhaler: 200 doses				
Stavudine 30mg tab	Zerit	BMS		60				
	Stavir	Cipla Medpro		60				
Lowest price generic equivalent				60				
Zidovudine caps 100 mg	Retrovir	GSK		100			/caps	
	-	-						
Lowest price generic equivalent	-	-		100				
Zopiclone 7.5mg tab	Imovane	Aventis		30				
	Rolab Zopiclone	Sandoz		30				
Lowest price generic equivalent				30				

ANNEXURE 2

MEDICINES AVAILABILITY AND PRICE SUMMARIES IN SECTORS

		Medicines Availability in Outlets									Medicines Median Price Ratios (MPRs) in Government Procurement and Private Sector Retailers (Reference Price Data Used = MSH 2003)										
		Innovator Brand			Most Sold Generic			Lowest Price Generic			Innovator Brand				Most Sold Generic				Lowest Price Generic		
Medicine Name	Core List (yes/no)	Private Hospital Pharmacies (n=15)	Private Retail Pharmacies (n=30)	Dispensing Doctor (n=15)	Private Hospital Pharmacies (n=30)	Private Retail Pharmacies (n=30)	Dispensing Doctor (n=15)	Private Hospital Pharmacies (n=15)	Private Retail Pharmacies (n=30)	Dispensing Doctor (n=15)	Procurement (n=1)	Private Hospital Pharmacies (n=15)	Private Retail Pharmacies (n=30)	Dispensing Doctor (n=15)	Procurement (n=1)	Private Hospital Pharmacies (n=15)	Private Retail Pharmacies (n=30)	Dispensing Doctor (n=15)	Procurement (n=1)	Private Hospital Pharmacies (n=15)	Private Retail Pharmacies (n=30)
Aciclovir	yes	26.7%	16.7%	6.7%	26.7%	43.3%	6.7%	46.7%	83.3%	26.7%		26.35	26.33			6.86	6.86		0.79	4.21	4.58
Allopurinol	no	40.0%	53.3%	0.0%	73.3%	90.0%	46.7%	86.7%	96.7%	53.3%		6.17	6.17		0.66	2.74	2.74	2.78	0.66	2.74	2.68
Amitriptyline	yes	26.7%	33.3%	0.0%	80.0%	83.3%	46.7%	100.0%	86.7%	60.0%		63.32	63.32		1.39	18.96	18.96	16.96	1.39	18.96	18.69
Amoxicillin	yes	40.0%	50.0%	0.0%	60.0%	36.7%	6.7%	93.3%	83.3%	80.0%		40.53	39.47		1.72	3.16	3.16		1.72	3.16	3.30
Amoxil / clavulanic acid	no	46.7%	70.0%	0.0%	26.7%	20.0%	6.7%	93.3%	90.0%	53.3%	0.84	5.89	6.26			1.48	1.55			1.48	1.68
Atenolol	yes	53.3%	36.7%	0.0%	40.0%	76.7%	6.7%	66.7%	86.7%	33.3%		95.06	95.06			19.34	19.33		2.03	19.33	19.33
Beclometarone inhaler	yes	13.3%	10.0%	6.7%	60.0%	63.3%	53.3%	73.3%	63.3%	53.3%					1.32	2.86	2.86	2.61	1.32	2.86	2.86
Captopril	yes	53.3%	33.3%	0.0%	13.3%	30.0%	0.0%	40.0%	70.0%	33.3%		19.75	19.75				2.26		0.62	4.94	2.94
Carbamazepine	yes	93.3%	66.7%	6.7%	60.0%	76.7%	6.7%	66.7%	80.0%	13.3%		22.10	22.10			12.99	12.99		1.52	12.99	12.99
Ceftriaxone injection	yes	53.3%	6.7%	0.0%	6.7%	3.3%	6.7%	46.7%	3.3%	6.7%		6.77			0.84				0.84	3.95	
Ciprofloxacin	yes	53.3%	66.7%	0.0%	33.3%	60.0%	33.3%	93.3%	96.7%	53.3%		68.36	68.36		2.15	23.09	23.09	17.90	2.15	13.24	16.45
Co-trimoxazole suspension	yes	26.7%	3.3%	0.0%	53.3%	66.7%	13.3%	60.0%	73.3%	66.7%		39.15				3.38	3.38		1.13	3.38	3.38
Diazepam	yes	53.3%	50.0%	6.7%	46.7%	56.7%	13.3%	53.3%	80.0%	60.0%		125.97	125.97			6.77	6.77		2.97	6.77	6.77
Diclofenac	yes	46.7%	60.0%	0.0%	20.0%	40.0%	20.0%	53.3%	73.3%	53.3%		33.45	33.45				7.10		2.22	7.20	6.57
Efavirenz	no	60.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.02	1.06	1.17								
Fluconazole	yes	53.3%	26.7%	0.0%	46.7%	43.3%	6.7%	46.7%	43.3%	20.0%		74.21	74.21		32.35	27.75	27.75		32.35	27.75	27.75
Fluconazole (2)	no	53.3%	53.3%	0.0%	60.0%	66.7%	26.7%	73.3%	80.0%	33.3%		119.09	137.13			87.17	87.17	79.50		87.17	87.16
Fluoxetine	yes	53.3%	46.7%	0.0%	46.7%	80.0%	20.0%	86.7%	90.0%	53.3%		67.49	86.51			6.71	6.66		1.41	6.88	6.48
Fluphenazine injection	yes	13.3%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.53										
Glibenclamide	yes	40.0%	30.0%	0.0%	46.7%	83.3%	26.7%	66.7%	90.0%	73.3%		176.42	183.47			38.49	28.76	22.64	2.24	37.79	12.58
Hydrochlorothiazide	yes	0.0%	0.0%	6.7%	73.3%	86.7%	13.3%	86.7%	100.0%	33.3%					3.38	28.69	33.43		3.38	28.69	28.89
Ibuprofen	no	6.7%	23.3%	6.7%	46.7%	63.3%	6.7%	73.3%	93.3%	26.7%			22.85		3.28	15.01	15.75		3.28	6.86	8.37
Indinavir	yes	33.3%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.01	1.08	1.09								
Lamivudine	no	73.3%	30.0%	6.7%	6.7%	6.7%	0.0%	6.7%	6.7%	0.0%		3.80	4.08		2.75				2.75		
Loperamide	no	53.3%	86.7%	0.0%	26.7%	56.7%	6.7%	86.7%	96.7%	80.0%	4.51	121.62	118.13			45.85	45.87			26.19	30.71
Losartan	yes	73.3%	83.3%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		1.32	1.32								
Metformin	yes	60.0%	86.7%	13.3%	53.3%	53.3%	33.3%	66.7%	66.7%	53.3%		4.61	4.61			4.60	4.58	3.90	1.42	4.60	4.61
Methylphenidate	no	46.7%	56.7%	6.7%	6.7%	13.3%	0.0%	6.7%	23.3%	6.7%	1.12	4.91	4.91				2.54				2.54
Metoclopramide	no	33.3%	43.3%	6.7%	66.7%	66.7%	0.0%	86.7%	76.7%	66.7%		67.40	72.46			9.28	9.28		2.35	9.28	9.28
Nevirapine	yes	53.3%	33.3%	6.7%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%	3.49	5.35	5.35								
Nifedipine	no	60.0%	30.0%	0.0%	26.7%	50.0%	6.7%	33.3%	60.0%	40.0%		73.17	79.14			17.55	22.30		4.34	15.06	22.30
Nifedipine Retard	yes	33.3%	43.3%	0.0%	46.7%	63.3%	13.3%	46.7%	63.3%	20.0%		53.37	53.37			6.49	5.97			6.49	5.97
Omeprazole	yes	66.7%	83.3%	6.7%	26.7%	30.0%	13.3%	46.7%	50.0%	13.3%	2.50	11.56	11.56			4.59	4.49			4.47	4.49
Phenytoin	yes	73.3%	80.0%	6.7%	6.7%	13.3%	6.7%	13.3%	20.0%	6.7%		42.08	42.08		13.45		8.58		13.45		7.92
Prednisone	no	53.3%	66.7%	0.0%	73.3%	80.0%	73.3%	80.0%	93.3%	100.0%		46.99	49.45			1.65	1.75	1.50	0.96	1.66	1.83
Promethazine	no	66.7%	70.0%	6.7%	20.0%	26.7%	33.3%	26.7%	26.7%	53.3%	1.93	23.49	23.49				4.45	3.99		4.83	4.45
Ranitidine	yes	66.7%	53.3%	6.7%	40.0%	50.0%	0.0%	53.3%	80.0%	13.3%		50.06	51.57		1.98	6.95	6.93		1.98	6.40	6.73
Salbutamol inhaler	yes	66.7%	83.3%	0.0%	73.3%	80.0%	26.7%	80.0%	96.7%	46.7%		4.68	4.68			1.92	1.92	1.75	0.89	1.92	1.92
Stavudine	no	53.3%	23.3%	13.3%	26.7%	16.7%	0.0%	26.7%	20.0%	0.0%	1.74	2.34	2.26		1.22	1.77	1.58		1.22	1.77	1.58
Sulfadoxine-pyrimethamine	yes	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%											
Zidovudine	yes	66.7%	23.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.10	2.25	2.25								

ANNEXURE 3

MEDICINE PRICES AND AVAILABILITY IN THE RETAIL PHARMACY SECTOR IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference Prices and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)																										
Medicine Name	Medicine Type	Median (MPR)	25% ile	75% ile	Min	Max	Availability in sector	1	2	3	4	5	6	8	9	10	11	12	13	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Aciclovir	Brand	26.33	26.33	26.50	18.59	27.54	16.7%				11				15			15.6				14.9	14.9												
Aciclovir	Mert/Sold	6.86	6.86	6.86	6.67	8.13	33.3%				3.8				3.9		3.9	4.58		4.61			3.89	3.9		3.89	4.29	3.8					3.9	3.89		3.89	
Aciclovir	LowestPrice	4.58	3.63	6.86	0.62	8.13	83.3%	2.6	2.1		3.8	2		2.1	3.9	2.6	3.9	4.58	2.19	4.61		2.06	3.89	3.9		3.89	0.35	3.8		2.1	2.06	2.4	2	3.89	2.04	3.89	2
Allopurinol	Brand	6.17	6.17	6.25	4.76	7.31	53.3%	3.7	3.3		3.2		3.5	3.3	3.3	3.74		3.91			2.55	3.3	3.3	3.3		3.3							3.3	3.3	3.2
Allopurinol	Mert/Sold	2.74	2.34	2.74	0.91	8.89	90.0%	1.3	1.3	0.6	1.4	1.5	1.9		1.3	1.93	1.5	1.32	2.2		1.13	1.47	1.25	1.5	1.55	1.47	1.8	1.4	4.8	1.5		1.2	1.5	1.47	0.16	1.13	1.4
Allopurinol	LowestPrice	2.68	2.34	2.74	0.91	8.89	96.7%	1.3	1.3	0.6	1.4	1.5	1.9	1.4	1.3	1.93	1.5	1.32	2.2		1.13	1.47	1.25	1.5	1.55	1.47	1.8	1.4	4.8	1.5	1.43	1.2	1.5	1.47	0.16	1.13	1.3
Amitriptyline	Brand	63.32	63.32	66.85	29.80	80.95	33.3%				2.8		3.4		2.8	2.93		2.99				2.82	2.82	2.8			3.6		1.3							
Amitriptyline	Mert/Sold	18.96	15.14	20.08	12.58	23.01	83.3%	1		0.6	1		0.8	0.8	0.9	0.8	0.8	1.01	0.8	1.02		0.65	0.56		0.67	0.84		0.6		0.8		0.9	0.6	0.84	0.84	0.56	0.8
Amitriptyline	LowestPrice	18.69	14.72	18.96	1.095	23.01	86.7%	1		0.6	1		0.8	0.8	0.7	0.8	0.8	0.97	0.8	1.01	0.8	0.63	0.56		0.67	0.84		0.6		0.8		0.9	0.6	0.84	0.84	0.56	0.8
Amoxicillin	Brand	39.47	32.98	40.53	32.48	51.86	50.0%				4		4.4	3.3		4.96	4.1	5.22				3.27	3.27	4.1	3.97	4.08	3.37	3.8				4.1				3.27	
Amoxicillin	Mert/Sold	3.16	3.16	5.75	3.07	14.49	36.7%			0.4	0.3		0.8		0.3	1.31		1.46				0.32	0.32	0.3											0.39	0.3
Amoxicillin	LowestPrice	3.30	3.13	8.31	2.32	17.91	83.3%	0.8	0.3	0.4	0.3	1.3	0.8		0.3	1.31		1.46	0.61	1.16	0.25	0.3	0.32	0.3		0.39	1.8	0.3	0.3	0.3		0.8	0.3		0.23	0.39	0.3
Amoxil/clavulanic	Brand	6.26	5.14	6.43	1.67	14.15	70.0%				11	11			8.9	11.8		12.2	4.44	12.3	9.08	11.1	11.1	3	11.4	11.1	2.95		12	25	11.1	3	11	11.1	11.1		
Amoxil/clavulanic	Mert/Sold	1.55	1.46	1.99	1.44	2.20	20.0%				2.6					3.89		3.75							2.78							2.7					2.5
Amoxil/clavulanic	LowestPrice	1.68	1.55	1.86	0.55	2.52	90.0%	3.1	3	3.4	2.6	1	3.1	3	3	3.89	3	3.75	4.45	4.17	2.29	2.54	2.97		2.78	2.97	3.65	2.9	3.6	3		2.7	2.6		2.97	2.97	2.5
Atenolol	Brand	95.06	95.06	109.35	94.98	105.54	36.7%	5.7				5.2	5.5	5.2	5.2	5.55		5.74				5.17	5.17			5.17		5.5									
Atenolol	Mert/Sold	1.93	1.93	2.93	0.67	4.96	76.7%	1.5		2	1	0.5	1.2	1.1	1.1	1.52	1.1	1.62	1.09			1.05	1.05	1.1	1.14		1.39			1.1		1.1	1.1	2.72	1.05	1.05	1
Atenolol	LowestPrice	1.93	1.87	9.25	0.67	37.61	86.7%	1.5		2	1	0.5	0.7	1.1	1.1	1.52	1.1	1.62	1.09			0.57	1.05	1.1	1.14	0.68	1.39		1.5	1.1	1.44	0.9	0.7	1.35	1.05	1.05	1
Beclometasone	Brand						10.0%									0.39		0.4					0.32														
Beclometasone	Mert/Sold	2.86	2.86	3.07	2.63	3.77	63.3%	0.3		0.3	0.3	0.3	0.3		0.3				0.26	0.37		0.28	0.28	0.3			0.33	0.3		0.3		0.3		0.28	0.28	0.28	0.3
Beclometasone	LowestPrice	2.86	2.78	3.07	2.41	3.77	63.3%	0.3		0.3	0.3	0.3	0.3		0.3				0.26	0.37		0.24	0.28	0.3			0.33	0.3		0.3		0.3		0.28	0.28	0.24	0.3
Captopril	Brand	19.75	19.75	19.82	19.75	21.60	33.3%							3.1		3.27		3.34				3.06	3.05			3.05				3.1			3.1		3.05	3.05	
Captopril	Mert/Sold	2.26	2.26	2.26	2.16	6.46	30.0%		0.3		1	0.3			0.3					0.65		0.35	0.35												0.35	0.3
Captopril	LowestPrice	2.94	2.26	5.70	1.05	8.33	70.0%	1.3	0.3	0.5	1	0.3	1.1	0.5	0.3	0.88			0.93	0.65	0.16	0.35	0.35				0.54			0.2			0.5	0.45	1.03	0.35	0.3
Carbamazepine	Brand	22.10	22.10	22.86	20.42	23.65	66.7%	2.7	2.6		2.6	2.6		2.6	2.6	2.69		2.74	2.43	2.75		2.57	2.57	2.6			2.67	2.7				2.4	2.6	2.57		2.57	2.6
Carbamazepine	Mert/Sold	12.99	9.98	13.59	5.29	16.96	76.7%	0.7	0.6	1.8	1.5	1.5		1.5	0.7	1.63	1.5	1.68	1.97	1.69		1.51	0.62		1.54		0.82		1.6	0.7			1.5	1.5	1.51	1.51	1.5
Carbamazepine	LowestPrice	12.99	6.85	13.40	5.29	16.96	80.0%	0.7	0.6	1.8	1.5	1.5		1.5	0.7	1.63	0.8	1.68	1.97	1.69	0.63	1.51	0.62		1.54		0.82		1.6	0.7			1.5	1.5	1.51	1.51	1.5
Ceftriaxone injection	Brand						6.7%															1.03	1.03														
Ceftriaxone injection	Mert/Sold						3.3%																39.4														
Ceftriaxone injection	LowestPrice						3.3%																39.4														
Ciprofloxacin	Brand	68.36	68.34	68.42	52.73	78.01	66.7%				1.2	1.3		1.3	1.3	13.9	1.3	14.4	11.4	14.5	9.81	12.8	12.7	1.3	1.3	12.7				1.3		1.1	1.3		12.7	12.7	
Ciprofloxacin	Mert/Sold	23.09	23.09	25.49	16.95	32.77	60.0%				4.2		4.8			3.15	4.3	5.6	4.83	6.1			4.3	4.3		4.3	5.29		4.6	4.3	4.3	4.3		4.29	4.3		4.2
Ciprofloxacin	LowestPrice	16.45	14.01	23.09	8.27	30.09	96.7%	4	2	3	4.2	2.6	4.1	2.6		3.15	4.3	5.6	2.75	4.41	1.54	2.61	2.61	4.3	3.31	2	5.29	3	4.6	4.3	3.06	3	2.5	4.29	3.06	2.46	1.9
Co-trimoxazole suspension	Brand						3.3%											0.99																			
Co-trimoxazole suspension	Mert/Sold	3.38	3.38	6.78	3.28	11.93	66.7%	0.2	0.1	0.1	0.1	0.1		0.1	0.1	0.22	0.2	0.24		0.25		0.07	0.07		0.12	0.07		0.1		0.1			0.1			0.07	0.1
Co-trimoxazole suspension	LowestPrice	3.38	3.31	4.17	2.80	11.93	73.3%	0.2	0.1	0.1	0.1	0.1		0.1	0.1	0.22	0.2	0.24		0.25		0.07	0.07		0.08	0.07		0.1		0.1	0.09		0.1	0.07		0.07	0.1
Diazepam	Brand	125.97	***	128.45	36.62	135.73	50.0%					2.6	2.7	2.6	2.6	2.71	2.6	2.76	0.75	2.78		2.58	2.58									2.6		2.58	2.58	2.6
Diazepam	Mert/Sold	6.77	6.77	7.84	5.23	36.08	56.7%	0.2	0.1	0.2	0.1	0.1		0.1	0.1	0.72	0.1	0.71	0.11	0.74	0.11	0.14	0.14									0.1		0.14			
Diazepam	LowestPrice	6.77	4.82	7.89	3.46	36.08	80.0%	0.2	0.1	0.2	0.1	0.1		0.1	0.1	0.72	0.1	0.71	0.11	0.74	0.11	0.14	0.14		0.16		0.22	0.1	0.1	0.1			0.1	0.07	0.14		0.1
Diclofenac	Brand	33.45	33.45	33.45	11.78	43.73	60.0%	1.1			0.7	1	0.4	1	1	1.12	1	1	1.3			1	1		1.02	1					0.9	1		1	1		
Diclofenac	Mert/Sold	7.10	6.57	9.37	5.89	26.86	40.0%				0.2	0.2				0.23		0.77	0.44	0.8			0.2		0.23		0.22	0.2				0.2					0.2
Diclofenac	LowestPrice	6.57	4.72	14.32	3.10	26.86	73.3%	0.4	0.1	0.1	0.2	0.2		0.6		0.23	0.6	0.77	0.44	0.8			0.2		0.14	0.71	0.11	0.2	0.1	0.1	0.15	0.2	0.1				0.2

ANNEXURE 3

MEDICINE PRICES AND AVAILABILITY IN THE RETAIL PHARMACY SECTOR IN THE GAUTENG PROVINCE

Summary Comparisons to Reference Prices and Percent Availability in Outlets (Blank if found in < 4 outlets)

Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)

Medicine Name	Medicine Type	Median (MPR)	25%ile	75%ile	Min	Max	Availability in sect	1	2	3	4	5	6	8	9	10	11	12	13	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
ERavirenz	Brand	1.17	1.17	1.17	1.06	1.25	33.3%	8.6							8.1			7.95		8.7		8.13	8.13	8.1							8.13			7.38			8.1
ERavirenz	MostSold						0.0%																														
ERavirenz	LowestPrice						0.0%																														
Fluconazole	Brand	74.21	74.21	74.99	74.21	75.12	26.7%	53			52							52.9		53		52.3	52.3	52									52				
Fluconazole	MostSold	27.75	27.75	27.75	26.17	28.46	43.3%	20	20		20			20				18.4				19.6	19.6	20				20		20	19.6		20		19.6		
Fluconazole	LowestPrice	27.75	27.75	27.75	22.91	28.46	43.3%	20	20		20			20				18.4				19.6	16.2	20				20		20	19.6		20		19.6		
Fluconazole (2)	Brand	137.13	133.26	139.26	118.44	184.31	53.3%	93			78	80	85	80			80	97.3	108			80.2		80	70	80						72	69			80.2	78
Fluconazole (2)	MostSold	87.17	86.55	92.52	27.34	126.51	66.7%	65	51		50	16	56				51	68.1	74			51	46.7	51	53	51	61	50			51		51	51	51		50
Fluconazole (2)	LowestPrice	87.16	70.68	88.24	27.34	126.51	80.0%	65	37	44	50	16	42				51	68.1	74	55		36.9	35.9	51	53	51	61	50		36	51	38	51	51	51		50
Fluoxetine	Brand	86.51	57.94	88.27	22.05	90.01	46.7%				15		15	8.4	15	15.3	15	15.5		16		8.35	3.81	15	15											8.35	15
Fluoxetine	MostSold	6.66	6.66	7.86	5.14	12.56	80.0%	1.6			1.1	1.1	1.3	1.1	1.1	1.62	1.1	1.72	1.17	1.7	0.89	1.15	1.15	1.1	1.2	1.2		1.1	2.2	1.5		1.2			1.15	1.15	1.1
Fluoxetine	LowestPrice	6.48	6.35	7.11	4.02	12.56	90.0%	1.6	1.1		1.1	1.1	1.3	1.1	1.1	1.62	0.7	1.72	0.82	1.3	0.89	0.69	1.1	1.1	1.2	1.1	1	1.1	2.2	1		1.2		1.1	1.15	1.15	1.1
Fluphenazine	Brand						6.7%											71.9					57.5														
Fluphenazine	MostSold						0.0%																														
Fluphenazine	LowestPrice						0.0%																														
Glibenclamide	Brand	183.47	163.36	202.93	113.43	208.97	30.0%					4.4	4.9					5.01		5		3.92	2.72	4.4											3.13	4.3
Glibenclamide	MostSold	28.76	11.88	38.49	8.67	62.26	83.3%	0.5	0.3	1.1	0.2	0.9	1.1	0.9		0.3		1.49	1	0.6	0.69	0.92	0.28	0.9		0.9	0.3	0.3	0.9		0.92	0.4	0.3	0.28	0.28		0.9
Glibenclamide	LowestPrice	12.58	10.16	38.49	8.67	62.26	90.0%	0.5	0.2	0.3	0.2	0.9	1.1	0.2		0.3		1.49	1	0.6	0.69	0.21	0.28	0.9		0.9	0.3	0.3	0.9	0.2	0.92	0.4	0.2	0.28	0.28	0.21	0.9
Hydrochlorothiazide	Brand						0.0%																														
Hydrochlorothiazide	MostSold	33.43	28.69	36.94	2.01	77.23	86.7%	0.9	0.6	0.9	0.7		0.8	0.7	0.6	0.61	0.7	1.25	1.58	1.3	0.53	0.68	0.59	0	0.8			0.7	0.7	0.7	0.68		0.6	0.68	0.59	0.53	0.6
Hydrochlorothiazide	LowestPrice	28.89	25.79	34.35	2.01	62.74	100.0%	0.9	0.3	0.9	0.7	0.3	0.8	0.7	0.6	0.61	0.5	1.25	0.56	1.3	0.53	0.34	0.34	0	0.8	0.3	0.6	0.7	0.7	0.7	0.68	0.6	0.3	0.68	0.59	0.53	0.6
Ibuprofen	Brand	22.85	20.49	28.20	20.47	35.24	23.3%				1.1				1	1.64		1.75					1.02	1.2		1											
Ibuprofen	MostSold	15.75	4.54	20.84	3.69	47.86	63.3%	1.3	0.2		0.8				0.2	1.26	0.8	1.35	0.28	1.4	0.18	0.78	0.21	0.8					0.8		0.24		2.4		0.24	0.78	0.2
Ibuprofen	LowestPrice	8.37	4.63	15.75	0.69	47.86	93.3%	0.5	0.2	0.2	0.8		0.6	0.3	0.2	0.83	0.8	1.35	0.28	1.4	0.18	0.03	0.21	0.8	0.3		0.7	0.3	0.8	0.8	0.24	0.5	2.4	0.2	0.24	0.78	0.2
Indinavir	Brand	1.09	1.09	1.09	1.03	1.13	16.7%	2.3										2.1				2.22	2.22	2.2													
Indinavir	MostSold						0.0%																														
Indinavir	LowestPrice						0.0%																														
Lamivudine	Brand	4.03	3.80	4.20	3.80	4.28	30.0%	2.6							2.4	2.55		2.65		2.7		2.36	2.36					2.5		2.4							
Lamivudine	MostSold						6.7%	2.5															2.2														
Lamivudine	LowestPrice						6.7%	2.5															1.85														
Loperamide	Brand	118.13	115.63	137.12	91.13	200.70	86.7%	6.2	3.8		4	4.1	4.9	4.1	4.1	6.46	4.1	6.93	6.14	4.4	3.15	4.08	4.08	4.1	4.5	4.1	5.7	4			4.08	4.8	4.1		3.72	3.48	3.6
Loperamide	MostSold	45.87	44.57	49.11	35.38	91.07	56.7%				1.5		2.1	1.6	1.6		1.6	3.14	1.95	1.7	1.22	1.58	1.58	1.6	1.8								1.6		1.44	1.42	1.4
Loperamide	LowestPrice	30.71	21.73	53.11	9.56	142.47	96.7%		1.4	1.2	1.5	0.3	2	0.8	1.6	3.04	1.1	3.14	1.95	0.7	0.62	0.81	0.72	1.6	1.8	0.3	2.7	1	4.9	0.8	0.81	2.5	0.4	1.06	0.97	0.75	0.7
Losartan	Brand	1.32	1.32	1.39	1.14	1.80	83.3%	7.8			7.3	7.3	7.6	7.3	7.3	7.67	7.3	7.86	6.8	7.9	6.3	7.29	9.39	7.3	7.4		9.9	7.6	8.5	7.3		7.6		7.29	7.29	7.29	7.3
Losartan	MostSold						0.0%																														
Losartan	LowestPrice						0.0%																														
Metformin	Brand	4.61	4.54	5.92	3.56	8.16	86.7%	0.6	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.62	0.5	0.65	0.71	0.7	0.37	0.48	0.43	0.5	0.5	0.5	0.8					0.5	0.8	0.48	0.43	0.48	0.8
Metformin	MostSold	4.58	4.47	6.01	4.09	7.78	53.3%		0.4		0.5	0.5	0.5	0.5		0.62		0.76	0.52	0.7		0.47	0.43				0.8	0.5		0.4			0.8				0.5
Metformin	LowestPrice	4.61	4.48	5.92	4.09	7.35	66.7%	0.6	0.4		0.5	0.5	0.5	0.5		0.62		0.76	0.52	0.7	0.66	0.47	0.43				0.8	0.5		0.4			0.5		0.48	0.48	0.5

ANNEXURE 3

MEDICINE PRICES AND AVAILABILITY IN THE RETAIL PHARMACY SECTION IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference Prices and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)																												
Medicine Name	Medicine Type	Median (MP	25%ile	75%ile	Min	Max	Availability	1	2	3	4	5	6	8	9	10	11	12	13	15	16	17	18	19	20	21	22	#	#	25	26	27	28	29	30	31	32
Methylphenidate	Brand	4.91	4.91	5.28	3.94	6.40	56.7%	5.5			5		5.3	5	5	5.38	5	5.58	6.53	5.61	4.02	5.0	5.0			5.0							5.0			5.0	5
Methylphenidate	Most Sold	2.54	2.52	2.58	2.47	2.70	13.3%				2.5		2.8		2.6																		2.59				
Methylphenidate	LowestPrice	2.54	2.47	2.54	1.83	2.70	23.3%				2.5		2.8	1.9	2.6							2.59											2.59				2.5
Metoclopramide	Brand	72.46	72.27	99.56	14.49	112.99	43.3%				1.8	1.9	2.1	0.4	1.7	2.56		2.72	2.91	2.77		1.87		1.9		1.86						1.9					
Metoclopramide	Most Sold	9.28	9.21	10.18	3.57	18.98	66.7%	0.3		0.3	0.2	0.2	0.5	0.2	0.2	0.26	0.2	0.27			0.18	0.24	0.24	0.2	0.36	0.22		0.1					0.24			0.24	0.2
Metoclopramide	LowestPrice	9.28	7.27	9.73	3.57	18.98	76.7%	0.3	0.1	0.3	0.2	0.2	0.5	0.2	0.2	0.26	0.2	0.27		0.15	0.18	0.19	0.24	0.2	0.36	0.22	0.14	0.1					0.09			0.24	0.2
Nevirapine	Brand	5.35	5.35	5.49	5.17	5.57	33.3%	7.6			7.3			7.3				7.62	7.09	7.63		7.33	7.33						7.3					7.33				
Nevirapine	Most Sold						0.0%																														
Nevirapine	LowestPrice						6.7%															3.74	3.74														
Nifedipine	Brand	7.91	7.31	8.39	7.31	8.97	30.0%	5.1			5.4				4.7	5.78		4.88				5.4	4.71	4.7				5.7									
Nifedipine	Most Sold	2.23	2.07	2.3	1.53	3.22	50.0%	1.5			1.4	1.4		1.5		1.55		1.61		2.03	1.14	0.99	1.43	1.4					1.5		1.2					1.14	1.4
Nifedipine	LowestPrice	2.23	1.83	2.28	1.02	3.22	60.0%	1.5			1.4	1.4		1.5	0.7	1.55		1.61		2.03	1.14	0.99	1.43	1.4		1.42	0.76			1.5		1.2				1.14	1.4
Nifedipine Retard	Brand	5.37	5.37	5.47	5.14	6.30	43.3%	7			6.7		6.9		7.7	6.93	6.7	7.03	6.5			6.74	6.74												6.74	6.74	6.7
Nifedipine Retard	Most Sold	5.97	5.97	6.60	5.80	9.69	63.3%	1	0.8		0.7	0.8	0.8	0.8	0.8			1.01	0.83	1.05		0.75	0.75		0.8		1.22	0.7					0.75	0.75		0.75	0.7
Nifedipine Retard	LowestPrice	5.97	5.90	6.60	5.80	9.69	63.3%	1	0.8		0.7	0.8	0.8	0.8	0.8			1.01	0.83	1.05		0.74	0.75		0.8		1.22	0.7					0.74	0.75		0.75	0.7
Omeprazole	Brand	11.56	11.56	11.85	1.08	15.75	83.3%	1.4			1.3	1.3	1.4	1.3	1.3	1.3.7	1.3	1.5.5	1.2.7	1.3.9		1.3.2	1.3.3	1.3	1.3.4	1.3.3	1.8.1	1.4		1.3	1.4.1	1.3	1.3.3	1.3.3	1.3.3	1.2.4	
Omeprazole	Most Sold	4.49	4.49	4.50	3.83	4.55	30.0%				5.2	5.2		5.2			5.2		4.39			5.06	5.22			5.22							5.15				
Omeprazole	LowestPrice	4.49	4.47	4.53	3.63	11.56	50.0%				5.2	5.2		5.2			5.2		4.39		4.17	5.06	5.13		5.24	5.22					5.5	5.15		5.13	5.15	1.3
Phenytoin	Brand	42.08	42.08	44.57	38.56	57.43	80.0%	1.9		2.2	1.7	1.7	1.8	1.7	1.7	1.86	1.7	1.92	1.6	1.93		1.75	1.75	1.7	1.77		2.38	1.8				1.8	1.75	1.75	1.75	1.75	1.7
Phenytoin	Most Sold	8.58	8.01	10.17	7.50	13.84	13.3%											0.57	0.31				0.34										0.37				
Phenytoin	LowestPrice	7.92	7.53	8.77	6.91	13.84	20.0%											0.57	0.31				0.34							0.3			0.37			0.29	
Prednisone	Brand	49.45	48.46	56.11	44.32	67.55	66.7%	2.9			3.1		3.3	2.8	2.5	2.89	2.8	3.79	3.87	2.95		3.22	2.54		3.24	2.78				3.2		2.6	2.78		2.78	2.78	2.8
Prednisone	Most Sold	1.75	1.71	3.26	1.32	6.62	80.0%	0.2	0.2	0.1	0.1	0.2	0.1	0.1		0.25			0.2	0.38	0.08		0.1		0.12	0.1	0.11	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	
Prednisone	LowestPrice	1.83	1.71	2.45	0.43	6.62	93.3%	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.25	0.1		0.02	0.38	0.08	0.14	0.1		0.12	0.1	0.11	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1
Promethazine	Brand	23.49	22.83	26.93	14.95	31.19	70.0%	0.7				0.5	0.6	0.5	0.5	0.68			0.64	0.73	0.42	0.55	0.48	0.5	0.63	0.55	0.65	0.5		0.5			0.55		0.35		0.5
Promethazine	Most Sold	4.45	4.45	4.52	4.06	23.49	26.7%		0.1					0.1									0.1			0.1			0.1	0.1			0.1		0.55	
Promethazine	LowestPrice	4.45	4.45	4.52	4.06	6.09	26.7%		0.1					0.1									0.1			0.1			0.1	0.1			0.1		0.14	
Ranitidine	Brand	51.57	50.06	54.76	48.38	58.62	53.3%	7.5				8.2	8.5	7.3	7.3	7.48	8.2	7.58	7.05			7.29	7.29	7.9		7.29					7.6		8.23		7.29	
Ranitidine	Most Sold	6.93	6.83	6.93	4.71	8.98	50.0%	1.2				1		1	1				1.03	1.31	0.78	1.0	1.0			1.0		1		0.7		0.9	1.0			1.0	
Ranitidine	LowestPrice	6.73	5.83	7.01	4.55	15.33	80.0%	1.1	0.8			0.8	0.9	1	1	2.23	0.8		0.9	1.15	0.78	0.85	1.0		2.08	0.86	1.35	1	0.9	0.7		0.9	1.0	1.32		1.0	1
Salbutamol	Brand	4.68	4.67	5.12	3.07	9.61	83.3%	0.2	0.2		0.3	0.4	0.3	0.3	0.3	0.33	0.3	0.3	0.38	0.25	0.23	0.27	0.27		0.28	0.27		0.5		0.3		0.5	0.27	0.27	0.27	0.27	0.2
inhaler	Most Sold	1.92	1.92	2.25	1.48	3.50	80.0%		0.1	0.1	0.1	0.1	0.2	0.1	0.1			0.19	0.17	0.2	0.08	0.11	0.11	0.1		0.11	0.16	0.1		0.1	0.11	0.1	0.11		0.11	0.11	0.1
inhaler	LowestPrice	1.92	1.92	2.36	1.48	3.50	96.7%	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.18	0.1	0.19	0.17	0.2	0.08	0.11	0.11	0.1		0.11	0.16	0.1	0.2	0.1	0.11	0.1	0.11	0.11	0.11	0.11	0.1
Stavudine	Brand	2.26	2.26	2.53	2.26	2.91	23.3%	1.2						1				1.28				1	1							1				1				
Stavudine	Most Sold	1.58	1.58	1.58	1.53	2.10	16.7%	0.9														0.7	0.7							0.7							0.7
Stavudine	LowestPrice	1.58	1.58	1.59	1.53	2.10	20.0%	0.9														0.7	0.7							0.7				0.7			0.7
Stavudine (2)	Brand	2.01	2.00	2.36	2.00	2.65	36.7%	1.3							1			1.28		1.32		1	1							1.1	1	1		1	1			
Stavudine (2)	Most Sold						10.0%	0.9														0.78	0.78														
Stavudine (2)	LowestPrice						10.0%	0.9														0.78	0.78														
Sulfadoxine-pyrimethamine	Brand						0.0%																														
Sulfadoxine-pyrimethamine	Most Sold						0.0%																														
Sulfadoxine-pyrimethamine	LowestPrice						0.0%																														
Zidovudine	Brand	2.25	2.25	2.36	2.24	2.41	23.3%	2.6			2.4							2.61				2.43	2.44	2.4				2.5									
Zidovudine	Most Sold						0.0%																														
Zidovudine	LowestPrice						0.0%																														

ANNEXURE 4

MEDICINE PRICES AND AVAILABILITY IN THE PRIVATE HOSPITAL SECTOR IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference Prices and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)													
Medicine Name	Medicine Type	Median (MPR)	25%ile	75%ile	Min	Max	Availability in sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Aciclovir	Brand	26.35	26.34	26.44	26.33	26.72	26.7%			14.9	14.94			14.9								15.1456
Aciclovir	MostSold	6.86	6.47	7.47	5.29	9.30	26.7%				3.891	3	3.89						5.269			
Aciclovir	LowestPrice	4.21	3.64	5.13	2.82	6.86	46.7%	2.07			3.891	1.6	2.056		2.386	2.39			3.434			
Allopurinol	Brand	6.17	6.17	6.17	6.09	8.65	40.0%	3.3			3.303			3.3		3.26			4.627			3.3032
Allopurinol	MostSold	2.74	2.54	2.74	1.47	3.36	73.3%	1.47	1.47	1.47	1.469		1.469	1.47	1.224	1.8			0.785		1.252	1.4688
Allopurinol	LowestPrice	2.74	2.34	2.74	1.24	3.36	86.7%	1.43	1.47	1.47	1.469		1.469	1.47	1.224	1.8	0.664		0.785	1.33	1.252	1.4688
Amitriptyline	Brand	63.32	62.78	65.85	61.15	73.45	26.7%				2.815			3.27		2.72						2.815
Amitriptyline	MostSold	18.96	17.87	19.00	14.58	24.73	80.0%	0.65	0.84	0.84	0.843	1	0.843	0.65		0.85	0.65		1.099		0.843	0.8427
Amitriptyline	LowestPrice	18.96	14.61	19.01	9.67	24.73	100.0%	0.65	0.84	0.84	0.843	1	0.843	0.65	0.85	0.85	0.65	0.46	1.099	0.43	0.843	0.8427
Amoxicillin	Brand	40.53	32.28	43.52	21.88	45.73	40.0%				4.078			2.2		4.48	2.971		4.6			4.0776
Amoxicillin	MostSold	3.16	3.16	4.85	2.44	16.59	60.0%		0.49	0.32	0.318		0.318	0.25		1.67	0.3		0.662		0.318	
Amoxicillin	LowestPrice	3.16	2.57	4.72	1.65	16.59	93.3%	0.34	0.49	0.32	0.166	1	0.318	0.25		1.67	0.3	0.22	0.662	0.22	0.318	0.4356
Amoxil / clavulanic acid	Brand	5.89	5.54	6.13	4.88	6.26	46.7%		11.1		1.03			1.06		1.04	8.63		9.271			11.08
Amoxil / clavulanic acid	MostSold	1.48	1.48	1.48	1.48	1.48	26.7%		2.62		2.615			2.62								2.62
Amoxil / clavulanic acid	LowestPrice	1.48	1.30	1.77	0.95	2.98	93.3%	2.54	2.62		2.615	2.3	2.254	2.62	3.481	3.62	2.29	1.78	5.265	1.68	3.308	2.62
Atenolol	Brand	95.08	95.08	96.22	84.08	116.17	53.3%		5.17	5.17	5.171			5.17		4.57			6.32		5.171	5.4233
Atenolol	MostSold	19.34	19.33	19.34	19.33	40.45	40.0%		1.05		1.052		1.052	1.05					2.2		1.052	
Atenolol	LowestPrice	19.33	17.39	19.34	8.08	35.33	66.7%	0.58	1.05		1.052		1.052	1.05		1.75	0.437		1.922	0.91	1.052	
Beclometasone inhaler	Brand						13.3%				0.324			0.32								
Beclometasone inhaler	MostSold	2.86	2.86	3.22	2.20	4.60	60.0%	0.28			0.283		0.283	0.28	0.318	0.32	0.218		0.455			0.2825
Beclometasone inhaler	LowestPrice	2.86	2.53	3.04	1.39	4.60	73.3%	0.28			0.283		0.283	0.28	0.318	0.32	0.218	0.19	0.455	0.14		0.2825
Captopril	Brand	19.75	18.71	19.75	16.55	23.47	53.3%				3.05		3.05	3.05	2.89	2.89	2.556		3.625			3.0508
Captopril	MostSold						13.3%								0.608				0.924			
Captopril	LowestPrice	4.94	3.20	6.67	0.93	6.90	40.0%	0.46	1.07		1.066				0.608			0.14	0.924			
Carbamazepine	Brand	22.10	21.28	22.10	5.52	25.06	93.3%	2.58	2.57	2.57	2.573		2.573	2.57	2.477	2.48	2.277	0.64	2.918	0.93	2.573	2.573
Carbamazepine	MostSold	12.99	12.99	12.99	12.17	15.95	60.0%		1.51		1.513		1.513	1.51	1.426	1.42			1.857		1.513	1.5767
Carbamazepine	LowestPrice	12.99	12.44	12.99	7.27	15.95	66.7%	0.85	1.51		1.513		1.513	1.51	1.426	1.42			1.857		1.513	1.5767

ANNEXURE 4

MEDICINE PRICES AND AVAILABILITY IN THE PRIVATE HOSPITAL SECTOR IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference Prices and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)													
Medicine Name	Medicine Type	Median (MPR)	25%ile	75%ile	Min	Max	Availability in sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ceftriaxone injection	Brand	6.77	6.23	6.78	4.75	9.08	53.3%			10	10.4			71.1	98.18		78.1		135.9		10.4	10.3325
Ceftriaxone injection	MostSold						6.7%								50.35							
Ceftriaxone injection	LowestPrice	3.95	3.66	3.95	3.05	3.97	46.7%	59.4		59.1	59.1		59.1	59.1	50.35		45.59					
Ciprofloxacin	Brand	68.36	67.14	68.37	52.73	86.88	53.3%		12.7		12.72			12.7		11.8	9.809		16.16		12.72	12.7163
Ciprofloxacin	MostSold	23.09	8.75	28.56	5.28	47.06	33.3%		4.3							5.31		1.63	8.754			0.982
Ciprofloxacin	LowestPrice	13.24	10.08	15.65	5.28	47.06	93.3%	1.65	2.46	2.46	3.059		2.464	2.46	4.36	3.54	2.01	1.63	8.754	1.83	2.463	0.982
Co-trimoxazole suspension	Brand	39.15	39.12	39.47	39.12	40.36	26.7%				0.824			0.83		0.85						0.8237
Co-trimoxazole suspension	MostSold	3.38	3.38	5.73	2.61	19.74	53.3%	0.08		0.07	0.071		0.071			0.25	0.055		0.416			0.0712
Co-trimoxazole suspension	LowestPrice	3.38	3.38	12.10	2.61	19.74	60.0%	0.08		0.07	0.071		0.071		0.255	0.25	0.055		0.416			0.0712
Diazepam	Brand	125.97	125.57	125.98	120.74	144.67	53.3%			2.58	2.579		2.579	2.55		2.47			2.962		2.579	2.5789
Diazepam	MostSold	6.77	6.77	6.98	6.68	62.86	46.7%	0.15	0.14		0.139			0.14					1.287		0.139	0.1387
Diazepam	LowestPrice	6.77	6.75	6.88	5.24	62.86	53.3%	0.15	0.14		0.139			0.14			0.107		1.287		0.139	0.1387
Diclofenac	Brand	33.45	33.12	33.45	32.51	45.00	46.7%		0.98	1	0.998			1		0.97			1.342			0.9978
Diclofenac	MostSold						20.0%				0.202				0.196				1.35			
Diclofenac	LowestPrice	7.20	6.44	13.73	6.01	45.24	53.3%	0.31			0.202		0.714		0.196		0.228	0.18	1.35	0.18		
Efavirenz	Brand	1.06	1.08	1.17	0.90	1.33	60.0%	8.13		8.13	6.27	8		7.38	7.156	7.06			9.28			7.3837
Efavirenz	MostSold						0.0%															
Efavirenz	LowestPrice						0.0%															
Fluconazole	Brand	74.21	74.08	74.64	72.70	82.72	53.3%		58.3		52.3			52.3		52	51.24		53.53		52.3	52.3082
Fluconazole	MostSold	27.75	27.75	27.75	27.62	27.76	46.7%	19.6		19.6	19.56		19.56	19.6					19.47		19.56	
Fluconazole	LowestPrice	27.75	27.69	27.75	17.97	27.75	46.7%	12.7		19.6	19.56		19.56	19.6					19.47		19.56	
Fluconazole (2)	Brand	119.09	112.18	136.63	105.77	144.74	53.3%		80.2		70.04			79.8	84.66	66.9	61.87				69.28	61.87
Fluconazole (2)	MostSold	87.17	87.17	101.21	67.24	146.07	60.0%	51	51	51	59.2		50.99	51		59.3	39.33		85.44			
Fluconazole (2)	LowestPrice	87.17	77.20	94.69	63.10	146.07	73.3%	36.9	51	51	59.2		50.99	51	51.57	59.3	39.33		85.44			37.2877
Fluoxetine	Brand	67.49	48.42	86.51	46.55	93.16	53.3%	8.36	14.9	14.9	8.354			14.9		8.08			16.08			8.3543
Fluoxetine	MostSold	6.71	6.66	9.53	5.14	13.32	46.7%	1.16	1.48		1.149					1.81	0.887		2.298		1.149	
Fluoxetine	LowestPrice	6.88	6.66	10.48	4.68	22.05	86.7%	1.16	1.48		1.149		1.188	2.44	1.583	1.81	0.887	0.81	2.298	0.81	1.149	3.8054

ANNEXURE 4

MEDICINE PRICES AND AVAILABILITY IN THE PRIVATE HOSPITAL SECTOR IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference Prices and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)													
Medicine Name	Medicine Type	Median (MPR)	25%ile	75%ile	Min	Max	Availability in sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Fluphenazine injection	Brand						13.3%	67.2										99.6				
Fluphenazine injection	Most Sold						0.0%															
Fluphenazine injection	Lowest Price						0.0%															
Glibenclamide	Brand	176.42	164.89	184.64	155.12	508.68	40.0%				3.918		4.397	3.72	12.08				4.065			4.4384
Glibenclamide	Most Sold	38.49	25.18	45.07	11.63	57.49	46.7%		0.92		0.923		0.285			1.38			1.239		0.279	0.9232
Glibenclamide	Lowest Price	37.79	11.70	38.49	5.09	57.49	66.7%		0.92		0.923		0.285		0.89	1.38		0.12	1.239	0.12	0.279	0.9232
Hydrochlorothiazide	Brand						0.0%															
Hydrochlorothiazide	Most Sold	28.69	28.22	33.44	23.27	33.47	73.3%	0.69	0.68	0.59	0.685		0.685	0.59	0.568	0.57			0.476		0.587	0.6846
Hydrochlorothiazide	Lowest Price	28.69	23.27	33.43	12.81	33.44	86.7%	0.34	0.68	0.59	0.685		0.685	0.59	0.568	0.57	0.262	0.42	0.476		0.587	0.6846
Ibuprofen	Brand						6.7%				1.182											
Ibuprofen	Most Sold	15.01	4.64	15.76	4.29	25.56	46.7%		0.78	0.21	0.748		0.213	0.78		1.27			0.248			
Ibuprofen	Lowest Price	6.86	4.64	12.82	4.26	25.56	73.3%	0.21	0.78	0.21	0.341		0.213	0.78	0.491	1.27	0.263		0.248		0.341	
Indinavir	Brand	1.08	1.08	1.09	0.96	1.19	33.3%				2.225			2.09		1.96			2.416			2.0914
Indinavir	Most Sold						0.0%															
Indinavir	Lowest Price						0.0%															
Lamivudine	Brand	3.80	3.71	3.90	3.56	4.72	73.3%	2.36		2.42	2.424	2.3	2.364	2.36	2.25	2.21			2.938		2.364	2.4238
Lamivudine	Most Sold						6.7%	2.2														
Lamivudine	Lowest Price						6.7%	2.2														
Loperamide	Brand	121.62	118.14	191.77	118.14	284.50	53.3%		4.08	4.2	4.196			4.08	7.088	6.48			9.818			4.0772
Loperamide	Most Sold	45.85	45.24	45.87	43.46	45.87	26.7%		1.58		1.582	1.5									1.583	
Loperamide	Lowest Price	26.19	20.88	45.87	5.80	197.13	86.7%	0.9	1.58		1.582	1.5	0.721	0.81	0.772	3.96	0.623	0.2	6.808	0.2	1.583	
Losartan	Brand	1.32	1.29	1.32	1.14	1.53	73.3%	7.3	7.29	7.29	7.292		7.292	7.29	6.971	6.97	6.304		8.441		7.292	
Losartan	Most Sold						0.0%															
Losartan	Lowest Price						0.0%															
Metformin	Brand	4.61	4.61	4.61	3.56	4.78	60.0%		0.48	0.48	0.48			0.48		0.41	0.37		0.498		0.48	0.48
Metformin	Most Sold	4.60	4.56	6.05	3.52	9.39	53.3%	0.48	0.98		0.475		0.48			0.57	0.366		0.819		0.475	
Metformin	Lowest Price	4.60	4.56	5.44	2.48	9.39	66.7%	0.48	0.98		0.475		0.48		0.566	0.57	0.366		0.819	0.26	0.475	

ANNEXURE 4

MEDICINE PRICES AND AVAILABILITY IN THE PRIVATE HOSPITAL SECTOR IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference Prices and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)													
Medicine Name	Medicine Type	Median (MPR)	25%ile	75%ile	Min	Max	Availability in sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Methylphenidate	Brand	4.91	4.75	5.01	3.94	6.04	46.7%		5.01	5.01	5.006					4.68	4.018		6.154			5.2089
Methylphenidate	Most Sold						6.7%												3.738			
Methylphenidate	Lowest Price						6.7%												3.738			
Metoclopramide monohydrochloride	Brand	67.40	67.40	72.46	63.67	72.46	33.3%		1.86		1.735			1.73		1.64						1.865
Metoclopramide monohydrochloride	Most Sold	9.28	9.28	10.09	8.77	14.93	66.7%	0.27		0.24	0.239		0.239	0.24	0.226	0.38			0.308		0.239	0.2388
Metoclopramide monohydrochloride	Lowest Price	9.28	8.77	9.28	2.69	14.93	86.7%	0.27		0.24	0.239		0.239	0.24	0.226	0.38	0.184	0.07	0.308	0.07	0.239	0.2388
Nevirapine	Brand	5.35	5.35	5.41	5.23	5.77	53.3%	7.34			7.334	7.6	7.334	7.33		7.17			7.908			7.334
Nevirapine	Most Sold						0.0%															
Nevirapine	Lowest Price						0.0%															
Nifedipine	Brand	73.17	69.73	83.91	68.55	90.18	60.0%		4.41	4.71	4.487		4.708	5.4		5.8	4.411		5.052			5.715
Nifedipine	Most Sold	17.55	13.33	22.76	11.71	27.33	26.7%								1.366	1.76		0.89			0.754	
Nifedipine	Lowest Price	15.06	13.87	21.24	11.47	27.33	33.3%								1.366	1.76		0.89		0.97	0.738	
Nifedipine Retard	Brand	53.37	53.30	53.37	52.10	57.28	33.3%	6.73			6.743			7.24		6.58						6.7428
Nifedipine Retard	Most Sold	6.49	5.98	7.35	5.96	10.51	46.7%	0.76			0.82		0.754		0.944	0.91			1.328			0.7536
Nifedipine Retard	Lowest Price	6.49	5.98	7.35	5.96	10.51	46.7%	0.76			0.82		0.754		0.944	0.91			1.328			0.7536
Omeprazole	Brand	11.56	11.34	11.57	10.64	12.64	66.7%	13.3	13.3		13.26		14.32	13.3	12.92	12.9	12.21		14.49		13.26	
Omeprazole	Most Sold	4.59	4.40	4.75	4.17	4.86	26.7%	5.58								4.79					5.13	5.3991
Omeprazole	Lowest Price	4.47	4.19	4.79	4.00	5.86	46.7%	5.58							4.832	4.79	4.583		6.723		5.13	5.3991
Phenytoin	Brand	42.08	41.00	42.08	34.94	52.82	73.3%	1.75	1.75	1.75	1.748		1.748	1.75	1.658	1.65	1.451		2.194		1.748	
Phenytoin	Most Sold						6.7%													0.18		
Phenytoin	Lowest Price						13.3%											0.18		0.18		
Prednisone	Brand	46.99	44.33	48.46	43.28	50.21	53.3%		2.78	2.54				2.78		2.88	2.481		2.609		2.778	2.5405
Prednisone	Most Sold	1.65	1.19	1.71	0.97	2.31	73.3%	0.1	0.09		0.056		0.098			0.1	0.073	0.06	0.132	0.06	0.098	0.0945
Prednisone	Lowest Price	1.66	1.23	1.73	0.97	2.31	80.0%	0.1	0.09		0.056		0.098		0.129	0.1	0.073	0.06	0.132	0.06	0.098	0.0945
Promethazine	Brand	23.49	23.49	25.97	18.12	38.22	66.7%		0.55	0.55	0.559		0.55	0.55	0.652	0.62	0.424		0.894		0.55	
Promethazine	Most Sold						20.0%	0.1			0.104									0.12		
Promethazine	Lowest Price	4.83	4.44	5.22	4.39	5.26	26.7%	0.1			0.104							0.12		0.12		
Ranitidine	Brand	5.06	5.06	53.51	46.62	56.52	66.7%			7.29	7.291		8.232	7.29	7.172	7.58	6.791		7.865		8.232	7.2908
Ranitidine	Most Sold	6.95	6.95	7.46	5.34	10.87	40.0%	1.01			1.013			1.01		1.11	0.778		1.583			
Ranitidine	Lowest Price	6.40	5.71	7.12	4.41	10.87	53.3%	0.85			1.013		0.849	1.01	0.642	1.11	0.778		1.583			

ANNEXURE 4

MEDICINE PRICES AND AVAILABILITY IN THE PRIVATE HOSPITAL SECTOR IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference Prices and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)														
Medicine Name	Medicine Type	Median (MPR)	25%ile	75%ile	Min	Max	Availability in sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Salbutamol inhaler	Brand	4.68	4.20	6.47	3.11	9.89	66.7%		0.56	0.27	0.23		0.183	0.27	0.278	0.26			0.438		0.177	0.3965
Salbutamol inhaler	Most Sold	1.92	1.92	3.31	1.27	4.95	73.3%	0.11			0.109		0.109	0.11	0.198	0.18	0.084	0.07	0.281		0.109	0.1912
Salbutamol inhaler	Lowest Price	1.92	1.81	3.27	1.20	4.95	80.0%	0.11			0.109		0.109	0.11	0.198	0.18	0.084	0.07	0.281	0.07	0.109	0.1912
Stavudine	Brand	2.34	2.26	2.48	2.26	3.65	53.3%	1		1	1.07	1		1.07	1.177				1.614			0.9987
Stavudine	Most Sold	1.77	1.58	2.01	1.58	2.26	26.7%	0.7			0.696	1				0.87						
Stavudine	Lowest Price	1.77	1.58	2.01	1.58	2.26	26.7%	0.7			0.696	1				0.87						
Stavudine (2)	Brand	2.15	2.01	2.31	1.87	3.24	53.3%	1			1.07	1		1.07	1.177	1.14			1.614			0.9318
Stavudine (2)	Most Sold	1.71	1.56	1.90	1.56	2.01	26.7%	0.78			0.776	1				0.93						
Stavudine (2)	Lowest Price	1.71	1.56	1.90	1.56	2.01	26.7%	0.78			0.776	1				0.93						
pyrimethamine	Brand						0.0%															
pyrimethamine	Most Sold						0.0%															
pyrimethamine	Lowest Price						0.0%															
Zidovudine	Brand	2.25	2.20	2.25	1.11	2.50	66.7%	2.44			2.44	1.2	2.44	2.44	2.371	2.34			2.716		2.44	2.4396
Zidovudine	Most Sold						0.0%															
Zidovudine	Lowest Price						0.0%															

ANNEXURE 5

CUMULATIVE MARK UPS IN SECTORS

	Reference Price Data Used = MSH 2008						
Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold	Lowest Price
Beclometasone inhaler	0.05 mg/dose	Inhaler	Government Procurement	Manuf. Pack Price		26.140	26.140
				Manuf. Pack Size(* units)		200	200
				Manuf. Unit Price (MUP)		0.1307	0.1307
				Ratio: MUP to Reference Unit price		1.32	1.32
				Sector Median Unit price (SMUP)		0.1307	0.1307
				% Mark-up (SMUP / MUP)		0%	0%
			Private Hospital Pharmacy	Manuf. Pack Price	36.560	33.080	33.080
				Manuf. Pack Size(* units)	200	200	200
				Manuf. Unit Price (MUP)	0.1828	0.1654	0.1654
				Ratio: MUP to Reference Unit price	1.85	1.67	1.67
				Sector Median Unit price (SMUP)		0.2826	0.2826
				% Mark-up (SMUP / MUP)		70.9%	70.9%
			Retail Pharmacy	Manuf. Pack Price	36.560	33.080	33.080
				Manuf. Pack Size(* units)	200	200	200
				Manuf. Unit Price (MUP)	0.1828	0.1654	0.1654
				Ratio: MUP to Reference Unit price	1.85	1.67	1.67
				Sector Median Unit price (SMUP)		0.2825	0.2825
				% Mark-up (SMUP / MUP)		70.8%	70.8%
			Dispensing Doctor	Manuf. Pack Price	36.560	33.080	33.080
				Manuf. Pack Size(* units)	200	200	200
				Manuf. Unit Price (MUP)	0.1828	0.1654	0.1654
				Ratio: MUP to Reference Unit price	1.85	1.67	1.67
				Sector Median Unit price (SMUP)		0.2577	0.2577
				% Mark-up (SMUP / MUP)		55.8%	55.8%
Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold	Lowest Price
Ciprofloxacin	500mg	cap/tab	Government Procurement	Manuf. Pack Price		3.990	3.990
				Manuf. Pack Size(* units)		10	10
				Manuf. Unit Price (MUP)		0.3990	0.3990
				Ratio: MUP to Reference Unit price		2.15	2.15
				Sector Median Unit price (SMUP)		0.3990	0.3990
				% Mark-up (SMUP / MUP)		0%	0%
			Private Hospital Pharmacy	Manuf. Pack Price	81.170	23.250	18.000
				Manuf. Pack Size(* units)	10	10	10
				Manuf. Unit Price (MUP)	8.1170	2.3250	1.8000
				Ratio: MUP to Reference Unit price	43.64	12.50	9.68
				Sector Median Unit price (SMUP)	12.7164	4.2950	2.4632
				% Mark-up (SMUP / MUP)	56.7%	84.7%	36.8%
			Retail Pharmacy	Manuf. Pack Price	81.170	23.250	22.320
				Manuf. Pack Size(* units)	10	10	10
				Manuf. Unit Price (MUP)	8.1170	2.3250	2.2320
				Ratio: MUP to Reference Unit price	43.64	12.50	12.00
				Sector Median Unit price (SMUP)	12.7160	4.2950	3.0600
				% Mark-up (SMUP / MUP)	56.7%	84.7%	37.1%
			Dispensing Doctor	Manuf. Pack Price	81.170	23.250	23.250
				Manuf. Pack Size(* units)	10	10	10
				Manuf. Unit Price (MUP)	8.1170	2.3250	2.3250
				Ratio: MUP to Reference Unit price	43.64	12.50	12.50
				Sector Median Unit price (SMUP)		3.3300	2.4860
				% Mark-up (SMUP / MUP)		43.2%	6.9%

ANNEXURE 5

CUMULATIVE MARK UPS IN SECTORS

Reference Price Data Used = MSH 2008

Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold	Lowest Price
Diazepam	5 mg	cap/tab	Government Procurement	Manuf. Pack Price			6.090
				Manuf. Pack Size(# units)			100
				Manuf. Unit Price (MUP)			0.0609
				Ratio: MUP to Reference Unit price			2.97
				Sector Median Unit price (SMUP)			0.0609
				%Mark-up (SMUP / MUP)			0.0%
			Private Hospital Pharmacy	Manuf. Pack Price	155.450	2.900	2.900
				Manuf. Pack Size(# units)	90	30	30
				Manuf. Unit Price (MUP)	1.7272	0.0967	0.0967
				Ratio: MUP to Reference Unit price	84.37	4.72	4.72
				Sector Median Unit price (SMUP)	2.5790	0.1387	0.1387
				%Mark-up (SMUP / MUP)	49.3%	43.5%	43.5%
			Retail Pharmacy	Manuf. Pack Price	155.450	2.900	2.900
				Manuf. Pack Size(# units)	90	30	30
				Manuf. Unit Price (MUP)	1.7272	0.0967	0.0967
				Ratio: MUP to Reference Unit price	84.37	4.72	4.72
				Sector Median Unit price (SMUP)	2.5789	0.1387	0.1387
				%Mark-up (SMUP / MUP)	49.3%	43.5%	43.5%
			Dispensing Doctor	Manuf. Pack Price	155.450	2.900	2.900
				Manuf. Pack Size(# units)	90	30	30
				Manuf. Unit Price (MUP)	1.7272	0.0967	0.0967
				Ratio: MUP to Reference Unit price	84.37	4.72	4.72
				Sector Median Unit price (SMUP)			0.0665
				%Mark-up (SMUP / MUP)			-31.2%
Medicine	**Strength**	**Dosage Form**	**Sector**	**Item**	**Innovator Brand**	**Most Sold**	**Lowest Price**
Glibenclamide	5 mg	cap/tab	Government Procurement	Manuf. Pack Price			3.010
				Manuf. Pack Size(# units)			56
				Manuf. Unit Price (MUP)			0.0537
				Ratio: MUP to Reference Unit price			2.24
				Sector Median Unit price (SMUP)			0.0537
				%Mark-up (SMUP / MUP)			-0.1%
			Private Hospital Pharmacy	Manuf. Pack Price	86.020	5.510	5.510
				Manuf. Pack Size(# units)	30	30	30
				Manuf. Unit Price (MUP)	2.8673	0.1837	0.1837
				Ratio: MUP to Reference Unit price	119.56	7.66	7.66
				Sector Median Unit price (SMUP)	4.2309	0.9231	0.9064
				%Mark-up (SMUP / MUP)	47.6%	402.6%	393.5%
			Retail Pharmacy	Manuf. Pack Price	86.020	5.510	5.510
				Manuf. Pack Size(# units)	30	30	30
				Manuf. Unit Price (MUP)	2.8673	0.1837	0.1837
				Ratio: MUP to Reference Unit price	119.56	7.66	7.66
				Sector Median Unit price (SMUP)	4.4000	0.6897	0.3017
				%Mark-up (SMUP / MUP)	53.5%	275.5%	64.3%
			Dispensing Doctor	Manuf. Pack Price	86.020	5.510	5.510
				Manuf. Pack Size(# units)	30	30	30
				Manuf. Unit Price (MUP)	2.8673	0.1837	0.1837
				Ratio: MUP to Reference Unit price	119.56	7.66	7.66
				Sector Median Unit price (SMUP)		0.5430	0.2562
				%Mark-up (SMUP / MUP)		195.6%	39.5%

ANNEXURE 5

CUMULATIVE MARK UPS IN SECTORS

Reference Price Data Used = MSH 2008

Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold
Metformin	500mg	cap/tab	Government Procurement	Manuf. Pack Price		
				Manuf. Pack Size(# units)		
				Manuf. Unit Price (MUP)		
				Ratio: MUP to Reference Unit price		
				Sector Median Unit price (SMUP)		
				%Mark-up (SMUP / MUP)		
			Private Hospital Pharmacy	Manuf. Pack Price	31.460	25.940
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	0.3146	0.2594
				Ratio: MUP to Reference Unit price	3.02	2.49
				Sector Median Unit price (SMUP)	0.4800	0.4787
				%Mark-up (SMUP / MUP)	52.6%	84.5%
			Retail Pharmacy	Manuf. Pack Price	31.460	25.940
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	0.3146	0.2594
				Ratio: MUP to Reference Unit price	3.02	2.49
				Sector Median Unit price (SMUP)	0.480	0.4773
				%Mark-up (SMUP / MUP)	52.6%	84.0%
			Dispensing Doctor	Manuf. Pack Price	31.460	25.940
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	0.3146	0.2594
				Ratio: MUP to Reference Unit price	3.02	2.49
				Sector Median Unit price (SMUP)		0.4065
				%Mark-up (SMUP / MUP)		56.7%
Medicine	**Strength**	**Dosage Form**	**Sector**	**Item**	**Innovator Brand**	**Most Sold**
Fluconazole (2)	150mg	cap	Government Procurement	Manuf. Pack Price		22.800
				Manuf. Pack Size(# units)		1
				Manuf. Unit Price (MUP)		22.8000
				Ratio: MUP to Reference Unit price		38.98
				Sector Median Unit price (SMUP)		
				%Mark-up (SMUP / MUP)		
			Private Hospital Pharmacy	Manuf. Pack Price	212.830	30.000
				Manuf. Pack Size(# units)	4	1
				Manuf. Unit Price (MUP)	53.2075	30.0000
				Ratio: MUP to Reference Unit price	90.96	51.29
				Sector Median Unit price (SMUP)	69.6580	50.9900
				%Mark-up (SMUP / MUP)	30.9%	70.0%
			Retail Pharmacy	Manuf. Pack Price	212.830	30.000
				Manuf. Pack Size(# units)	4	1
				Manuf. Unit Price (MUP)	53.2075	30.0000
				Ratio: MUP to Reference Unit price	90.96	51.29
				Sector Median Unit price (SMUP)	80.2100	50.9900
				%Mark-up (SMUP / MUP)	50.7%	70.0%
			Dispensing Doctor	Manuf. Pack Price	212.830	30.000
				Manuf. Pack Size(# units)	4	1
				Manuf. Unit Price (MUP)	53.2075	30.0000
				Ratio: MUP to Reference Unit price	90.96	51.29
				Sector Median Unit price (SMUP)		46.5000
				%Mark-up (SMUP / MUP)		55.0%

ANNEXURE 5						
CUMULATIVE MARK UPS IN SECTORS						
	Reference Price Data Used = MSH 2008					
Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold
Amoxil / clavulonic acid	375 mg	tab	Government Procurement	Manuf. Pack Price	22.230	
				Manuf. Pack Size(# units)	15	
				Manuf. Unit Price (MUP)	1.4820	
				Ratio: MUP to Reference Unit price	0.84	
				Sector Median Unit price (SMUP)	1.4820	
				% Mark-up (SMUP / MUP)	0.0%	
			Private Hospital Pharmacy	Manuf. Pack Price	96.660	24.110
				Manuf. Pack Size(# units)	15	15
				Manuf. Unit Price (MUP)	6.4440	1.6073
				Ratio: MUP to Reference Unit price	3.65	0.91
				Sector Median Unit price (SMUP)	1.04167	2.6176
				% Mark-up (SMUP / MUP)	61.6%	62.9%
			Retail Pharmacy	Manuf. Pack Price	96.660	24.110
				Manuf. Pack Size(# units)	15	15
				Manuf. Unit Price (MUP)	6.4440	1.6073
				Ratio: MUP to Reference Unit price	3.65	0.91
				Sector Median Unit price (SMUP)	11.0593	2.7327
				% Mark-up (SMUP / MUP)	71.6%	70.0%
			Dispensing Doctor	Manuf. Pack Price	96.660	24.110
				Manuf. Pack Size(# units)	15	15
				Manuf. Unit Price (MUP)	6.4440	1.6073
				Ratio: MUP to Reference Unit price	3.65	0.91
				Sector Median Unit price (SMUP)		
				% Mark-up (SMUP / MUP)		
Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold
Atenolol	50mg	cap/tab	Government Procurement	Manuf. Pack Price		
				Manuf. Pack Size(# units)		
				Manuf. Unit Price (MUP)		
				Ratio: MUP to Reference Unit price		
				Sector Median Unit price (SMUP)		
				% Mark-up (SMUP / MUP)		
			Private Hospital Pharmacy	Manuf. Pack Price	106.370	18.570
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	3.5457	0.6190
				Ratio: MUP to Reference Unit price	65.18	11.38
				Sector Median Unit price (SMUP)	5.1714	1.0518
				% Mark-up (SMUP / MUP)	45.8%	69.9%
			Retail Pharmacy	Manuf. Pack Price	106.370	18.570
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	3.5457	0.6190
				Ratio: MUP to Reference Unit price	65.18	11.38
				Sector Median Unit price (SMUP)	5.1713	1.0517
				% Mark-up (SMUP / MUP)	45.8%	69.9%
			Dispensing Doctor	Manuf. Pack Price	106.370	18.570
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	3.5457	0.6190
				Ratio: MUP to Reference Unit price	65.18	11.38
				Sector Median Unit price (SMUP)		
				% Mark-up (SMUP / MUP)		

ANNEXURE 5

CUMULATIVE MARK UPS IN SECTORS

Reference Price Data Used = MSH 2008

Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold
Ibuprofen	400mg	tab	Government Procurement	Manuf. Pack Price		13.680
				Manuf. Pack Size(# units)		84
				Manuf. Unit Price (MUP)		01629
				Ratio: MUP to Reference Unit price		3.28
				Sector Median Unit price (SMUP)		01629
				%Mark-up (SMUP / MUP)		00%
			Private Hospital Pharmacy	Manuf. Pack Price	20460	4.680
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	06820	01560
				Ratio: MUP to Reference Unit price	13.72	3.14
				Sector Median Unit price (SMUP)		07480
				%Mark-up (SMUP / MUP)		379.5%
			Retail Pharmacy	Manuf. Pack Price	20460	4.680
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	06820	01560
				Ratio: MUP to Reference Unit price	13.72	3.14
				Sector Median Unit price (SMUP)	11363	07833
				%Mark-up (SMUP / MUP)	66.6%	402.1%
			Dispensing Doctor	Manuf. Pack Price	20460	4.680
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	06820	01560
				Ratio: MUP to Reference Unit price	13.72	3.14
				Sector Median Unit price (SMUP)		
				%Mark-up (SMUP / MUP)		
Medicine	**Strength**	**Dosage Form**	**Sector**	**Item**	**Innovator Brand**	**Most Sold**
Carbamazepine	200mg	cap/tab	Government Procurement	Manuf. Pack Price		
				Manuf. Pack Size(# units)		
				Manuf. Unit Price (MUP)		
				Ratio: MUP to Reference Unit price		
				Sector Median Unit price (SMUP)		
				%Mark-up (SMUP / MUP)		
			Private Hospital Pharmacy	Manuf. Pack Price	57.790	56.480
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	05779	05648
				Ratio: MUP to Reference Unit price	4.96	4.85
				Sector Median Unit price (SMUP)	2.5730	1.5126
				%Mark-up (SMUP / MUP)	345.2%	167.8%
			Retail Pharmacy	Manuf. Pack Price	57.790	56.480
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	05779	05648
				Ratio: MUP to Reference Unit price	4.96	4.85
				Sector Median Unit price (SMUP)	2.5730	1.5126
				%Mark-up (SMUP / MUP)	345.2%	167.8%
			Dispensing Doctor	Manuf. Pack Price	57.790	56.480
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	05779	05648
				Ratio: MUP to Reference Unit price	4.96	4.85
				Sector Median Unit price (SMUP)		
				%Mark-up (SMUP / MUP)		

ANNEXURE 5

CUMULATIVE MARK UPS IN SECTORS

Reference Price Data Used = MSH 2008

Medicine	Strength	Dosage Form	Sector	Item	Innovator Brand	Most Sold
Ibuprofen	400mg	tab	Government Procurement	Manuf. Pack Price		13.680
				Manuf. Pack Size(# units)		84
				Manuf. Unit Price (MUP)		0.1629
				Ratio: MUP to Reference Unit price		3.28
				Sector Median Unit price (SMUP)		0.1629
				%Mark-up (SMUP / MUP)		0.0%
			Private Hospital Pharmacy	Manuf. Pack Price	2.046	4.680
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	0.0682	0.1560
				Ratio: MUP to Reference Unit price	13.72	3.14
				Sector Median Unit price (SMUP)		0.7480
				%Mark-up (SMUP / MUP)		379.5%
			Retail Pharmacy	Manuf. Pack Price	2.046	4.680
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	0.0682	0.1560
				Ratio: MUP to Reference Unit price	13.72	3.14
				Sector Median Unit price (SMUP)	1.1363	0.7833
				%Mark-up (SMUP / MUP)	66.6%	402.1%
			Dispensing Doctor	Manuf. Pack Price	2.046	4.680
				Manuf. Pack Size(# units)	30	30
				Manuf. Unit Price (MUP)	0.0682	0.1560
				Ratio: MUP to Reference Unit price	13.72	3.14
				Sector Median Unit price (SMUP)		
				%Mark-up (SMUP / MUP)		
Medicine	**Strength**	**Dosage Form**	**Sector**	**Item**	**Innovator Brand**	**Most Sold**
Carbamazepine	200mg	cap/tab	Government Procurement	Manuf. Pack Price		
				Manuf. Pack Size(# units)		
				Manuf. Unit Price (MUP)		
				Ratio: MUP to Reference Unit price		
				Sector Median Unit price (SMUP)		
				%Mark-up (SMUP / MUP)		
			Private Hospital Pharmacy	Manuf. Pack Price	57.790	56.480
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	0.5779	0.5648
				Ratio: MUP to Reference Unit price	4.96	4.85
				Sector Median Unit price (SMUP)	2.5730	1.5126
				%Mark-up (SMUP / MUP)	345.2%	167.8%
			Retail Pharmacy	Manuf. Pack Price	57.790	56.480
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	0.5779	0.5648
				Ratio: MUP to Reference Unit price	4.96	4.85
				Sector Median Unit price (SMUP)	2.5730	1.5126
				%Mark-up (SMUP / MUP)	345.2%	167.8%
			Dispensing Doctor	Manuf. Pack Price	57.790	56.480
				Manuf. Pack Size(# units)	100	100
				Manuf. Unit Price (MUP)	0.5779	0.5648
				Ratio: MUP to Reference Unit price	4.96	4.85
				Sector Median Unit price (SMUP)		
				%Mark-up (SMUP / MUP)		

ANNEXURE 6

MEDICINE PRICE COMPONENTS

Sector and Type of Medicine:		Dispensing Doctor, Most Sold Generic							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Glibenclamide	5 mg	cap/tab	60	30	Cost, Insurance, Freight (CIF) price	NA	NA	5.51	0.00%
					Manufacturers/importer s vat	fixed fee	0.77	6.28	13.97%
					Logistic fee	fixed fee	0.82	7.10	28.86%
					Logistic fee vat	fixed fee	0.12	7.22	31.03%
					Dispensing fee	fixed fee	1.01	8.23	49.36%
					Dispensing fee vat	fixed fee	0.14	8.37	51.91%

Sector and Type of Medicine:		Retail Pharmacy and Private Hospital Pharmacy , Innovator brand							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Glibenclamide	5 mg	cap/tab	60	30	Cost, Insurance, Freight (CIF) price	NA	NA	86.02	0.00%
					manufacturing cost vat	fixed fee	12.04	98.06	14.00%
					logistic fee	fixed fee	8.03	106.09	23.33%
					logistic fee vat	fixed fee		106.09	23.33%
					dispensing fee	fixed fee		106.09	23.33%
					dispensing fee vat	fixed fee		106.09	23.33%

ANNEXURE 6

MEDICINE PRICE COMPONENTS

Sector and Type of Medicine:		Retail Pharmacy and Private Hospital Pharmacy, Innovator Brand							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Beclometasone inh	0.05 mg/dose	dose	200	200	Cost, Insurance, Freight (CIF) price	NA	NA	36.56	0.00%
					Manufacturers vat	fixed fee	5.12	41.68	14.00%
					Logistics fee	fixed fee	6.58	48.26	32.00%
					Logistics fee vat	fixed fee	0.92	49.18	34.52%
					Dispensing Fee	fixed fee	11.22	60.40	65.21%
					Dispensing fee vat	fixed fee	1.57	61.97	69.50%

Sector and Type of Medicine:		Retail Pharmacy and Private Hospital Pharmacy , Innovator Brand							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Ciprofloxacin	500 mg	cap/tab	1	10	Cost, Insurance, Freight (CIF) price	NA	NA	81.17	0.00%
					manufacturer vat	fixed fee	11.36	92.53	14.00%
					logistic fee	fixed fee	4.88	97.41	20.01%
					logistic fee vat	fixed fee	0.68	98.09	20.85%
					dispensing fee	fixed fee	22.37	120.46	48.40%
					dispensing fee vat	fixed fee	3.13	123.59	52.26%

ANNEXURE 6

MEDICINE PRICE COMPONENTS

Sector and Type of Medicine:		Retail Pharmacy and Private Hospital Pharmacy , Innovator Brand							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Diazepam	5 mg	cap/tab	100	30	Cost, insurance, freight (CIF) price	NA	NA	51.80	0.00%
					Manufacturing cost vat	fixed fee	7.25	59.05	14.00%
					logistic fee	fixed fee	7.39	66.44	28.26%
					logistic fee vat	fixed fee	1.03	67.47	30.25%
					dispensinf fee	fixed fee	15.39	82.86	59.96%
					dispensing fee vat	fixed fee	2.15	85.01	64.11%
Sector and Type of Medicine:		**Retail Pharmacy and Hospital Pharmacy, innovator brand**							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Fluconazole	150 mg	cap	4	4	Cost, insurance, freight (CIF) price	NA	NA	212.83	0.00%
					manufacturing vat	fixed fee	29.80	242.63	14.00%
					logistics fee	fixed fee	4.29	246.92	16.02%
					logistic fee vat	fixed fee	0.60	247.52	16.30%
					dispensing fee	fixed fee	26.00	273.52	28.52%
					dispensing fee vat	fixed fee	3.64	277.16	30.23%

ANNEXURE 6

MEDICINE PRICE COMPONENTS

Sector and Type of Medicine:		Retail Pharmacy and Private Hospital Pharmacy , Innovator Brand							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Carbamazepine	200 mg	cap/tab	150	100	Cost, insurance, freight (CIF) price	NA	NA	57.79	0.00%
					manufacturerer vat	fixed fee	8.09	65.88	14.00%
					logistic fee	fixed fee	5.86	71.74	24.14%
					logistic fee vat	fixed fee	0.82	72.56	25.56%
					dispensing fee	fixed fee	16.55	89.11	54.20%
					dispensing fee vat	fixed fee	2.32	91.43	58.21%

Sector and Type of Medicine:		Retail Pharmacy and Private Hospital Pharmacy, Innovator Brand							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Glibenclamide	5 mg	cap/tab	60	30	Cost, insurance, freight (CIF) price	NA	NA	86.02	0.00%
					manufacturing cost vat	fixed fee	12.04	98.06	14.00%
					logistic fee	fixed fee	8.03	106.09	23.33%
					logistic fee vat	fixed fee	1.12	107.21	24.63%
					dispensing fee	fixed fee	24.45	131.66	53.06%
					dispensing fee vat	fixed fee	3.42	135.08	57.03%

ANNEXURE 6

MEDICINE PRICE COMPONENTS

Sector and Type of Medicine:		Retail Pharmacy and hospital Pharmacy , Most sold generic							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Carbamazepine	200 mg	cap/tab	150	100	Cost, insurance, freight (CIF) price	NA	NA	56.48	0.00%
					Manufacturing vat	fixed fee	7.91	64.39	14.00%
					logistic fee	fixed fee	8.47	72.86	29.00%
					logistic fee vat	fixed fee	1.19	74.05	31.11%
					dispensing fee	fixed fee	16.89	90.94	61.01%
					dispensing fee vat	fixed fee	2.36	93.30	65.19%
Sector and Type of Medicine:		**Retail Pharmacy and Private Hospital Pharmacy , Most Sold Generic**							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Fluconazole	150 mg	cap	4	1	Cost, insurance, freight (CIF) price	NA	NA	30.00	0.00%
					manufacturing cost vat	fixed fee	4.20	34.20	14.00%
					logistics fee	fixed fee	4.50	38.70	29.00%
					logistics fee vat	fixed fee	0.63	39.33	31.10%
					dispensing fee	fixed fee	8.97	48.30	61.00%
					dispensing fee vat	fixed fee	1.26	49.56	65.20%

ANNEXURE 6

MEDICINE PRICE COMPONENTS

Sector and Type of Medicine:		Retail Pharmacy and Private Hospital Pharmacy , Most Sold Generic							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Diazepam	5 mg	cap/tab	100	30	Cost, insurance, freight (CIF) price	NA	NA	2.90	0.00%
					manufacturing cost vat	fixed fee	0.41	3.31	14.14%
					logistic fee	fixed fee	0.44	3.75	29.31%
					logistic fee vat	fixed fee	0.06	3.81	31.38%
					dispensing fee	fixed fee	0.87	4.68	61.38%
					dispensing fee vat	fixed fee	0.12	4.80	65.52%
Sector and Type of Medicine:		**Dispensing Doctor , Most Sold Generic**							
Medicine	**Strength**	**Dosage Form**	**Target Pack Size**	**Dispensed Quantity**	**Type of Charge**	**Charge Basis**	**Amount of Charge**	**Price of Dispensed Quantity**	**Cumulative % Mark-up**
Fluconazole	150 mg	cap	4	1	Cost, insurance, freight (CIF) price	NA	NA	30.00	0.00%
					Manufacturing cost vat	fixed fee	4.20	34.20	14.00%
					logistic fee	fixed fee	4.50	38.70	29.00%
					Logistic fee cost	fixed fee	0.63	39.33	31.10%
					dispensing fee	fixed fee	5.52	44.85	49.50%
					dispensing fee vat	fixed fee	0.77	45.62	52.07%

Annnexure 7: Charges Added to Manufacturer Price

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Product	**Product type & Sector**	**Man. Price ex vat**	**Man. price VAT %**	**Actual Cumul-ative Mark up % (Annexure 5)**	**Expected Cumul-ative Mark up % (Annexure 6)**	**Log. fee**	**Log. fee as % Man. Price**	**Log. Fee VAT**	**Log. fee VAT as % of Man. price**	**Disp. Fee**	**Disp. fee as % Man. price**	**Disp. Fee VAT**	**Disp. Fee VATas % Man price**	**Unaccounted for mark up (E-F)**
Glibenclamide 5mg tab (30)	IB-Hospital Pharmacy	86.02	14	47.6	57.03	8.03	9.34	1.12	1.31	24.45	28.43	3.42	3.98	-9.43
	IB-Retail Pharmacy	86.02	14	53.5	57.03	8.03	9.34	1.12	1.31	24.45	28.43	3.42	3.98	-3..53
	MSG -Dispensing Doctor	5.51	14	195.6	51.91	0.82	14.88	0.11	2.08	1.01	18.38	0.14	2.57	143.69
Beclomethasone inhaler (200)	IB-Pharmacy	36.56	14	~	69.5	6.58	18.00	0.92	2.52	11.22	30.68	1.57	4.30	~
Ciprofloxacin 500mg tab (10)	IB-Pharmacy	81.17	14	56.7	52.3	4.88	6.01	0.68	0.84	22.37	27.56	3.13	3.86	4.40
Diazepam 5mg tab (30)	MSG-Pharmacy	2.9	14	43.5	65.52	0.44	15.17	0.06	2.12	0.87	29.94	0.12	4.19	-22.02
	IB-Pharmacy	51.8	14	49.3	64.11	7.39	14.27	1.03	2.00	15.39	29.71	2.15	4.16	-14.8
Fluconazole 150mg(4)	IB-Hospital Pharmacy	212.8	14	30.9	30.2	4.29	2.02	0.60	0.28	26.00	12.22	3.64	1.71	0.70
	IB- retail Pharmacy	212.8	14	50.7	30.2	4.29	2.02	0.60	0.28	26.00	12.22	3.64	1.71	20.50
Carbamazepine 200mg tab (100)	IB-Pharmacy	57.79	14	345.2	58.2	5.86	10.14	0.82	1.42	16.55	28.64	2.32	4.01	287.00
	MSG-Pharmacy	56.48	14	167.8	65.2	8.47	15.00	1.19	2.10	16.89	29.90	2.36	4.19	102.60
Fluconazole 150mg tab (1)	MSG-Pharmacy	30	14	70	65.2	4.5	15.00	0.63	2.10	8.97	29.90	1.26	4.19	4.80
	MSG-Dispensing Doctor	30	14	55	52.1	4.5	15.00	0.63	2.10	5.52	18.40	0.77	2.58	2.90

~ = No value obtained

ANNEXURE 8

STANDARD TREATMENT AFFORDABILITY

Daily wage of lowest paid government worker (in local currency):	R 90.58

Hypertension						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensing Doctor Patient	
Medicine	Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Number of Days' Wages	Median Treatment Price	Number of Days' Wages	Median Treatment Price	Number of Days' Wages
Hydrochlorothiazide	25 mg	cap/tab	30	30	Brand						
					Most Sold	17.62	0.2	20.53	0.2		
					Lowest Price	17.62	0.2	17.74	0.2	9.13	0.1

Hypertension						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensing Doctor Patient	
Medicine	Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Number of Days' Wages	Median Treatment Price	Number of Days' Wages	Median Treatment Price	Number of Days' Wages
Atenolol	50 mg	cap/tab	30	30	Brand	155.14	1.7	155.14	1.7		
					Most Sold	31.55	0.3	31.55	0.3		
					Lowest Price	31.55	0.3	31.55	0.3	18.60	0.2

Adult respiratory infections.						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensing Doctor Patient	
Medicine	Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Number of Days' Wages	Median Treatment Price	Number of Days' Wages	Median Treatment Price	Number of Days' Wages
Amoxicillin	250 mg	cap/tab	7	21	Brand	85.63	0.9	83.39	0.9		
					Most Sold	6.68	0.1	6.68	0.1		
					Lowest Price	6.68	0.1	6.97	0.1	6.18	0.1

ANNEXURE 8

STANDARD TREATMENT AFFORDABILITY

Daily wage of lowest paid government worker (in local currency):	R 90.58

Urinary Tract infection	Private Hospital Patient	Private Retail Pharmacy Patient	Dispensir Pati

ANNEXURE 8

STANDARD TREATMENT AFFORDABILITY

	Daily wage of lowest paid government worker (in local currency):					R 90.58				
Urinary Tract infection						**Private Hospital Patient**		**Private Retail Pharmacy Patient**		**Dispensir Pati**
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treat ment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatme nt Price**	**Number of Days' Wages**	**Median Treatme nt Price**
Ciprofloxacin	500 mg	cap/tab	5	10	**Brand**	127.16	1.4	127.16	1.4	
					Most Sold	42.95	0.5	42.95	0.5	33.30
					Lowest Price	24.63	0.3	30.60	0.3	24.86
Arthritis						**Private Hospital Patient**		**Private Retail Pharmacy Patient**		**Dispensir Pati**
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treat ment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatme nt Price**	**Number of Days' Wages**	**Median Treatme nt Price**
Diclofenac	25 mg	cap/tab	30	60	**Brand**	59.87	0.7	59.87	0.7	
					Most Sold			12.70	0.1	
					Lowest Price	12.89	0.1	11.76	0.1	5.81
Depression						**Private Hospital Patient**		**Private Retail Pharmacy Patient**		**Dispensir Pati**
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatme nt Price**	**Number of Days' Wages**	**Median Treatme nt Price**
Amitriptyline	25 mg	cap/tab	30	90	**Brand**	253.35	2.8	253.35	2.8	
					Most Sold	75.84	0.8	75.84	0.8	67.86
					Lowest Price	75.84	0.8	74.78	0.8	67.86
Asthma						**Private Hospital Patient**		**Private Retail Pharmacy Patient**		**Dispensir Pati**
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatme nt Price**	**Number of Days' Wages**	**Median Treatme nt Price**
Salbutamol inhale	0.1 mg/dose	dose	as needed	200	**Brand**	53.06	0.6	53.06	0.6	

ANNEXURE 8

STANDARD TREATMENT AFFORDABILITY

Daily wage of lowest paid government worker (in local currency):	R 90.58

Peptic ulcer						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensi Pati
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**
Omeprazole	20 mg	cap/tab	30	30	**Brand**	397.91	4.4	397.91	4.4	
					Most Sold	157.94	1.7	154.63	1.7	
					Lowest Price	153.90	1.7	154.58	1.7	

Epilepsy						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensi Pati
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**
Carbamazepine	200 mg	cap/tab	30	90	**Brand**	231.57	2.6	231.57	2.6	
					Most Sold	136.13	1.5	136.13	1.5	
					Lowest Price	136.13	1.5	136.13	1.5	

Dermal Candida Infections						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensi Pati
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**
Fluconazole (2)	150 mg	cap	30	4	**Brand**	278.63	3.1	320.84	3.5	
					Most Sold	203.96	2.3	203.96	2.3	186.00
					Lowest Price	203.96	2.3	203.94	2.3	186.00

ANNEXURE 8

STANDARD TREATMENT AFFORDABILITY

	Daily wage of lowest paid government worker (in local currency):					R 90.58					
Pediatric respiratory. infections.						**Private Hospital Patient**		**Private Retail Pharmacy Patient**		**Dispensing Doctor Pharmacy**	
Medicine	**Strength**	**Dosage Form**	**Treat ment Duration (in Days)**	**Total # of Units per Treat ment**	**Product Type**	**Median Treat ment Price**	**Number of Days' Wages**	**Median Treat ment Price**	**Number of Days' Wages**	**Median Treat ment Price**	**Number of Days' Wages**
Co-trimoxazole suspension	8+40 mg/ml	millilitre	7	70	**Brand**	57.70	0.6				
					Most Sold	4.98	0.1	4.98	0.1		
					Lowest Price	4.98	0.1	4.98	0.1	3.77	0.0

ANNEXURE 8

STANDARD TREATMENT AFFORDABILITY

Daily wage of lowest paid government worker (in local currency):	R 90.58

ANTIRETROVIRAL						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensin Patie
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**
Lamivudine	150 mg	tab	30	60	**Brand**	141.82	1.6	150.18	1.7	
					Most Sold					
					Lowest Price					

ANTIRETROVIRAL						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensin Patie
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**
Efavirenz	600 mg	tab	30	30	**Brand**	221.51	2.4	243.95	2.7	
					Most Sold					
					Lowest Price					

ANTIRETROVIRAL						Private Hospital Patient		Private Retail Pharmacy Patient		Dispensin Patie
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**
Nevirapine	200 mg	cap/tab	30	60	**Brand**	440.04	4.9	440.04	4.9	
					Most Sold					
					Lowest Price					

ANTIRETROVIRAL						Private Hospital		Private Retail		Dispensin
Medicine	**Strength**	**Dosage Form**	**Treatment Duration (in Days)**	**Total # of Units per Treatment**	**Product Type**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**	**Number of Days' Wages**	**Median Treatment Price**

ANNEXURE 9

Exchange Rate: $US 100 in local currency =	5.8493
Name of local currency:	Rands
Date of exchange rate:	29.11.2001
Source of exchange rate:	Reserve Bank
Source of Other Unit Price:	MSH price list used everywhere

							Price Data Used = MSH 2003		
Med. No.	Medicine	Strength	Dosage Form	Target Pack Size	Core List (yes/no)	2003 MSH* Unit Price ($US)	Price of Target Pack ($US)	Price of Target Pack (Rands)	Reference Unit Price (Rands)
1	Aciclovir	200mg	cap/tab	25	yes	$ 0.0969	$ 2.4225	14.1699	0.5668
2	Allopurinol	300mg	tab	100	no	$ 0.0915	$ 9.1500	53.5211	0.5352
3	Amitriptyline	25 mg	cap/tab	100	yes	$ 0.0076	$ 0.7600	4.4455	0.0445
4	Amoxicillin	250mg	cap/tab	21	yes	$ 0.0172	$ 0.3612	2.1128	0.1006
5	Amoxil / clavulanic acid	375 mg	tab	15	no	$ 0.3021	$ 4.5315	26.5061	1.7671
6	Atenolol	50mg	cap/tab	60	yes	$ 0.0093	$ 0.5580	3.2639	0.0544
7	Beclometasone inhaler	0.05 mg/dose	dose	200	yes	$ 0.0169	$ 3.3800	19.7706	0.0989
8	Captopril	25 mg	cap/tab	60	yes	$ 0.0264	$ 1.5840	9.2653	0.1544
9	Carbamazepine	200mg	cap/tab	150	yes	$ 0.0199	$ 2.9850	17.4602	0.1164
10	Ceftriaxone injection	1 g/vial	gram	1	yes	$ 2.5573	$ 2.5573	14.9584	14.9584
11	Ciprofloxacin	500mg	cap/tab	1	yes	$ 0.0318	$ 0.0318	0.1860	0.1860
12	Co-trimoxazole suspension	8+40mg/ml	millilitre	70	yes	$ 0.0036	$ 0.2520	1.4740	0.0211
13	Diazepam	5 mg	cap/tab	100	yes	$ 0.0035	$ 0.3500	2.0473	0.0205
14	Diclofenac	25 mg	cap/tab	100	yes	$ 0.0051	$ 0.5100	2.9831	0.0298
15	ERwirenz	600mg	tab	30	no	$ 1.1927	$ 35.7810	209.2938	6.9765
16	Fluconazole	200mg	cap/tab	30	yes	$ 0.1205	$ 3.6150	21.1452	0.7048
17	Fluconazole (2)	150mg	cap	4	no	$ 1.0000	$ 4.0000	23.3997	0.5849
18	Fluoxetine	20mg	cap/tab	30	yes	$ 0.0295	$ 0.8850	5.1766	0.1726
19	Fluphenazine injection	25 mg/ml	millilitre	1	yes	$ 0.4866	$ 0.4866	2.8463	2.8463
20	Glibenclamide	5 mg	cap/tab	60	yes	$ 0.0041	$ 0.2460	1.4389	0.0240
21	Hydrochlorothiazide	25 mg	cap/tab	30	yes	$ 0.0035	$ 0.1050	0.6142	0.0205
22	Ibuprofen	400mg	tab	30	no	$ 0.0085	$ 0.2550	1.4916	0.0497
23	Indinavir	400mg	cap/tab	180	yes	$ 0.3479	$ 62.6220	366.2949	2.0350
24	Lamivudine	150mg	tab	60	no	$ 0.1063	$ 6.3780	37.3068	0.6218
25	Loperamide	2mg	tab	6	no	$ 0.0059	$ 0.0354	0.2071	0.0345
26	Losartan	50mg	cap/tab	30	yes	$ 0.9449	$ 28.3470	165.8101	5.5270
27	Metformin	500mg	cap/tab	100	yes	$ 0.0178	$ 1.7800	10.4118	0.1041
28	Methylphenidate	10mg	tab	30	no	$ 0.1743	$ 5.2290	30.5860	1.0195
29	Metoclopramide monohydrochloride	10mg	tab	20	no	$ 0.0044	$ 0.0880	0.5147	0.0257
30	Nevirapine	200mg	cap/tab	60	yes	$ 0.2344	$ 14.0640	82.2646	1.3711
31	Nifedipine	10mg	cap	30	no	$ 0.0110	$ 0.3300	1.9303	0.0643
32	Nifedipine Retard	20mg	tab	100	yes	$ 0.0216	$ 2.1600	12.6345	0.1263
33	Omeprazole	20mg	cap/tab	30	yes	$ 0.1961	$ 5.8830	34.4114	1.1470
34	Phenytoin	100mg	cap/tab	100	yes	$ 0.0071	$ 0.7100	4.1530	0.0415
35	Prednisone	5 mg	tab	100	no	$ 0.0098	$ 0.9800	5.7323	0.0573
36	Promethazine	25 mg	tabs	100	no	$ 0.0040	$ 0.4000	2.3397	0.0234
37	Ranitidine	150mg	cap/tab	60	yes	$ 0.0249	$ 1.4940	8.7389	0.1456
38	Salbutamol inhaler	0.1 mg/dose	dose	200	yes	$ 0.0097	$ 1.9400	11.3476	0.0567
39	Stavudine	30mg	tab	60	no	$ 0.0755	$ 4.5300	26.4973	0.4416
40	Stavudine (2)	40mg	tab	60	no	$ 0.0852	$ 5.1120	29.9016	0.4984
41	Sulfadoxine-pyrimethamine	500+25 mg	cap/tab	3	yes	$ 0.0257	$ 0.0771	0.4510	0.1503
42	Zidovudine	100mg	cap/tab	150	yes	$ 0.1855	$ 27.8250	162.7568	1.0850

ANNEXURE 10

MEDICINE PRICES AND AVAILABILITY IN THE DISPENSING DOCTOR SECTOR IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)													
Medicine Name	Medicine Type	Median (MPR)	25% ile	75% ile	Min	Max	Availability in Sector	1	2	3	4	5	6	7	8	9	10	13	14	15	16	17
Aciclovir	Brand						6.7%										12.872					
Aciclovir	Most sold						6.7%															3.54
Aciclovir	Lowest Price	3.89	3.30	4.92	3.28	6.25	26.7%			2.5376	1.8736								1.8599			3.54
Allopurinol	Brand						0.0%															
Allopurinol	Most sold	2.78	2.64	2.83	2.25	4.52	46.7%		2.42	1.531		1.3397		1.5	1.2081				1.4888			1.4888
Allopurinol	Lowest Price	2.64	2.40	2.82	2.18	4.52	53.3%		2.42	1.531	1.3077	1.3397		1.5	1.2081				1.1671			1.4888
Amitriptyline	Brand						0.0%															
Amitriptyline	Most sold	16.96	13.93	17.29	12.08	37.12	46.7%		1.65	0.754		0.5907		0.648	0.5372	0.7686					0.7686	
Amitriptyline	Lowest Price	16.96	12.60	17.29	11.78	37.12	60.0%	1.046	1.65	0.754		0.5907		0.56	0.5372	0.7686			0.5236		0.7686	
Amoxicillin	Brand						0.0%															
Amoxicillin	Most sold						6.7%										1.1487					
Amoxicillin	Lowest Price	2.92	2.81	1.059	1.99	12.28	80.0%			1.1267	0.2982		1.2357	0.1999	0.292	0.292	1.1487	0.2828	1.0156	0.2828	0.278	0.483
Amoxil / clavulanic acid	Brand						0.0%															
Amoxil / clavulanic acid	Most sold						6.7%															2.3852
Amoxil / clavulanic acid	Lowest Price	1.53	1.47	1.54	1.13	1.70	53.3%			2.6627	2.696	3.0127		2	2.7193	2.7193				2.7195		2.3852
Atenolol	Brand						0.0%															
Atenolol	Most sold						6.7%									0.9593						
Atenolol	Lowest Price	11.40	9.72	11.40	9.50	17.63	33.3%				0.6202					0.9593		0.6199	0.529			0.5167
Beclometasone inhaler	Brand						6.7%										0.4683					
Beclometasone inhaler	Most sold	2.61	2.61	2.92	2.56	4.09	53.3%		0.382	0.2528	0.2577	0.2576	0.4014			0.2576			0.2577			0.2577
Beclometasone inhaler	Lowest Price	2.61	2.61	2.92	2.56	4.09	53.3%		0.382	0.2528	0.2577	0.2576	0.4014			0.2576			0.2577			0.2577
Captopril	Brand						0.0%															
Captopril	Most sold						0.0%															
Captopril	Lowest Price	2.09	2.06	6.07	1.24	13.84	33.3%				0.3233	0.937	2.1378					0.3188	0.1919			
Carbamazepine	Brand						6.7%					2.692										
Carbamazepine	Most sold						6.7%			1.3986												
Carbamazepine	Lowest Price						13.3%			1.3986									1.3986			
Ceftriaxone injection	Brand						0.0%															
Ceftriaxone injection	Most sold						6.7%												3.03468			
Ceftriaxone injection	Lowest Price						6.7%												3.03468			

ANNEXURE 10

MEDICINE PRICES AND AVAILABILITY IN THE DISPENSING DOCTOR SECTOR IN THE GAUTENG PROVINCE

		Summary Comparisons to Reference and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)													
Medicine Name	Medicine Type	Median (MPR)	25% ile	75% ile	Min	Max	Availability in Sector	1	2	3	4	5	6	7	8	9	10	13	14	15	16	17
Ciprofloxacin	Brand						0.0%															
Ciprofloxacin	Market Std	17.90	17.81	18.47	13.98	21.08	33.3%					3.33		2.6	3.917		3.3128					3.436
Ciprofloxacin	Lowest Price	13.37	11.18	17.93	8.27	21.08	53.3%		1.539	1.58	2.372	3.33		2.6	3.917		2.247					3.3532
Co-trimoxazole suspension	Brand						0.0%															
Co-trimoxazole suspension	Market Std						13.3%							0.0599		0.0849						
Co-trimoxazole suspension	Lowest Price	2.55	2.41	3.02	2.32	7.57	66.7%			0.0188	0.0537	0.0539	0.1595	0.0599	0.1353	0.0849	0.0537		0.0199			0.0197
Diazepam	Brand						6.7%					2.6597										
Diazepam	Market Std						13.3%				0.1213			0.158								
Diazepam	Lowest Price	3.25	2.65	5.93	2.65	8.30	60.0%	0.054	0.17		0.1213			0.158	0.0865		0.1			0.0543	0.0543	0.0543
Diclofenac	Brand						0.0%															
Diclofenac	Market Std						20.0%								0.184	0.1839	0.0324					
Diclofenac	Lowest Price	3.24	2.83	6.17	2.48	10.77	53.3%	0.084							0.184	0.1839	0.0324		0.1092	0.0843	0.0843	0.0739
Efavirenz	Brand						0.0%															
Efavirenz	Market Std						0.0%															
Efavirenz	Lowest Price						0.0%															
Fluconazole	Brand						0.0%															
Fluconazole	Market Std						6.7%									1.918						
Fluconazole	Lowest Price						20.0%				34.03				0.6323	1.918						
Fluconazole (2)	Brand						0.0%															
Fluconazole (2)	Market Std	79.50	79.50	79.50	79.50	79.50	26.7%					46.5			46.5	46.5						46.5037
Fluconazole (2)	Lowest Price	79.50	79.50	79.50	58.18	79.50	33.3%				34.03	46.5			46.5	46.5						46.5037
Fluoxetine	Brand						0.0%															
Fluoxetine	Market Std						20.0%			1.3247				1.0667				1.3503				
Fluoxetine	Lowest Price	6.97	5.55	7.74	3.59	15.45	53.3%			1.3247	0.62	1.082	2.6667	1.0667				1.3503	1.3301			0.6321
Fluphenazine injection	Brand						0.0%															
Fluphenazine injection	Market Std						0.0%															
Fluphenazine injection	Lowest Price						0.0%															
Glibenclamide	Brand						0.0%															
Glibenclamide	Market Std	22.64	10.80	34.54	10.68	34.85	26.7%			0.826	0.8357					0.2562	0.26					
Glibenclamide	Lowest Price	10.68	8.49	12.83	8.13	34.85	73.3%	0.355		0.826	0.8357	0.1955			0.1949	0.2562	0.26	0.1949		0.2562	0.219	0.219
Hydrochlorothiazide	Brand						6.7%												0.168			
Hydrochlorothiazide	Market Std						13.3%		1.54			0.8237										
Hydrochlorothiazide	Lowest Price	14.86	9.35	15.16	9.35	75.22	33.3%		1.54	0.3012		0.313			0.1914	0.1914						
Ibuprofen	Brand						6.7%										1.1333					
Ibuprofen	Market Std						6.7%									0.2098						
Ibuprofen	Lowest Price	4.86	3.52	7.59	1.90	13.38	26.7%						0.665		0.2816	0.2098						0.0943
Indinavir	Brand						0.0%															
Indinavir	Market Std						0.0%															
Indinavir	Lowest Price						0.0%															

ANNEXURE 10

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		Summary Comparisons to Reference and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)														
Medicine Name	Medicine Type	Median (MPR)	25% ile	75% ile	Min	Max	Availability in Sector	1	2	3	4	5	6	7	8	9	10	13	14	15	16	17
Lamivudine	Brand						6.7%			2.1687												
Lamivudine	Mart/Sold						0%															
Lamivudine	LowestPrice						0%															
Loperamide	Brand						0%															
Loperamide	Mart/Sold						6.7%										1.1					
Loperamide	LowestPrice	9.16	8.90	11.00	7.94	64.62	80%		2.23	0.3133	0.31	0.319		0.3354	0.3072	0.3073	1.1	0.3194	0.3071	0.274		0.5121
Losartan	Brand						6.7%					6.9123										
Losartan	Mart/Sold						0%															
Losartan	LowestPrice						0%															
MetFormin	Brand						13.3%			0.4739	0.4314											
MetFormin	Mart/Sold	3.90	3.90	4.16	0.83	8.42	33.3%					0.8763			0.4085	0.4085				0.0866	0.4331	
MetFormin	LowestPrice	3.96	3.90	4.19	0.83	8.42	53.3%	0.444				0.8763			0.4085	0.4085		0.4123	0.4123	0.0866	0.4331	
Methylphenidate	Brand						6.7%					4.6263										
Methylphenidate	Mart/Sold						0%															
Methylphenidate	LowestPrice						6.7%			0.085												
Metoclopramide monohydrochloride	Brand						6.7%										1.7					
Metoclopramide monohydrochloride	Mart/Sold						0%															
Metoclopramide monohydrochloride	LowestPrice	5.31	3.93	6.67	3.35	31.47	66.7%	0.089	0.81		0.1078		0.665	0.096	0.1654	0.1083				0.1737	0.1653	0.0863
Nevirapine	Brand						6.7%												7.144			
Nevirapine	Mart/Sold						0%															
Nevirapine	LowestPrice						0%															
NiFedipine	Brand						0%															
NiFedipine	Mart/Sold						6.7%							0.9871								
NiFedipine	LowestPrice	12.91	10.19	19.01	9.30	27.82	40%		1.79	0.6745				0.9871			0.649	1.3015	0.5982			
NiFedipine Retard	Brand						0%															
NiFedipine Retard	Mart/Sold						13.3%			0.6745												0.6873
NiFedipine Retard	LowestPrice						20%			0.6745									0.6873			0.6873
Omeprazole	Brand						6.7%			1.2072												
Omeprazole	Mart/Sold						13.3%			0.5191		4.7225										
Omeprazole	LowestPrice						13.3%			0.5191		4.7225										
Phenytoin	Brand						6.7%					1.6336										
Phenytoin	Mart/Sold						6.7%				0.364											
Phenytoin	LowestPrice						6.7%				0.364											
Prednisone	Brand						0%															
Prednisone	Mart/Sold	1.50	1.50	1.53	1.41	11.57	73.3%	0.086		0.0845	0.0808		0.6633	0.0899	0.0894		0.0857	0.0861	0.0861	0.0861	0.0861	
Prednisone	LowestPrice	1.50	1.50	2.18	1.41	11.57	100%	0.086	0.32	0.0845	0.0808	0.1254	0.6633	0.0899	0.0894	0.1247	0.0857	0.0861	0.0861	0.0861	0.0861	0.1687
Promethazine	Brand						6.7%										0.1686					
Promethazine	Mart/Sold	3.99	3.99	3.99	2.56	6.92	33.3%				0.1618			0.06				0.0933	0.0933		0.0933	
Promethazine	LowestPrice	5.37	3.99	8.59	2.56	13.63	53.3%				0.1618			0.06	0.3189	0.3188		0.0933	0.0933		0.0933	0.1579
Ranitidine	Brand						6.7%										1.86					
Ranitidine	Mart/Sold						0%															

ANNEXURE 10

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		Summary Comparisons to Reference and Percent Availability in Outlets (Blank if found in < 4 outlets)						Data for Individual Medicines Outlets (Medicine Unit Prices in Local Currency)														
Medicine Name	Medicine Type	Median (MPR)	25% ile	75% ile	Min	Max	Availability in Sector	1	2	3	4	5	6	7	8	9	10	13	14	15	16	17
Salbutamol inhaler	Brand						0%															
Salbutamol inhaler	Mark et	1.75	1.75	1.99	1.75	2.71	26.7%					0.0993	0.1539			0.0992	0.0992					
Salbutamol inhaler	Lowest Price	1.75	1.75	1.76	1.72	2.71	46.7%			0.0974		0.0993	0.1539	0.1		0.0992	0.0992					0.0992
Stavudine	Brand						13.3%											0.6353	0.6353			
Stavudine	Mark et						0%															
Stavudine	Lowest Price						0%															
Stavudine (2)	Brand						6.7%			0.8935												
Stavudine (2)	Mark et						0%															
Stavudine (2)	Lowest Price						0%															
Sulfadoxine-pyrimethamine	Brand						0%															
Sulfadoxine-pyrimethamine	Mark et						0%															
Sulfadoxine-pyrimethamine	Lowest Price						0%															
Zidovudine	Brand						0%															
Zidovudine	Mark et						0%															
Zidovudine	Lowest Price						0%															