

**SURVEY OF
MEDICINE PRICES, AVAILABILITY,
AFFORDABILITY AND PRICE COMPONENTS
IN MONGOLIA**

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ABBREVIATIONS

EML	Essential Medicines List
GDP	Gross Domestic Product
HAI	Health Action International
HIF	Health insurance fund
INN	International non-proprietary name
LPG	Lowest Priced Generic
Max	Maximum
Min	Minimum
MNT	Mongolian Tugrug (currency)
MOH	Ministry of Health
MPR	Median Price Ratio
MSG	Most sold generic
MSH	Management Sciences for Health
NA	Not available
NGO	Non Government Organisation
RDF	Revolving Drug Funds
UNICEF	United Nations Children's Fund
WHO	World Health Organization
US\$	United States Dollar
VAT	Value Added Tax

The terms "medicines" and "drugs" are used interchangeably in this report.

EXECUTIVE SUMMARY

The medicine price project has carried out a field study to measure the prices and availability of medicines in Mongolia using an international standardized methodology.

The results showed that in Mongolia, there is a limited market, particularly for innovator brand products, as well as poor affordability of medicines by customers. The innovator brand medicine, one key indicator of comparative medicine survey, was only found for one medicine.

Among the 3 sectors, the most sold generic equivalent is more available in the private sector and lowest price generic equivalent is more available in the public sector. The prices obtained by public procurement are greater than the international standard. The prices charged for the most sold generic medicines in the private sector were almost two times the prices in the public sector, while the prices of the lowest price generic equivalents were less than double the public sector patient price. Prices in the public sector and private sector are considerably higher if compared to international reference price.

The prices of generic medicines also vary (one generic is different from another) and the cheapest product is not always the most sold in all sectors.

For one month course of the lowest priced generic Ranitidine to treat peptic ulcer, a patient would need to pay the equivalent 1.8 days' wages in public sector facilities and 3.1 days' wages in private sector. Part of the problem is relatively high duties, tariffs and mark-ups.

Summary of Recommendations

1. In all sectors medicine availability and the price regulation must be improved.
2. Appropriate regulations are needed to increase drug supply and lower the price.
3. Review and reduction of burden of duties, taxes and mark-ups on medicines is needed.

1. INTRODUCTION AND BACKGROUND

The objectives of our study were:

1. To measure prices of selected medicines in different sectors, geographical areas, health facilities and pharmacies
2. To identify differences in the prices of innovator brand products and generic equivalents
3. To identify components of medicines prices
4. To assess affordability of the medicines

Country information

Mongolia is a large, landlocked and sparsely populated country in northern part of Central Asia, located between Russia on the north and China on the east, south and west. It's total land area of 1,565,000 square kilometres contains only 2.4 million population (2000). More than 50% of the Mongolian population is urban and live in 22 cities, 20% of the population is nomadic. Urban growth levelled off in 1991 but rural growth continues to increase slowly.



The climate of Mongolia is continental with four seasons and it endures long, severe winters, with average temperature as low as -32°C in January. Geography and climate thus combine to present significant difficulties for those who are tasked with planning and delivering health services.

Mongolia has a parliamentary system of government. The country is divided into 21 aimags (provinces) which together with the autonomous capital region, form a second tier of government. The main pillar of the economy continues to be the agriculture sector, including livestock, which provided 20.7% of GDP in 2002. The other main sectors in 2002 were trade and services (27.6%), transport and communication (14.0%), manufacturing (9.5%) and mining (8.6%). Unemployment is 20%-30% of the workforce. Under-employment is a growing problem in both urban and rural settings. Poverty continues to be a profound problem for about one third of the population.

The Health situation

Ensuring adequate health services throughout a sparsely populated (1.5 inhabitants per sq. km) terrain with extremes in climate is a challenging task in the health system.

Until 1990, the Mongolian Health Care system was supported by the former Soviet Union. The system that was developed was effective in reducing the rapid spread and high burden of infectious diseases that was threatening to wipe out the Mongolian population.

Mongolia is experiencing health problems associated with both third world and first world countries with constrained economic base. There are health problems related to high maternal and infant mortality, very high levels of sexually transmitted diseases and some communicable diseases. Many non-communicable diseases including cancer, cardiovascular diseases, and mental health issues are also common. The ability of the Government to provide social services and compensatory support is quite limited. Government spending on health has been about 4% of GDP and about 10% of the government budget in the most recent years.

The Mongolian health care system consists of three levels. These are served by a variety of facilities. The relationship of the type of care and type of facilities and referral level are shown below:

Table 1 Relationship of the Type of Care and Type of Facilities and Referral Level

Level	Type of care	Type of facility		Referral level
		UB City	Rest of the country	
Primary	General professional care	FGP, Village hospital	Bagh feldsher post, FGP, Soum / Intersoum hospital	---
Secondary	Specialized professional care	Ambulatory and branches, District Hospital	Inter-soum hospitals, Aimag ambulatory Aimag hospital,	First referral level
Tertiary	Advanced specialized professional care	Specialized hospitals, centres	RDC	Second referral level

Source: Minister's order #A/361, 2000.

The constitutional and health policies objectives are equitable access to health care for every citizen and the allocation of resources for health in relation to needs of the population in geographically different parts of the country.

The pharmaceutical sector

About 85% of medicines that Mongolia needs are imported. There is one state owned drug supplying company besides 50 privately owned small drug suppliers. The state drug wholesaler "Mongolemimpex" is a joint stock company with 51% of shares owned by state. With the advent of free market economy in the 1990s, Mongolia saw rapid growth in the private pharmaceutical sector. In 2004, there are 29 local manufacturers,

90 wholesalers and 807 pharmacies in the country (including pharmacy branches). Most pharmacies are private, except for state hospital pharmacies and soums¹ pharmacies.

Currently, 65% (221 soums) of all the soum pharmacies are supported by a Community and Health Project. The Community and Health Project was started in 1994 by the Ministry of Health in cooperation with UNICEF and supported by a grant from the Nippon Foundation. The project aimed to address the problem of the lack of essential drugs in rural areas by establishing Revolving Drug Funds (RDF) and to sustain primary health care services through the active participation of communities. This support has been the major international project in the pharmacy sector. The programme was quite successfully and will be established in the remaining soums in 2005.

The MOH drug budget in 2004 was 78,631,231.9 MNT² and it has been increasing substantially from previous years. (Exchange rate 1\$=1207MNT)

Table 2 Drug allocation in the health budget

Year	Drug budget (mln MNT)	Total health expenditure (mln MNT)
1999	6,835.5	36,926.1
2000	7,960.4	46,860.6
2001	9,538.2	54,281.1
2002	9,379.7	57,662.2
2003	8,871.3	62,299.7
2004	10,362.3	78,631.2

Drugs for cancer, kidney dialysis, some psychiatric illnesses etc (total number of 55 medicines for 15 kinds of disease) are provided free of charge, through tertiary and secondary hospitals.

There is also a reimbursement scheme for medicine costs. The items of reimbursable drugs as well as their prices were reviewed according to the existing list and prices. There are 127 medicines whose prices could be reimbursed by the health insurance fund based on prescriptions issued by family doctors (general practitioners). The pharmacist charges a designated percent of the retail cost at the pharmacy to the customer, and also applies for reimbursement of the retail cost of the medicines through the HIF.

A new procedure to apply competitive bidding in procurement of medicines needed by state-run hospitals was introduced in 2002 to improve efficiency of the fund allocated for medicines.

Key indicators to measure the availability and rational use of essential medicines, based on WHO indicators, are shown in Table 2.

¹ A soum is a country's administrative unit equivalent to district.

² National currency

Table 3 The key indicators (2004)

Indicators	2004
Availability of key medicines	77.9-96.0%
Average number of medicines per patient	2.9
Average consultancy time on drug information	119 sec
Percentage of medicines from the EML dispensed, out of total number of dispensed	59.4%
Percentage of injections dispensed	12.1%
Percentage of antibiotics dispensed	15.0%
Percentage of vitamins dispensed	16.1%
Percentage of generic medicines dispensed	50%
Percentage of medicines adequately labelled	46%

Most communities do not have enough money to buy necessary medicines, and low quality drugs are sold and irrational drug use is widespread. At the time of centralized economic practices in Mongolia, the Government used to fix the price for each of medicines and a single tariff was applied throughout the country. However, after the 1997 price liberalization, there was no more regulation from the Government and the price of medicines has gone up.

2. METHODOLOGY

During the month of November 2004, a survey on measuring prices of medicines was undertaken. The survey was conducted as a cross-sectional survey based on a methodology developed by World Health Organization (WHO) and Health Action International (HAI), comparing the prices of medicines in different health sectors.

Sectors surveyed

The survey examined three sectors as follows:

- Public sector
- Private sector
- Other sector (Drug Revolving Fund)

We also looked at two prices in the public sector, i.e. procurement prices and prices charged to patients.

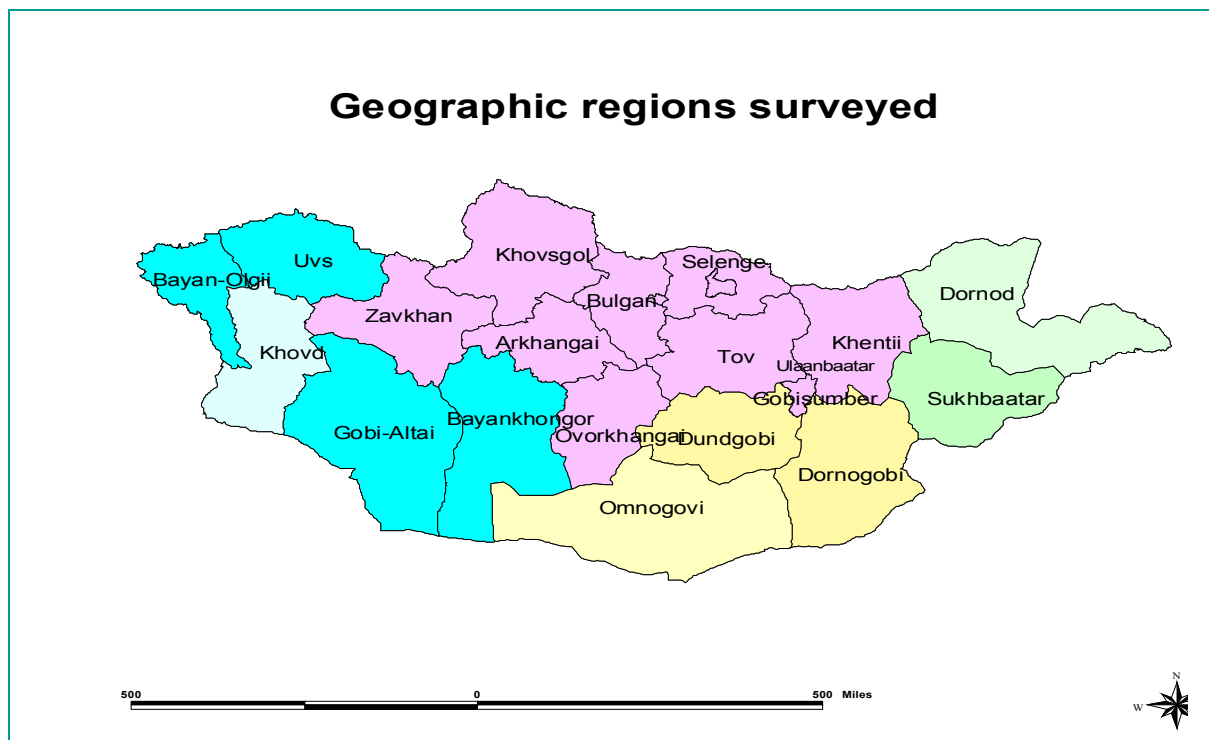
The table below describes which sectors were surveyed and what was measured in each sector.

Table 4 Sectors which were surveyed

	Public sector	Private sector	DRF
Price to the patient	√	√	√
Procurement price	√		
Availability to patients	√	√	√
Affordability by patients	√	√	√

Selecting geographic areas

The 4 geographic regions of Mongolia surveyed included the capital of the state, Ulaanbaatar, and 3 other aimags; Khovd (Atlai mountainous region), Umnugobi (Great Gobi region) and Dornod (Dornod Plain region). The regions were selected purposively considering transport and human capacity for undertaking survey.



Sampling facilities

There are 4 state owned community pharmacies, 29 hospital pharmacies, 298 private pharmacies in Ulaanbaatar city. There is one state owned community pharmacy, a hospital pharmacy and 5-10 private pharmacies in each aimag center and a drug revolving fund in every soum. Clinical hospitals and professional centers regularly organize competitive bidding for procurement of medicines. Every aimag considers the medicine needs of all soums in the aimag, compiles these needs for the aimag and

organizes tenders. Clinical hospitals and the Health Department of aimags have their own tender committees.

In view of the design of this study, the samples were selected according to the WHO/HAI manual in Ulaanbaatar city and aimag center. The public health facilities were selected, then the pharmacy that is closest to each facility was selected locally in the field by the supervisor. Public health facilities and RDF pharmacies were selected by the survey manager. A total of 52 pharmacies were surveyed:

Ulaanbaatar:

- 1 State owned community pharmacy
- 5 hospital pharmacies (procurement prices only)
- 10 Private retail pharmacies

Each aimag:

- 1 State owned community pharmacy
- 1 hospital pharmacies (procurement prices only)
- 5 Private retail pharmacies
- 5 Drug revolving fund pharmacies

Treatment affordability was calculated for ten conditions using local price information and the daily wage rate of the lowest paid unskilled government worker.

List of medicines

The WHO/HAI methodology uses a selected number of medicines for which specific dosage forms and strengths are pre-determined; only prices and availability of these exact medicines, forms and strengths are collected. The selected medicines are made up of a core list of 30 medicines determined as part of the methodology for all countries and a supplementary list of up to 20 medicines which is determined by each individual country.

A total of 33 medicines were included in the survey. Of these 18 medicines were core medicines and 15 were added by us as a supplementary list.

Supplementary medicines were selected to reflect local disease patterns and important medicines for the country.

The tables below lists the core medicines removed with the reason, and lists the supplementary medicines selected. A full list of all the medicines surveyed can be found in annex 2.

Table 5 Core medicines removed

	Medicine	Dosage form, strength	Reason for removal
1	Artesunate	100 mg cap/tab	Not marketed
2	Ceftriaxone injection	1 g/vial gram	Different strength
3	Fluconazole	200 mg cap/tab	Different strength
4	Fluoxetine	20 mg cap /tab	Not marketed
5	Indinavir	400 mg cap/tab	Not marketed
6	Losartan	50 mg cap/tab	Not marketed
7	Lovastatin	20 mg cap/tab	Not marketed

8	Nevirapine	200 mg cap/tab	Not marketed
9	Phenytoin	100 mg cap/tab	Not marketed
10	Zidovudine	100 mg cap/tab	Not marketed
11	Nifedipine Retard	20mg tab	Not marketed
12	Pyrimethamine+Sulfadoxine	25mg+500mg tab	Not marketed

Table 6 Supplementary medicines added

	Medicine	Dosage form, strength	Reason for addition
1	Ampicillin	500 mg tab	Commonly used
2	Ceftriaxone injection	250 mg/vial	Included core list with different strength
3	Chloramphenicol	500 mg cap/tab	Commonly used
4	Clotrimazole	100 mg <i>pessary</i>	Commonly used
5	Cephalexin	250 cap	Commonly used
6	Fluconazole	150 mg cap/tab	Included core list with different strength
7	Erythromycin	250 mg tab	Commonly used
8	Furosemide	40 mg tab	Commonly used
9	Gentamicin injection	40mg/ml	Commonly used
10	Ibuprofen	400 mg tab	Commonly used
11	Indomethacin	25 mg tab	Commonly used
12	Mebendazole	100 mg tab	Commonly used
13	Metronidazole	250 mg tab	Commonly used
14	Propranolol	40 mg tab	Commonly used
15	Reserpine	250 mcg tab	Commonly used

For each substance, the following three products were surveyed:

- Innovator brand (identified centrally)
- Most sold generic equivalent (identified centrally) We undertook an initial survey by telephone to identify the MSG product.
- Lowest price generic equivalent (identified at the facility)

Note: data on the MSG products of beclometasone inhaler and ceftriaxone injection was not included in the analysis as the products were incorrectly identified. Data was also not included for nifedipine retard 10mg tablets as there was no MSH price for this medicine.

In all sectors we also measured the availability of the medicines at the time of data collection. All prices were converted to US dollars using the exchange rate on 5 November 2004, the first day of the survey.

We also identified the components of medicine prices in order to better understand the different selling prices.

3. DATA COLLECTION

All personnel involved in data collection and data entry were trained to ensure the reliable and accurate completion of the data collection forms and entry of the data. A pilot test was conducted during the training of data collectors.

Data were collected by asking the medicine price in pharmacies. Public procurement prices were collected from hospitals. Data on price components and their costs were collected centrally from wholesalers and pharmacies.

Data entry and analysis took place at central level once each data collection form was reviewed for clarity and completeness. A computerized workbook developed by WHO/HAI, which is a special application of Microsoft Excel, was used to enter the data collected in the field, consolidate and summarize results. The data was double entered to ensure accuracy, and the automated autochecker was used to minimise any errors.

Summary measures of the medicine prices found during the survey were expressed as ratios relative to a standard set of reference prices. The Management Sciences for Health prices (2003) were selected as the standard. The MSH reference prices are the medians of recent supplier procurement prices offered by not-for-profit (and sometimes for-profit) suppliers to developing countries for multi-source generically equivalent products. Where supplier prices were not available, agency prices were used as the reference.

4. RESULTS

Our survey of 33 medicines in Mongolia revealed that the innovator brand medicine, one key indicator of comparative medicine surveys, was only found for one medicine (ceftriaxone in the private sector). This is related to Mongolia's limited market and foreign trade scope as well as poor affordability of medicines by customers.

Important notes

What is a median price ratio? (MPR)

Results on medicine prices gathered by the WHO/HAI survey are usually expressed as "median price ratios" or MPRs. The MPR is a ratio of the local price divided by an international reference price (converted into the same currency). The reference price serves as an external standard for evaluating local prices. All studies are expected to use the same reference prices so that they will be comparable. The MPR results in this survey are based on reference prices taken from the 2003 Management Sciences for Health (MSH) International Drug Price Indicator Guide (<http://erc.msh.org/>). The MSH Guide pulls together information from recent price lists of large, non-profit generic medicine suppliers. These suppliers typically do not sell to individual private pharmacies. Rather, they sell in large quantities to governments and NGOs, and accordingly, prices in the MSH Guide tend to be low. But they offer a very useful standard against which locally available products can be compared in any country.

Use of medians and averages

As averages can be skewed by outlying values, median values are generally used (unless otherwise stated) throughout the presentation of results and discussion as a better representation of the midpoint value.

Reporting of quartiles/percentiles

A quartile is a percentile rank that divides distribution into 4 equal parts. The range of values containing the central half of the observations: that is, the range between the 25th and 75th percentiles (the range including the values that are up to 25% higher or down to 25% lower than the median) is called the interquartile range.

In this finding section, where medians and interquartile ranges are not presented in tables, the following format will be used to report the number of occurrences and the interquartile range.

Affordability

Affordability is the cost of treatment in relation to people's income. In this survey, the daily wage of the lowest paid unskilled government worker is used for the comparison.

Medicines which are unaffordable to this worker will be much less affordable for the significant proportion of the population that have an income less than this worker.

Basket of medicines

The basket of core and supplementary medicines should provide a reasonable representation of medicines in the country and price conditions on the market.

Minimum data points for analysis

Four data points for patient prices and one data point for procurement prices are the minimum number of data points that are necessary for the analysis to be performed by the workbook. If there are less data points are less than this, then no calculation of MPR is performed. Availability is however calculated for all medicines irrespective of the number of outlets stocking each medicine.

4.1 Public sector patient prices and availability (Annex 4B)

Mongolia had a centralized medicine supply system and decentralization was started in mid -1990s. "Mongolemimpex" company was a monopoly state medicine wholesaler and distributor and it was privatized in 2003. Now the state drug wholesaler "Mongolemimpex" is a joint stock company with 51% of shares owned by the state. All public sector pharmacies belong to this company in Mongolia.

The variation in results in the public sector was limited because the state company has a countrywide supply system and all public pharmacies are supplied with the same medicines. For instance, the nationally identified most sold generic products could rarely be found. No innovator brands were found.

The lowest priced generic medicines were found to have a median MPR for the basket of 2.6 (n=19); however within the basket this varied from 0.79 for cephalexin to 55.06 for mebendazole. The most sold generic was rarely found in these pharmacies (median MPR was 2.31, n=2)

The median availability of those medicines on the essential medicines list was found to be 72.7 %. The table below shows those medicines on the essential medicines list and their availability in the four state-owned community pharmacies.

Table 7 Availability of any generic in the public sector (n=4 facilities)

Availability	Medicine
Not found	Beclometasone inhaler, Co-trimoxazole suspension, Fluphenazine injection
< 50%	Ampicillin, Ibuprofen, Metformin
50-75%	Chloramphenicol, Diazepam, Glibenclamide, Hydrochlorothiazide, Reserpine
75-100%	Aciclovir, Amitriptyline, Amoxicillin, Atenolol, Captopril, Carbamazepine, Diclofenac, Erythromycin, Furosemide, Gentamicin injection, Indomethacin, Mebendazole, Metronidazole, Omeprazole, Propranolol, Ranitidine, Salbutamol inhaler

4.2 Private sector patient prices and availability (Annex 4c)

The median availability of medicines in private sector was quite good, 42% for most sold generic medicines and 80% for any generic equivalent. The reason for the low availability of most sold generics is that the urban and rural areas have different supply sources in Mongolia. Some companies supply only in the big cities and some wholesalers distribute to rural areas. Therefore national identification of “most sold” generic product was extremely difficult. For the patient this is not a problem as long as there is at least one generic available. Some individual medicines had low availability in the private sector, namely, ceftriaxone, cephalexin, co-trimoxazole susp, diazepam, fluconazole, and metformin.

We found only one item of innovator brand within all sectors during the survey. This was ceftriaxone injection and it was priced at 6.4 times the international reference price.

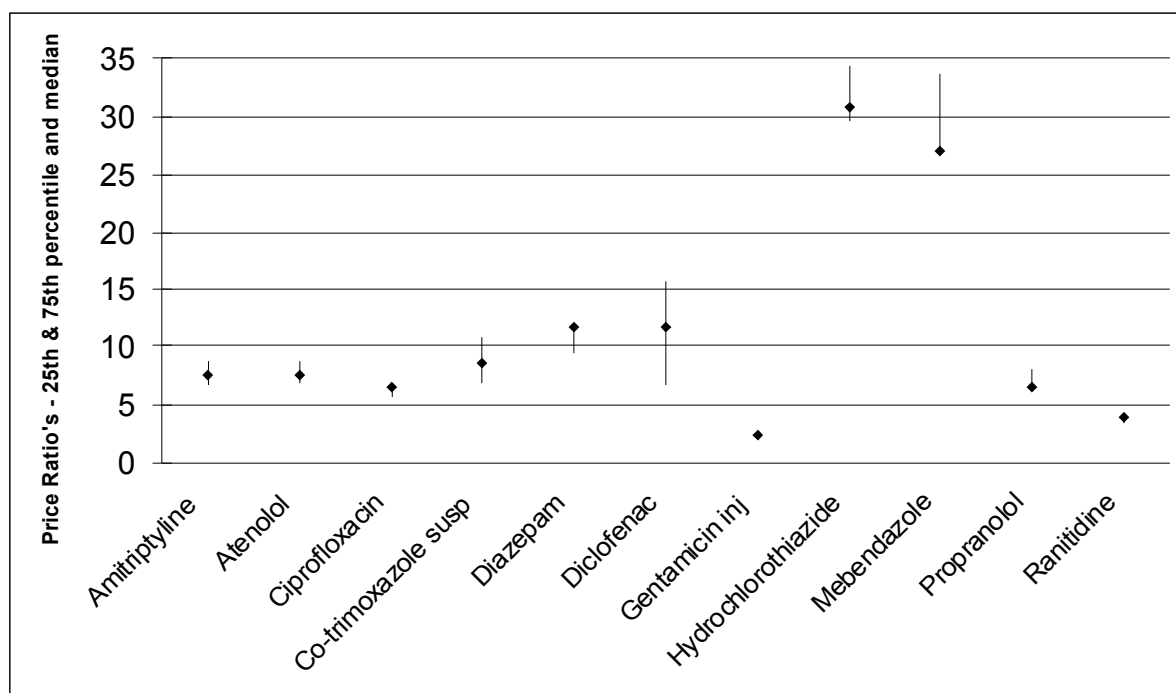
For generically equivalent products, the difference in price between the most sold and the lowest price was not so large. The median of the median price ratios of the lowest price generic products was 4.17 times the international reference price. However within the basket this varied from 0.75 for reserpine and 120.13 for fluconazole. Table 8 lists median price ratios for individual generic medicines found to be greater than the median MPR for all the medicines surveyed in the private sector

Table 8 Lowest priced generic medicines whose MPR is greater than the median MPR

	Medicine	Strength	MPR
1	Amitriptyline	25 mg	7.63

2	Atenolol	50 mg	7.57
3	Ceftriaxone injection	250 mg/vial	5.27
4	Ciprofloxacin	500 mg	6.51
5	Clotrimazole	100 mg	4.17
6	Co-trimoxazole suspension	8+40 mg/ml	8.63
7	Diazepam	5 mg	11.84
8	Diclofenac	25 mg	11.78
9	Fluconazole	150 mg	120.13
10	Glibenclamide	50 mg	7.58
11	Hydrochlorothiazide	25 mg	30.77
12	Ibuprofen	400 mg	7.80
13	Indomethacin	25 mg	4.76
14	Mebendazole	100 mg	26.94
15	Metronidazole	250 mg	6.72
16	Propranolol	40 mg	6.50

Figure 1 Variability of lowest priced generic medicines in the private sector – showing ratios for 25th percentile, 75th percentile and median (diamond shape)



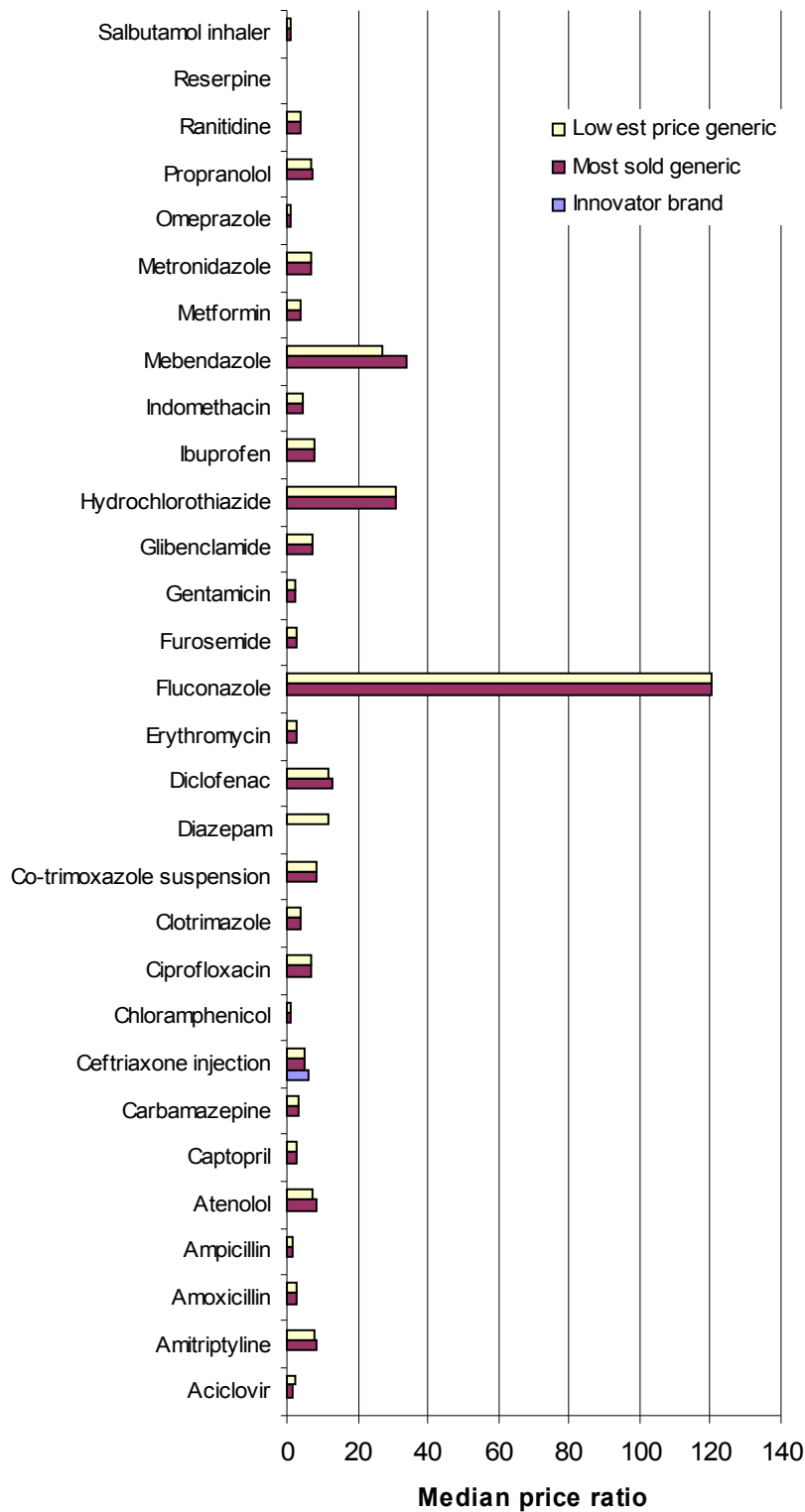
As this graph shows, the interquartile ranges (i.e. 50% of the prices collected for that medicine) showed little variability for many lowest priced generics (except cotrimoxazole susp, diclofenac, hydrochlorothiazide and mebendazole)

The following lowest priced generic medicines had very little price variation across the pharmacies sampled: amoxicillin, ampicillin, chloramphenicol, erythromycin, omeprazole, reserpine and salbutamol inhaler.

For amoxicillin and chloramphenicol there were no difference between MPR for the most sold and lowest price generic equivalent product and 50% of the pharmacies had

the same price. One explanation for the same price for different products is that these two products are produced by local manufacturers and supply is stable.

Figure 2 Median price ratios, private sector



The range between the Min and Max MPR for most sold and lowest price generic equivalent products are identical and very large 0.75 - 120.13. It means that a product could be cheaper than the international reference price (reserpine tabs), but could also be as high as 120 times that price (fluconazole 150mg tabs). The reasons for the high prices for some drugs (mebendazole, hydrochlorothiazide and fluconazole) are because they are supplied by only one distributor and the generics are branded.

4.3 Community Revolving Drug Funds' patient prices and availability (Annex4)

Revolving Drug Funds were created with assistance from UNICEF and functions in about 70% of soums and will be established in remaining soums in 2005. The properties of the RDFs are owned by the community and the fund is used for supplying medicines for the local area.

The median availability of MSG is not very high but was 73% for LPG in the soums. The range between 25th and 75th percentiles and between the Minimum and Maximum shows wide variation in availability in soum RDF.

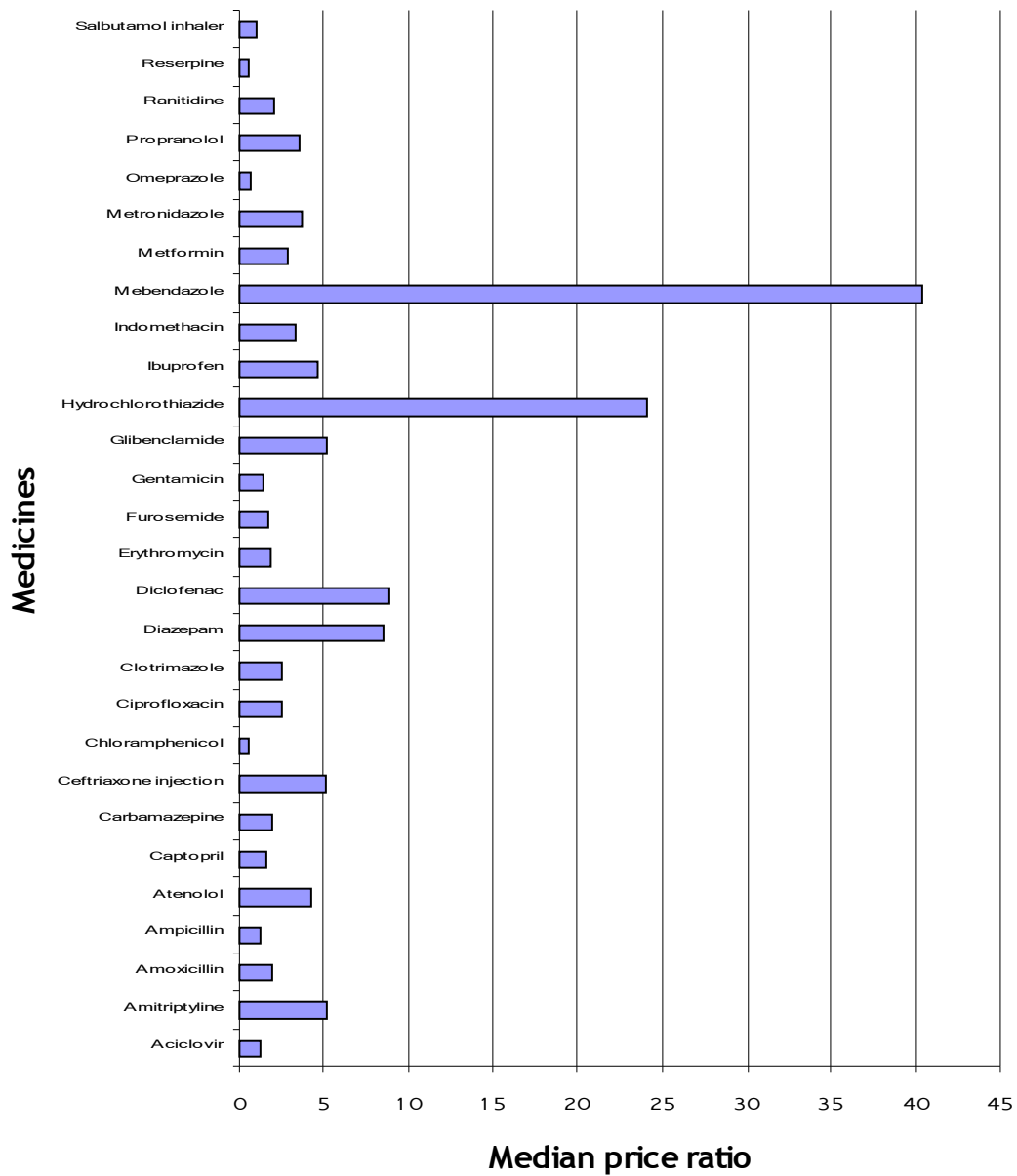
No innovator brand was found in the outlets. The median of the median price ratios of the most sold generic equivalents was 4 times the international reference price, with half of medicines being sold in the range of 2.0 to 7.3. The median of the median price ratios of the lowest price generic equivalents was 4 times the reference price, with 50% of the medicines in the range of 2.2 to 7.1.

4.4 Public sector procurement (Annex 4a)

A new procedure to apply competitive bidding in procurement of drugs needed by state-run hospitals was introduced in 2002 to improve efficiency of the fund allocated for medicines. Clinical hospitals and professional centers regularly organize themselves for competitive bidding for procurement of medicines. Each aimag considers medicine needs of all soums of the aimag, compiles a list for aimag needs and organizes a tender. Clinical hospitals and Health Department of aimags have their own tender committees.

We collected 8 medicine orders to study procurement price data. There was no innovator brand in the orders. The Mongolian procurement price is not close to international standard, with typical ratios between 2.2 and 2.4. These prices obtained are quite high by international standards. The difference in price between the most sold and the cheapest was small. The median of the median price ratios of the lowest price generic equivalents was 2.3 times the international reference price. It shows that the fluctation of price is high and stabilization of the medicine market is very low.

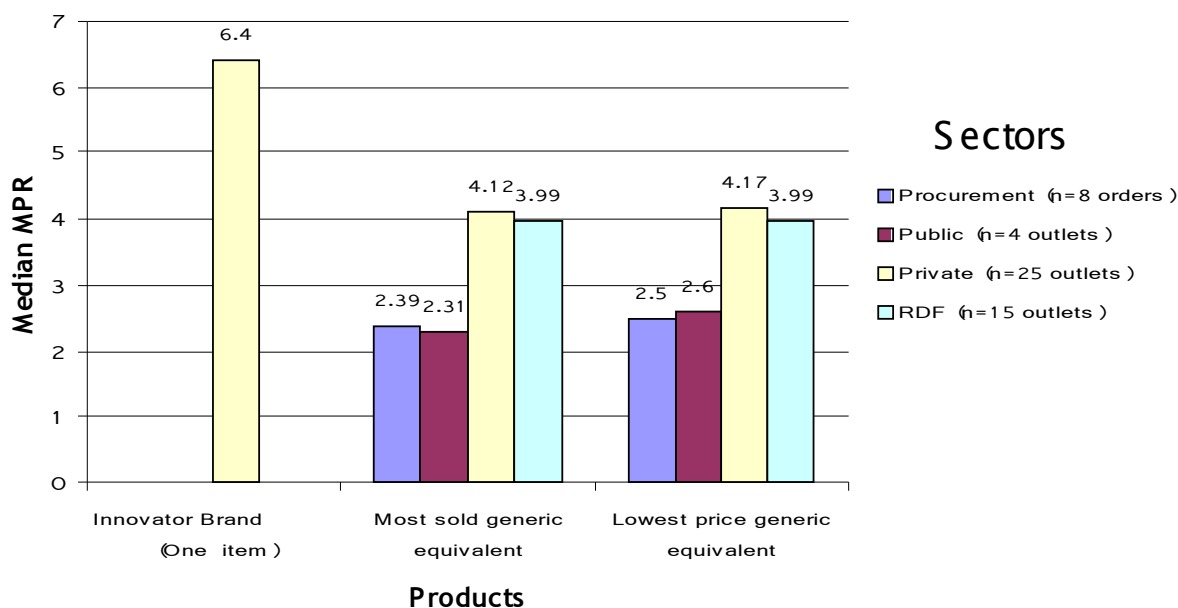
Figure 3 Median price ratios for procurement prices (lowest priced generic)



4.5 Inter-sector patient prices and availability comparisons (Annex 4e)

The survey shows that procurement prices in the public sector were lower than the patient prices in all four sectors studied.

Figure 4 Inter sector patient prices



Our survey of prices of brand and generic medicines in Mongolian public, private and DRF sectors shows very low availability of innovator brand medicines. This is, however, not a problem if generics, which are normally cheaper, are available. Most public and private outlets and hospitals have only one or two products for each medicine. Therefore, the MPRs for most sold and lowest price generic equivalents are almost the same in the various sectors.

- Public sector patient prices for lowest priced generics were on average 36 % more than the public sector procurement prices (n=18 medicines)
- Private sector patient prices for lowest priced generics were 33 % more than the public sector patient prices (n= 18 medicines)
- DRF sector patient prices for lowest priced generics were 33 % more than the public sector patient prices (n= 18 medicines)
- DRF sector prices were the same as private sector prices (n= 25 medicines)

The following medicines are much more expensive in the private sector than public sector except for mebendazole.

Table 9 Comparison of median price ratios for the lowest priced generics in the public and private sectors

Medicine	Public sector MPR	Private sector MPR	Ratio private to public	Dfference private to public
Amitriptyline	5.52	7.63	1.38	38.2%
Atenolol	3.93	7.57	1.92	92.6%
Carbamazepine	1.92	3.33	1.73	73.4%
Mebendazole	55.06	26.94	0.49	-51%
Propranolol	4.47	6.5	1.45	45%
Ranitidine	2.31	3.99	1.72	72.7%

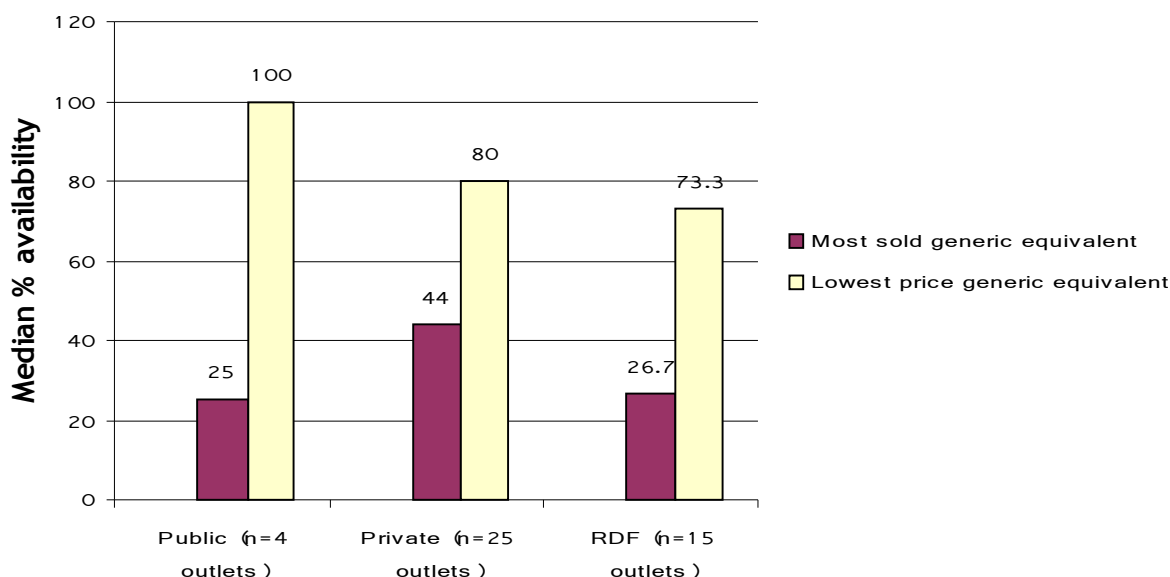
Some medicines have high retail prices in the public sector when compared to their procurement price.

Table 10 Comparison of median price ratios for the lowest priced generic - procurement price and public sector patient price

	Public Procurement price (MPR)	Public Sector patient price (MPR)	Ratio public sector patient price to procurement price	Difference public sector patient price to procurement price
Captopril	1.58	2.89	1.82	82.9%
Clotrimazole	2.5	3.82	1.52	52.8%
Diclofenac	8.93	10.56	1.18	18.2%
Furosemide	1.73	2.07	1.19	19.6%
Indomethacin	3.33	4.98	1.49	49.5%
Mebendazole	40.41	55.06	1.36	36.2%
Metronidazole	3.69	5.93	1.60	60.7%
Propranolol	3.57	4.47	1.25	25.2%

Some medicines are almost the same price in the private sector as the public sector – amoxicillin, captopril, clotrimazole, erythromycin, furosemide, indomethacin, salbutamol inhaler and omeprazole

Figure 5 Cross sector medicine availability by product type includes both core and supplementary Medicines (n=33 on list)



Our survey of prices of innovator brand and generic medicines in Mongolian public, private and other sectors shows very low availability of innovator brand medicines.

Among the 3 sectors, the most sold generic equivalent (MSG) is more available in the private sector and lowest price generic equivalent (LPG) is more available in the public sector. The reason for higher MSG availability in private sector, is that for this survey,

the product was identified in this sector. Normally, the public sector carries a different range of products as they are purchased by tender and these have been entered as LPGs in the study.

Regional variations of prices and availability

Table 11 Comparison of medicine availability in each region

Regions	Private sector	RDF sector
Khangai, Khentii mountainous	80 %	NA
Dornod Plain	100 %	60 %
Great Gobi	60 %	80 %
Altai mountainous	80 %	60 %

Figure 6 Comparison of Median Price Ratios 4 different geographic areas

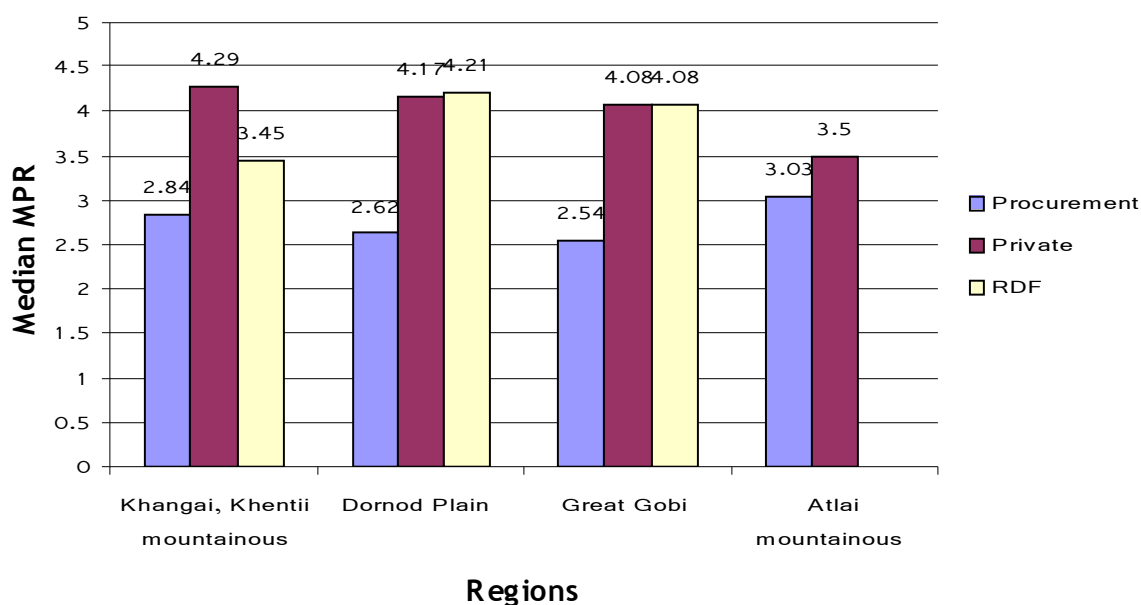


Figure 6 shows MPRs in 4 different geographic areas surveyed in Mongolia, for three sectors. The comparisons suggest that MPRs were very similar over the 4 geographic areas except Altai mountains region. The median MPR of medicine in altai Mountains region is relatively low. The median MPR of medicines for RDF of Khangai khentii mountain region is lower than other regions.

4.6 Affordability to patients

Affordability is the cost of treatment in relation to people’s income. In this survey, the daily wage of the lowest paid unskilled government worker is used for the comparison. The monthly salary of this worker is 49500 tugrug i.e 2292.9 tugrug per day (1\$=1207 MNT).

Figure 7 Comparison of affordability of treatment of some conditions if the cheapest generic is purchased in each of the 3 sectors

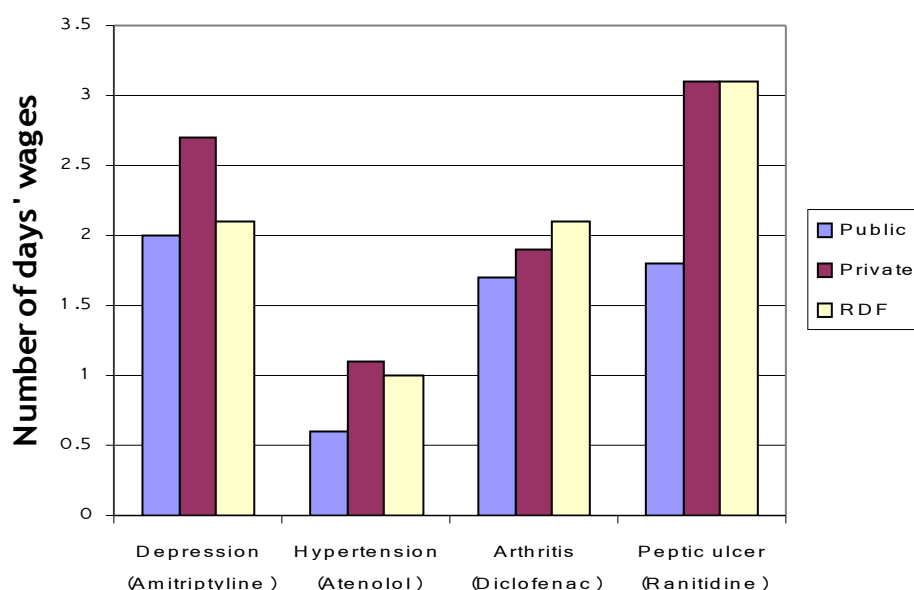


Table 12 Cost of treatment for pneumonia and hypertension

Treatment	Type	Public sector		Private pharmacies	
		Median price	Days' wages	Median price	Days' wages
Pneumonia: Amoxicillin 250 mg x 3 for 7 days	Innovator brand	NA	NA	NA	NA
	Most sold generic equivalent	NA	NA	1260	0.5
	Lowest price generic equivalent	1134	0.5	1260	0.5
Peptic ulcer: Ranitidine 150 mg x 2 for 30 days	Innovator brand	NA	NA	NA	NA
	Most sold generic equivalent	NA	NA	7350	3.2
	Lowest price generic equivalent	4170	1.8	7200	3.1

Table 12 illustrates the affordability in the public and the private sectors for one acute and one chronic condition. The 7 days' treatment course with amoxicillin for pneumonia requires the equivalent of 0.5 days' wages to be treated by lowest price generic equivalent in public sector health facilities. It is same in private sector, requiring 0.5 days' wages.

For a one month course of most sold generic ranitidine to treat peptic ulcer, a patient would need to pay the equivalent of 3.2 days' wages, in the private sector. Buying the lowest price generic equivalent is slightly cheaper with 1.8 days' wages in public sector facilities and 3.1 days' wages in private pharmacies

Table 13 The effect of choice of therapeutic group to treat the same diagnosis

Condition	Choice of medicine	Number of days' wages	Ratio of cost in comparison with the most affordable
Hypertension	Atenolol	1.1	1:1
	Hydrochlorothiazide	1.7	1:1.5
	Captopril	2.4	2.1
Diabetes	Metformin	1.0	1:1
	Glibenclamide	1.0	1:1

4.7 Price components and cumulative mark-ups (Annex 7)

Table 14 Price components and cumulative mark-ups

Component	Imported product private sector		Locally produced generic equivalent, public sector tender	
	%	Value	%	Value
Import price		100.0		100
Customs duty	5%	105.0		
Stamp duty	1%	106.05		
Whole sale mark -up	25%	132.56	15%	115.00
Retail mark-up	30%	172.33		
Value Added Tax (VAT)	15%	198.41	15%	132.25
Sales price		198.41		132.25
Total add-ons (cumulative mark-up)		98.41%		32.25%

Table 14 shows the price components of an imported product in the private sector and a locally produced generic equivalent purchased on the public sector. The results are given both as percentage add-on and cumulatively. It shows how a base price including ex-factory cost, insurance, and freight rises incrementally as it makes its way through the standard distribution channels. Annex 7 shows the price components of three medicines. The price components on all imported medicines are the same. First two charges (customs duty 5% and stamp duty 1%) would not be included in the locally produced generic medicines. The mark-ups are lower in the public sector but add-ons constitute 32% of the final price. If customs, stamps, duty and VAT were removed the additional cost would be reduced from 98.4% to 62.5%.

Table 15 Cumulative mark-up – local manufactured product, private sector

Type of charge	Charge Basis	Amount of Charge	Price of Dispensed Quantity	Cumulative % Mark-Up	Difference in cumulative mark-up	Amount in currency	% of final price
Manufactured selling price	NA	NA	80	0.00%		80.00	53.5%
Wholesaler mark-up	percent	25.00%	100	25.00%	25.00	20.00	13.4%
Retail mark-up	percent	30.00%	130	62.50%	37.50	30.00	20.1%

VAT	percent	15.00%	149.5	86.90%	24.40	19.50	13.0%
					86.90	149.50	100.0%

Figure 8 Component costs for imported products in the private sector as a percentage of the CIF price

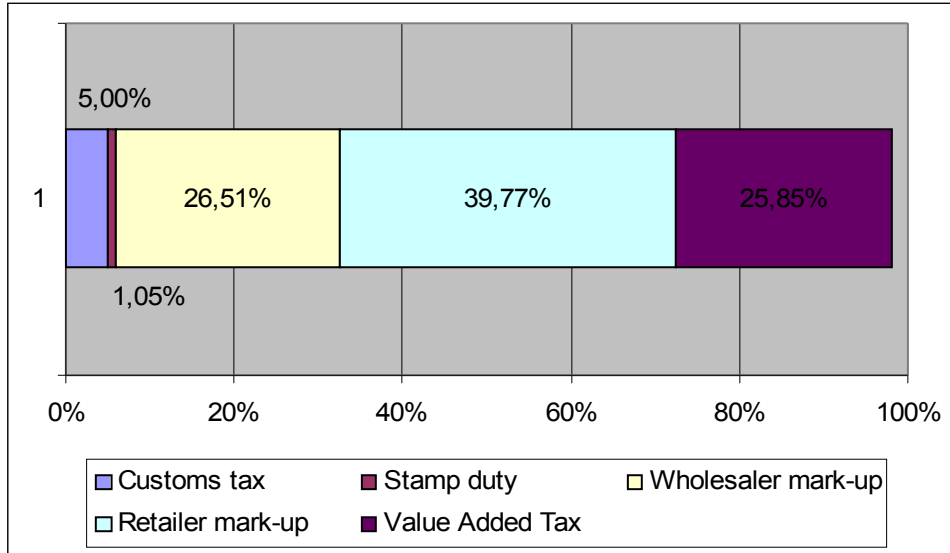


Figure 9 Difference in cumulative mark-up

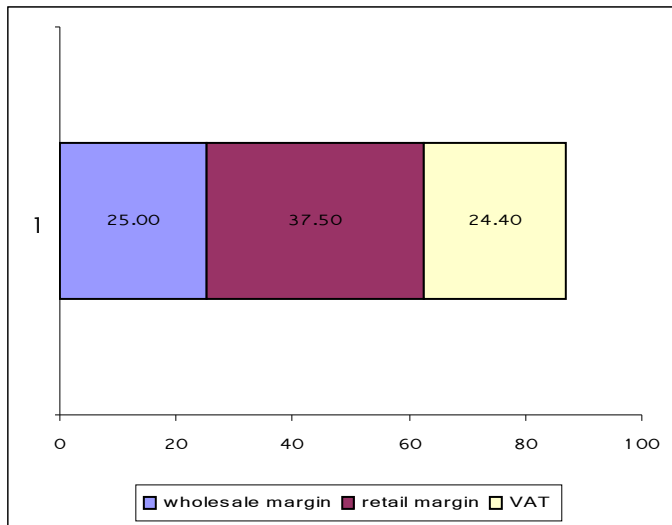
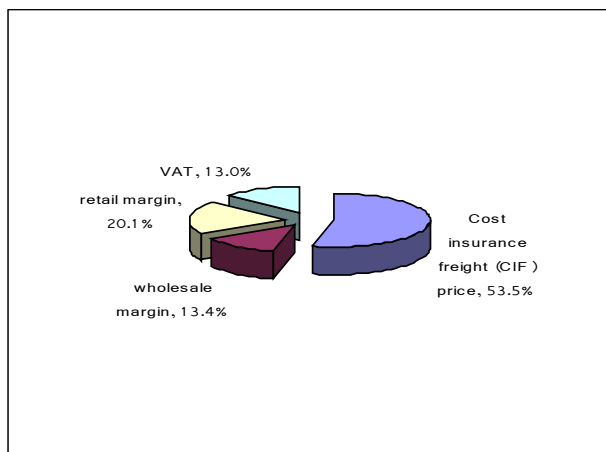


Figure 10 Percentage of final price



4.8 National prices in international perspective

Table 16 Price ratio for ranitidine in private sector in Mongolia compared to comparable developing countries

Ranitidine	India	Ghana	Armenia	Peru	Mongolia
Median price ratio					
Innovator brand	0.2	44.2	19.62	12.14	
Most sold generic equivalent	0.2		16.35	1.99	4.08

Note: the above data was taken from HAI's web site. The surveys were undertaken in different years (2001-2003) and the MSH price for ranitidine varied across these years.

Only the most sold generic equivalent is on the market in Mongolia. Relatively competitive prices were found for India. The price of ranitidine is generally high. There is a notably sharp brand premium in Peru. Mongolia's price for the generic is relatively high compared to Peru and India.

5. DISCUSSION

Our survey of prices of brand and generic medicines in Mongolian public, private and drug revolving fund sectors shows very low availability of innovator brand medicines. Mainly generic medicines of various manufacturers from developed countries are being imported, so most of the data collected is for these medicines. The innovator brand medicine could not be found in pharmacies that were sampled in our survey and therefore, we had to compare the prices of the most sold and the lowest price generic equivalents in the different sectors. It was quite common to have the same price for the two since most of the pharmacies sold one item of a medicine from one manufacturer only so the most sold generic may also be the lowest priced.

We also noticed that in each geographical region, mostly products of a single manufacturer were found. For example: products of a particular manufacturer that were available in pharmacies in Ulaanbaatar were not available in aimags This is related to the fact that there is no nationwide drug supplier except for the State Drug Supplying Company, Mongolemimpex.

The comparative study of the national and international reference price and the availability shows that the types of locally produced products have relatively stable prices in the market.. There was little price difference between the drugs sold in public sector, private sector and drug revolving fund's pharmacies.

The procurement prices in the public sector was much lower than the patient prices in all three sectors studied. There was wide variation (26.1%) between public sector procurement and patient prices. However, the public sector procurement is not always efficient, as shown by the fairly high MPRs compared to the international reference prices for some items.

If we look at the prices and availability of medicines in public sector, private sector and drug revolving fund pharmacies, it is easy to understand the need for some kind of price regulation and policy coordination. We have noticed that this need has direct impact on the outcomes of hospital treatments and on both the in-patient and out-patient services.

A worker pay 0.5 days' wages to treat an infection using amoxicillin but would pay 24.4 days' wages using ceftriaxone injection (48.8 times –or an extra 24 days work).

During the survey, it was difficult to find some of the indicators, which were supposed to constitute the basis for price comparisons. For example: manufacturer price of the imported medicines, the wholesale price and any extras added by the pharmacies varied greatly and made calculations difficult. The comparisons made include all the duties, including the VAT, customs duty, and transportation cost and registration fee, imposed by Mongolia's currently effective legal acts. For imported generic medicines, the add-ons to the import price almost double the price. Many other countries do not charge taxes or duties on medicines and if the government of Mongolia chose to exempt medicines from taxes and duties this would reduce prices in the private sector by about 30%.

6. CONCLUSIONS AND RECOMMENDATIONS

The principal conclusions of the study are as follows:

- The almost non-existence of innovative brand medicines in the market is related to the import scope and the national purchasing power.
- The prices of generic medicines vary and the cheapest generic equivalent is not always the most sold.
- Public sector is not very efficient in procurement and charges reasonably high prices to patients compared to international prices.
- The availability of medicines in all sectors is relatively low.
- Prices show that medicines are relatively expensive compared to other countries prices.
- The government policy and intervention is absolutely essential for the price of medicines, their mark-ups, VAT and the number of pharmacies.
- Appropriate regulations are needed to increase drug supply and control prices.

On the basis of the findings of the study, the following recommendations are made to the policy makers.

1. Activities should be undertaken for proper enforcement of the State Drug Policy provisions on price and supply of medicines.
2. The public sector's drug availability and the price regulation must be improved.
3. An in-depth study should be initiated to investigate the private sector that is booming at random under market conditions.
 - Increased number of private pharmacies in rural areas.
 - Study and conclusion on greater differences of prices on generic medicines in the private sector procured from varying manufacturers.
 - Consolidated receipt of statistical data from the private sector and establishment of standards for pharmacies
4. Steps should be taken to stabilize the price following the price reduction of medicines and promote the foreign trade. Policy options include:
 - Review and reduce or eliminate the burden of duties and taxes
 - Reduce mark-ups on medicines
 - Promotion of the medicines import with tax concessions and improved, budget efficiency
 - Break into two exempt taxes and duties reduce markups.
5. Increased supply and affordability of National essential drugs must become the main policy.
 - Reduction of price variations through the price policy on insurance and free medicines as well as prescribed medicines

Annex 1: List of medicines surveyed (Product Table)

No.	Medicine Name	Medicine Strength	Dosage Form	Target Pack Size	Core List	"Innovator" Product			Most Sold Generic Version (Nat'l)		
						Country	Name	Manufacturer	Country	Name	Manufacturer
1	Aciclovir	200 mg	cap/tab	25	yes		Zovirax	GSK		Acilovira	Ferein
2	Amitriptyline	25 mg	cap/tab	100	yes		Tryptizol	MSD		Amitriptylino 25	Enddokrinini ai
3	Amoxicillin	250 mg	cap/tab	21	yes		Amoxil	GSK		Philco amoxy	Philco Pharma
4	Ampicillin	500 mg	tab	10	no		Pentrexyl	BMS		Piloco ampi	Philco Pharma
5	Atenolol	50 mg	cap/tab	60	yes		Tenormin	Astra Zeneca		Atenolol Akri	Akrikhin
6	Beclometasone inhaler	0.05 mg/dose	dose	200	yes		Becotide	GSK			
7	Captopril	25 mg	cap/tab	60	yes		Capoten	BMS		Lemcapril 25	Hans E Lembcke
8	Carbamazepine	200 mg	cap/tab	100	yes		Tegretol	Novartis		Convulem-200	Hans E Lembcke
9	Ceftriaxone injection	250 mg/vial	vial	1	no		Rocephin	Roche			
10	Cephalexin	250 mg	cap	10	no		Keflex	Eli Lilly		Ospexin	Biochemie
11	Chloramphenicol	500 mg	cap/tab	10	no		Chloromycetin	PD/Pfizer		Chloramphenicol	Monos Pharm
12	Ciprofloxacin	500 mg	cap/tab	1	yes		Ciproxin	Bayer		Philco cipro	Philco Pharma
13	Clotrimazole	100 mg	pessary	21	no		Canestan	Bayer		Lemnesten 100	Hans E Lembcke
14	Co-trimoxazole suspension	8+40 mg/ml	millilitre	70	yes		Bactrim	Roche		Letrim-2880	Hans E Lembcke
15	Diazepam	5 mg	cap/tab	100	yes		Valium	Roche		Diazepam	Laboratorio Farmacologico Milanes25
16	Diclofenac	25 mg	cap/tab	28	yes		Voltaren	Novartis		Diclodenk	Denkpharm

17	Erythromycin	250 mg	tab	10	no		Erythrocin	Abbott		Erythromycin	Syntex
18	Fluconazole	150 mg	cap/tab	30	no		Diflucan	Pfizer		Diflazon	KRKA
19	Fluphenazine injection	25 mg/ml	millilitre	1	yes		Modecate	Sanofi-With/BMS		Fluphenazine dec.	Rotex Medica
20	Furosemide	40 mg	tab	10	no		Lasix	Hoechst		Furosemide	Monos Pharm
21	Gentamicin injection	40mg/ml	millilitre	1	no		Garamycin	Schering		Philco genta80	Philco Pharma
22	Glibenclamide	5 mg	cap/tab	60	yes		Daonil	HMR		Mannil-5	Berlinkhemie
23	Hydrochloro thiazide	25 mg	cap/tab	30	yes		Dichlotride	MSD		Hypothiazide	Sanofi-Synthelab
24	Ibuprofen	400 mg	tab	20	no		Brufen	Knoll		Lemprofen 400	Hans E Lembcke
25	Indomethacin	25 mg	tab	10	no		Indocid	MSD		Indomon	Monos Pharm
26	Mebendazole	100 mg	tab	6	no		Vermox	Janssen		Mebendazole	Hans E Lembcke
27	Metformin	500 mg	cap/tab	100	yes		Glucophage	Merck		Metformin Denk500	Denk Pharma
28	Metronidazole	250 mg	tab	20	no		Flagyl	Rhone Poulenc		Philco metro250	Philco Pharma
29	Omeprazole	20 mg	cap/tab	30	yes		Losec	Astra Zeneca		Lemloc-20	Hans E Lembcke
30	Propranolol	40 mg	tab	20	no		Inderal	Astra Zeneca		Propranolol	Balkan pharma
31	Ranitidine	150 mg	cap/tab	60	yes		Zantac	GSK		Kalamtac	Hans E Lembcke
32	Reserpine	250 mcg	tab	100	no		Serpasil	Biochemie/Ciba		Reserpine	Oterop
33	Salbutamol inhaler	0.1 mg/dose	dose	200	yes		Ventoline	GSK		Salbutamol	Moskhimpharm repatai

Annex 2: List of essential medicines

Note: 29 of the 33 core and supplementary medicines surveyed are currently on the essential medicines list (2001 edition)

	Medicine name	Health care level		
		Primary	Secondary	Tertiary
1	Aciclovir	Yes	Yes	Yes
2	Amitriptyline	Yes	Yes	Yes
3	Amoxicillin	Yes	Yes	Yes
4	Ampicillin	Yes	Yes	Yes
5	Atenolol	Yes	Yes	Yes
6	Beclometasone	Yes	Yes	Yes
7	Captopril	Yes	Yes	Yes
8	Carbamazepine	No	Yes	Yes
9	Ceftriaxone	No	No	No
10	Cephalexin	No	No	No
11	Chloramphenicol	Yes	Yes	Yes
12	Ciprofloxacin	No	No	No
13	Clotrimazole	No	No	No
14	Co-trimoxazole	Yes	Yes	Yes
15	Diazepam	Yes	Yes	Yes
16	Diclofenac	No	Yes	Yes
17	Erythromycin	Yes	Yes	Yes
18	Fluconazole	No	No	No
19	Fluphenazine decanoate	No	Yes	Yes
20	Furosemide	Yes	Yes	Yes
21	Gentamycin	No	Yes	Yes
22	Glibenclamide	Yes	Yes	Yes
23	Hydrochlorothiazide	Yes	Yes	Yes
24	Ibuprofen	Yes	Yes	Yes
25	Indomethacin	Yes	Yes	Yes
26	Mebendazole	Yes	Yes	Yes
27	Metformin	Yes	Yes	Yes
28	Metronidazole	Yes	Yes	Yes
29	Omeprazole	Yes	Yes	Yes
30	Propranolol	Yes	Yes	Yes
31	Ranitidine	No	Yes	Yes
32	Reserpine	Yes	Yes	Yes
33	Salbutamol	Yes	Yes	Yes

Annex 3: Timetable of survey

	Date
Appoint advisory group and survey planning and preparations	from 5 July 2004 to 10 August, 2004
Training of data collectors	30 October, 2004
Data collection period	from 05 Nov, 2004 to 12 Nov, 2004
Data analysis	from 1 Dec. 2004 to 31 Dec, 2004
Preparation of draft reports	from 31 Dec 2004 to 15 Jan, 2005
Stakeholder meeting	from 1 February 2005 to 15 March, 2004
Final report published	
Implementation of advocacy and dissemination plan	

Annex 4: Analysis summary sheets

4. a. Public sector - procurement prices

Medicines Procurements (n= 8 in survey)																													
Includes Both Core and Non-Core Medicines (n=33 on list)																													
Analysis Includes All Meds. With 1+ Procurement Prices						Analysis Includes Only Meds. With 1+ Procurement Prices for Both Types in Pair																							
Brand			Most Sold			Brand			Lowest Price			Most Sold			Lowest Price														
Number of Medicines For Which 1+ Procurement Prices Were Found																													
No. of meds. included			0			24			28			0			0			0			0			24			24		
Summary of Medicine-specific Median Price Ratios (MPRs) For Meds. With 1+ Procurement Prices																													
Median MPR			2.39			2.50									2.39			2.29											
25 %ile MPR			1.44			1.54									1.44			1.54											
75 %ile MPR			4.02			4.69									4.02			4.35											
Minimum MPR			0.59			0.59									0.59			0.59											
Maximum MPR			24.14			40.41									24.14			24.14											
Reference Price Data Used = MSH 2003																													

4.b. Public sector - patient prices

Public sector Medicines Outlets (n=4 in survey)																													
Includes Both Core and Non-Core Medicines (n=33 on list)																													
Analysis Includes All Meds.						Analysis Includes Only Medicines With Prices Found for Both Types in Pair																							
Brand			Most Sold			Brand			Lowest Price			Most Sold			Lowest Price														
Overall Percent Availability of Medicines on List in Outlets Included in Analysis																													
Median availability			0.0%			25.0%			100.0%																				
25 %ile availability			0.0%			0.0%			75.0%																				
75 %ile availability			0.0%			50.0%			100.0%																				
Number of Listed Medicines For Which Prices Were Found in 4+ Outlets																													
No. of meds. included			0			2			19			0			0			0			0			2			2		
Summary of Medicine-specific Median Price Ratios (MPRs) For Meds. Found in 4+ Outlets																													
Median MPR			2.31			2.60									2.31			2.31											
25 %ile MPR			1.55			1.94									1.55			1.55											
75 %ile MPR			3.06			4.72									3.06			3.06											
Minimum MPR			0.79			0.79									0.79			0.79											
Maximum MPR			3.82			55.06									3.82			3.82											
Reference Price Data Used = MSH 2003																													

4.c. Private sector pharmacies – patient prices

Private sector Medicines Outlets (n=25 in survey)						
Includes Both Core and Non-Core Medicines (n=33 on list)						
Analysis Includes All Meds.			Analysis Includes Only Medicines With Prices Found for Both Types in Pair			
Brand	Most Sold	Lowest Price	Brand	Most Sold	Brand	Lowest Price
Overall Percent Availability of Medicines on List in Outlets Included in Analysis						
Median availability	0.0%	44.0%	80.0%			
25 %ile availability	0.0%	24.0%	32.0%			
75 %ile availability	0.0%	68.0%	96.0%			
Number of Listed Medicines For Which Prices Were Found in 4+ Outlets						
No. of meds. included	1	28	29	0	0	0
				0	28	28
Summary of Medicine-specific Median Price Ratios (MPRs) For Meds. Found in 4+ Outlets						
Median MPR	6.40	4.12	4.17			4.12
25 %ile MPR	6.40	2.52	2.54			2.52
75 %ile MPR	6.40	7.89	7.63			7.89
Minimum MPR	6.40	0.75	0.75			0.75
Maximum MPR	6.40	120.13	120.13			120.13
Reference Price Data Used = MSH 2003						

4.d. RDF pharmacies ('Other' sector) – patient prices

Other sector Medicines Outlets (n=15 in survey)						
Includes Both Core and Non-Core Medicines (n=33 on list)						
Analysis Includes All Meds.			Analysis Includes Only Medicines With Prices Found for Both Types in Pair			
Brand	Most Sold	Lowest Price	Brand	Most Sold	Brand	Lowest Price
Overall Percent Availability of Medicines on List in Outlets Included in Analysis						
Median availability	0.0%	26.7%	73.3%			
25 %ile availability	0.0%	6.7%	40.0%			
75 %ile availability	0.0%	40.0%	93.3%			
Number of Listed Medicines For Which Prices Were Found in 4+ Outlets						
No. of meds. included	0	19	25	0	0	0
				0	19	19
Summary of Medicine-specific Median Price Ratios (MPRs) For Meds. Found in 4+ Outlets						
Median MPR		3.99	3.99			3.99
25 %ile MPR		1.99	2.24			1.99
75 %ile MPR		7.26	7.13			7.26
Minimum MPR		0.79	0.75			0.79
Maximum MPR		23.67	40.41			23.67
Reference Price Data Used = MSH 2003						

4.e. Sector availability and price summary – core medicines

Summary of Medicines Availability and Median MPR by Product Type
Includes Core Medicines Only (n=30 on list)

	Procurement (n=8 orders)	Public Sector (n=4 outlets)	Private Sector (n=25 outlets)	Other Sector (n=15 outlets)
Median Percent Availability				
Brand	NA	0.0%	0.0%	0.0%
Most Sold	NA	0.0%	40.0%	20.0%
Lowest Price	NA	100.0%	64.0%	56.7%

No. of Products With Minimum No. of Prices Obtained				
# Prices Required	1	4	4	4
Brand	0	0	0	0
Most Sold	14	0	15	8
Lowest Price	15	10	16	13

Median MPR for Medicines With Minimum No. of Prices				
Brand				
Most Sold	2.71		4.08	5.12
Lowest Price	2.50	2.46	5.25	3.99

Reference Price Data Used = MSH 2003

Comparisons of Median MPRs for Medicines With Prices in Both Sectors
Includes Core Medicines Only (n=30 on list)

	Procurement (n=8 orders)	Public Sector (n=4 outlets)	# of Meds. in Both Sectors	Ratio Public to Procurement	Brand	Procurement (n=8 orders)	Private Sector (n=25 outlets)	# of Meds. in Both Sectors	Ratio Private to Procurement
Most Sold			0		Most Sold	2.50	4.08	13	163.2%
Lowest Price	1.95	2.46	10	126.1%	Lowest Price	2.50	3.99	15	159.9%

	Procurement (n=8 orders)	Other Sector (n=15 outlets)	# of Meds. in Both Sectors	Ratio Other to Procurement	Brand	Public Sector (n=4 outlets)	Private Sector (n=25 outlets)	# of Meds. in Both Sectors	Ratio Private to Public
Most Sold	2.34	5.12	8	219.1%	Most Sold			0	
Lowest Price	2.08	3.99	13	192.0%	Lowest Price	2.46	3.11	10	126.6%

	Public Sector (n=4 outlets)	Other Sector (n=15 outlets)	# of Meds. in Both Sectors	Ratio Other to Public	Brand	Private Sector (n=25 outlets)	Other Sector (n=15 outlets)	# of Meds. in Both Sectors	Ratio Other to Private
Most Sold			0		Most Sold	4.08	3.99	7	98.0%
Lowest Price	2.46	3.11	10	126.6%	Lowest Price	3.99	3.99	13	100.0%

Reference Price Data Used = MSH 2003

4.f. Medicines availability and price summary

Medicines Availability in Outlets										
Medicine Name	Core List (yes/no)	Brand			Most Sold			Lowest Price		
		Public (n=4)	Private (n=25)	Other (n=15)	Public (n=4)	Private (n=25)	Other (n=15)	Public (n=4)	Private (n=25)	Other (n=15)
Aciclovir	yes	0.0%	0.0%	0.0%	50.0%	32.0%	6.7%	100.0%	68.0%	46.7%
Amitriptyline	yes	0.0%	0.0%	0.0%	50.0%	24.0%	6.7%	100.0%	36.0%	53.3%
Amoxicillin 250	yes	0.0%	0.0%	0.0%	0.0%	68.0%	40.0%	100.0%	100.0%	93.3%
Ampicillin	no	0.0%	0.0%	0.0%	0.0%	40.0%	26.7%	50.0%	80.0%	40.0%
Atenolol	yes	0.0%	0.0%	0.0%	0.0%	40.0%	20.0%	100.0%	80.0%	73.3%
Beclometasone inhaler	yes	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	13.3%
Captopril	yes	0.0%	0.0%	0.0%	25.0%	76.0%	33.3%	100.0%	100.0%	93.3%
Carbamazepine	yes	0.0%	0.0%	0.0%	0.0%	48.0%	20.0%	100.0%	80.0%	86.7%
Ceftriaxone injection 250mg	no	0.0%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%
Cephalexin 250	no	0.0%	0.0%	0.0%	100.0%	12.0%	13.3%	100.0%	12.0%	13.3%
Chloramphenicol	no	0.0%	0.0%	0.0%	25.0%	76.0%	66.7%	75.0%	100.0%	100.0%
Ciprofloxacin	yes	0.0%	0.0%	0.0%	50.0%	68.0%	26.7%	75.0%	80.0%	40.0%
Clotrimazole pessary	no	0.0%	0.0%	0.0%	100.0%	84.0%	86.7%	100.0%	100.0%	100.0%
Co-trimoxazole suspension	yes	0.0%	0.0%	0.0%	0.0%	32.0%	0.0%	0.0%	32.0%	0.0%
Diazepam	yes	0.0%	0.0%	0.0%	50.0%	8.0%	33.3%	75.0%	20.0%	80.0%
Diclofenac 25	yes	0.0%	0.0%	0.0%	25.0%	36.0%	33.3%	100.0%	72.0%	73.3%
Erythromycin 250	no	0.0%	0.0%	0.0%	25.0%	48.0%	26.7%	100.0%	96.0%	93.3%
Fluconazole 150	no	0.0%	0.0%	0.0%	0.0%	24.0%	0.0%	0.0%	24.0%	0.0%
Fluphenazine injection	yes	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Furosemide	no	0.0%	0.0%	0.0%	0.0%	96.0%	73.3%	100.0%	100.0%	100.0%
Gentamicin injection	no	0.0%	0.0%	0.0%	25.0%	64.0%	53.3%	100.0%	96.0%	86.7%
Glibenclamide	yes	0.0%	0.0%	0.0%	50.0%	44.0%	0.0%	75.0%	44.0%	0.0%
Hydrochlorothiazide	yes	0.0%	0.0%	0.0%	0.0%	52.0%	33.3%	75.0%	52.0%	60.0%
Ibuprofen	no	0.0%	0.0%	0.0%	25.0%	68.0%	26.7%	50.0%	84.0%	60.0%
Indomethacin	no	0.0%	0.0%	0.0%	50.0%	80.0%	73.3%	100.0%	100.0%	93.3%
Mebendazole	no	0.0%	0.0%	0.0%	0.0%	32.0%	6.7%	100.0%	92.0%	93.3%
Metformin	yes	0.0%	0.0%	0.0%	25.0%	20.0%	6.7%	50.0%	20.0%	6.7%
Metronidazole 250	no	0.0%	0.0%	0.0%	0.0%	60.0%	46.7%	100.0%	100.0%	100.0%
Omeprazole	yes	0.0%	0.0%	0.0%	0.0%	52.0%	26.7%	100.0%	80.0%	80.0%
Propranolol	no	0.0%	0.0%	0.0%	50.0%	88.0%	66.7%	100.0%	96.0%	93.3%
Ranitidine	yes	0.0%	0.0%	0.0%	0.0%	48.0%	40.0%	100.0%	88.0%	86.7%
Reserpine	no	0.0%	0.0%	0.0%	75.0%	24.0%	46.7%	75.0%	24.0%	46.7%
Salbutamol inhaler	yes	0.0%	4.0%	0.0%	0.0%	40.0%	20.0%	100.0%	60.0%	46.7%

Medicines Median Price Ratios (MPRs) in Procurements and Outlets (Reference Price Data Used = MSH 2003)													
Medicine Name	Core List (yes/no)	Brand				Most Sold				Lowest Price			
		Procurement (n=8)	Public (n=4)	Private (n=25)	Other (n=15)	Procurement (n=8)	Public (n=4)	Private (n=25)	Other (n=15)	Procurement (n=8)	Public (n=4)	Private (n=25)	Other (n=15)
Aciclovir	yes							1.92		1.30	1.38	2.35	1.50
Amitriptyline	yes					5.24		8.18		5.24	5.52	7.63	5.81
Amoxicillin 250	yes					2.03		2.89	2.41	1.95	2.60	2.89	2.89
Ampicillin	no					1.45		1.93	1.83	1.26		1.93	1.93
Atenolol	yes					3.07		8.17		4.29	3.93	7.57	7.13
Beclometasone inhaler	yes												
Captopril	yes					1.41		2.82	1.63	1.58	2.89	2.82	2.35
Carbamazepine	yes					2.29		3.54		1.94	1.92	3.33	3.33
Ceftriaxone injection 250mg	no			6.40						5.08			
Cephalexin 250	no						0.79				0.79		
Chloramphenicol	no					0.65		1.02	1.02	0.61		1.02	1.02
Ciprofloxacin	yes					2.50		6.51	6.25	2.50		6.51	6.51
Clotrimazole pessary	no						3.82	4.17	4.17	2.50	3.82	4.17	4.17
Co-trimoxazole suspension	yes							8.63				8.63	
Diazepam	yes					8.88			9.47	8.58		11.84	9.47
Diclofenac 25	yes					8.93		13.00	16.25	8.93	10.56	11.78	13.00
Erythromycin 250	no					2.12		2.67	2.31	1.90	2.03	2.54	2.44
Fluconazole 150	no							120.13				120.13	
Fluphenazine injection	yes												
Furosemide	no					1.73		2.59	2.76	1.73	2.07	2.59	2.76
Gentamicin injection	no					1.23		2.30	2.15	1.44	1.97	2.49	2.24
Glibenclamide	yes					5.05		7.58		5.15		7.58	
Hydrochlorothiazide	yes					24.14		30.77	23.67	24.14		30.77	18.94
Ibuprofen	no					4.39		7.80	7.80	4.56		7.80	7.80
Indomethacin	no					3.33		4.76	4.76	3.33	4.98	4.76	4.76
Mebendazole	no							33.68		40.41	55.06	26.94	40.41
Metformin	yes					2.93		3.72		2.93		3.72	
Metronidazole 250	no					3.69		6.72	6.72	3.69	5.13	6.72	6.27
Omeprazole	yes					0.59		0.99	0.95	0.64	0.85	0.99	0.75
Propranolol	no					3.90		7.31	8.12	3.57	4.47	6.50	7.72
Ranitidine	yes					2.18		4.08	3.99	2.08	2.31	3.99	3.99
Reserpine	no					0.59		0.75	0.79	0.59		0.75	0.79
Salbutamol inhaler	yes					1.08		1.28		1.08	1.13	1.20	0.94

Affordability summary

Daily wage of lowest paid government worker (in local currency): 2292.9

Diabetes						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Glibenclamide	5 mg	cap/tab	30	60	Brand								
					Most Sold	1500.00	0.7			2250.00	1.0		
					Lowest Price	1530.00	0.7			2250.00	1.0		

Hypertension						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Hydrochlorothiazide	25 mg	cap/tab	30	30	Brand								
					Most Sold	3059.40	1.3			3900.00	1.7	3000.00	1.3
					Lowest Price	3059.40	1.3			3900.00	1.7	2400.00	1.0

Hypertension						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Atenolol	50 mg	cap/tab	30	30	Brand								
					Most Sold	1035.00	0.5			2750.00	1.2		
					Lowest Price	1443.00	0.6	1325.00	0.6	2550.00	1.1	2400.00	1.0

Adult resp. infec.						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Amoxicillin 250	250 mg	cap/tab	7	21	Brand								
					Most Sold	883.05	0.4			1260.00	0.5	1050.00	0.5
					Lowest Price	850.50	0.4	1134.00	0.5	1260.00	0.5	1260.00	0.5

Pediatric resp. infec.						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Co-trimoxazole suspension	8+40 mg/ml	millilitre	7	70	Brand								
					Most Sold					2625.00	1.1		
					Lowest Price					2625.00	1.1		

Gonorrhoea						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Ciprofloxacin	500 mg	cap/tab	1	1	Brand								
					Most Sold	95.85	0.0			250.00	0.1	240.00	0.1
					Lowest Price	95.85	0.0			250.00	0.1	250.00	0.1

Arthritis						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Diclofenac 25	25 mg	cap/tab	30	60	Brand								
					Most Sold	3300.00	1.4			4800.00	2.1	6000.00	2.6
					Lowest Price	3300.00	1.4	3900.00	1.7	4350.00	1.9	4800.00	2.1

Depression						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Amitriptyline	25 mg	cap/tab	30	90	Brand								
					Most Sold	4323.60	1.9			6750.00	2.9		
					Lowest Price	4323.60	1.9	4554.00	2.0	6300.00	2.7	4797.00	2.1

Asthma						Public Procurement		Public Patient		Private Retail		Other Patient	
Select Medicine Name	Medicine Strength	Dosage Form	Treatment Duration (in Days)	Total # of Units per Treatment	Product Type	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages	Median Treatment Price	Days' Wages
Salbutamol inhaler	0.1 mg/dose	dose	as needed	200	Brand								

Cumulative mark-up and price composition sheet

Describe sector and type of medicine:	Public sector procurement, most sold generic version of locally produced amoxicillin
--	--

Example 1:Medicine Name	Medicine Strength	Dosage Form	Target Pack Size	Disp	Type of Charge	Charge Basis	Amount of Charge	Price of Dispensed Quantity	Cumulative % Mark-up
Amoxicillin	250 mg	cap/tab	21	21	MSP	NA	NA	260,00	0,00%
					Wholesale mark-up	percent	15%	299,00	15,00%
					Value Added Tax (VAT)	percent	15%	343,85	32,25%

Describe sector and type of medicine:	Private sector, most sold generic version of imported omeprazole
--	--

Example 2:Medicine Name	Medicine Strength	Dosage Form	Target Pack Size	Disp	Type of Charge	Charge Basis	Amount of Charge	Price of Dispensed Quantity	Cumulative % Mark-up
Omeprazole	20 mg	cap/tab	30	30	CIF	NA	NA	3600,00	0,00%
					Customs duty	percent	5%	3780,00	5,00%
					Stamp duty	percent	1%	3817,80	6,05%
					Wholesale mark-up	percent	25%	4772,25	32,56%
					Retail mark -up	percent	30%	6203,93	72,33%
					VAT	percent	15%	7134,51	98,18%

Describe sector and type of medicine:	Private sector, innovator brand version of imported ceftriaxone injection
--	---

Example 3:Medicine Name	Medicine Strength	Dosage Form	Target Pack Size	Disp	Type of Charge	Charge Basis	Amount of Charge	Price of Dispensed Quantity	Cumulative % Mark-up
Ceftriaxone	250 mg/vial	vial	1	1	CIF	NA	NA	5100,00	0,00%
					Customs duty	percent	5%	5355,00	5,00%
					Stamp duty	percent	1%	5408,55	6,05%
					Wholesale mark -up	percent	25%	6760,69	32,56%
					Retail mark -up	percent	10%	7436,76	45,82%
					VAT	percent	15%	8552,27	67,69%

Annex 5: Medicines data collection form used for survey

Medicine Price Data Collection form

Use one form for each health facility and pharmacy

Date: _____ Area number: _____

Name of town/village/district: _____

Name of health facility/pharmacy (optional): _____

Health facility/pharmacy ID (mandatory): _____

Distance in km from nearest town (population >50 000): _____

Type of health facility:

Public pharmacy Private retail

Other (please specify): _____

Type of price in public and private not-for-profit sector:

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: _____

Verification

To be completed by the area supervisor at the end of the day

Signed: _____

Date: _____

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 recommended	Pack size found	Price of pack found	Unit price (4 digits)	Comments
Aciclovir tab 200 mg	Zovirax	GSK		25			/òáá	
<i>Most sold generic equivalent</i>	Acilovira	Ferein		25				
<i>Lowest price generic equivalent</i>				25				
Amitriptyline tab 25 mg	Tryptizol	MSD		100			/tab	
<i>Most sold generic equivalent</i>	Amitriptylino 25	Enddokrininiai		100				
<i>Lowest price generic equivalent</i>				100				
Amoxicillin caps/tab 250 mg	Amoxil	SKB (GSK)		21			/tab	
<i>Most sold generic equivalent</i>	Philco amoxy	Phylco Pharma		21				
<i>Lowest price generic equivalent</i>				21				
Ampicillin tab 500 mg	Pentrexyl	BMS		10			/tab	
<i>Most sold generic equivalent</i>	Philcoampi	Philco Pharma		10				
<i>Lowest price generic equivalent</i>				10				
Atenolol tab 50 mg	Tenormin	AstraZeneca		60			/tab	
<i>Most sold generic equivalent</i>	Atenolol Akri	Akrikhin		60				
<i>Lowest price generic equivalent</i>				60				
Beclometasone inhaler 50 mcg/ dose	Becotide	GSK		1 inhaler: 200 doses			/dose	
<i>Most sold generic equivalent</i>	Becotide	GSK		1 inhaler: 200 doses				
<i>Lowest price generic equivalent</i>				1 inhaler: 200 doses				
Gentamycin inj. 40 mg/ml	Garamycin	Schering corp		2 ml			/ml	
<i>Most sold generic equivalent</i>	Philco genta80	Philco Pharma		2ml				
<i>Lowest price generic equivalent</i>				2ml				
Hydrochlorothiazide tab 25 mg	Dichlotride	MSD		20			/tab	
<i>Most sold generic equivalent</i>	Hypothiazid	Sanofi-Synthelabo		20				
<i>Lowest price generic equivalent</i>				20				

Glibenclamide tab 5 mg	Daonil	HMR		60			/tab
<i>Most sold generic equivalent</i>	Mannil -5	Berlinkhemie		60			
<i>Lowest price generic equivalent</i>				60			
Diazepam tab 5 mg	Valium	Roche		100			/tab
<i>Most sold generic equivalent</i>	Diazepam	Laboratorio Farmacologico Milanes25		100			
<i>Lowest price generic equivalent</i>				100			
Diclofenac tab 25 mg	Voltaren	Novartis		28			/tab
<i>Most sold generic equivalent</i>	Diclodenk	Denkpharm		28			
<i>Lowest price generic equivalent</i>				28			
Ibuprofen tab 400 mg	Brufen	Knoll		20			/tab
<i>Most sold generic equivalent</i>	Lemprofen 400	Hans E Lembcke		20			
<i>Lowest price generic equivalent</i>				20			
Indometacin tab 25 mg	Indocid	MSD		10			/tab
<i>Most sold generic equivalent</i>	Indomon	Monos Pharm		10			
<i>Lowest price generic equivalent</i>				10			
Captopril tab 25 mg	Capoten	BMS		60			/tab
<i>Most sold generic equivalent</i>	Lemcapril 25	Hans E Lembcke		60			
<i>Lowest price generic equivalent</i>				60			
Carbamazepine tab 200 mg	Tegretol	Novartis		100			/tab
<i>Most sold generic equivalent</i>	Convulem-200	Hans E Lembcke		100			
<i>Lowest price generic equivalent</i>							
Clotrimazol supp.(vag) 100 mg	Canesten	Bayer		21			/tab
<i>Most sold generic equivalent</i>	Lemnesten 100	Hans E Lembcke		21			
<i>Lowest price generic equivalent</i>				21			
Co-trimoxazole paed suspension (8+40) mg/ml	Bactrim	Roche		100 ml			/ml
<i>Most sold generic equivalent</i>	Letrim-2880	Hans E Lembcke		100 ml			
<i>Lowest price generic equivalent</i>				100 ml			
Mebendazol tab 100 mg	Vermox	Janssen		6			/tab
<i>Most sold generic equivalent</i>	Mebendazol	Hans E Lembcke		6			
<i>Lowest price generic equivalent</i>				6			
Metronidazole tab 250 mg	Flagyl	Phone Poulenc		20			/tab

<i>Most sold generic equivalent</i>	Philco-Metro 250	Philco Pharma		20			
<i>Lowest price generic equivalent</i>				20			
Metformin tab 500 mg	Glucophage	Merck		100		/tab	
<i>Most sold generic equivalent</i>	Metformin Denk 500	Denk pharma		100			
<i>Lowest price generic equivalent</i>				100			
Nifedipine Retard tab 10 mg	Adalat Retard	Bayer		10		/tab	
<i>Most sold generic equivalent</i>	Nifedipine Denk 10 retard	Denk pharma		10			
<i>Lowest price generic equivalent</i>				10			
Omeprazole caps 20 mg	Losec	AstraZeneca		30		/caps	
<i>Most sold generic equivalent</i>	Lemloc-20	Hans E Lembcke		30			
<i>Lowest price generic equivalent</i>				30			
Propranolol tab 40 mg	Inderal	Astra Zeneca		20		/tab	
<i>Most sold generic equivalent</i>	Propranolol	Balkanpharma		20			
<i>Lowest price generic equivalent</i>				20			
Ranitidine tab 150 mg	Zantac	GSK		60		/tab	
<i>Most sold generic equivalent</i>	Kalamtac	Hans E Lembcke		60			
<i>Lowest price generic equivalent</i>				60			
Reserpine tab 250 mcg	Serpasil	Biochemie (former Ciba)		100		/tab	
<i>Most sold generic equivalent</i>	Reserpine	Oterop		100			
<i>Lowest price generic equivalent</i>				100			
Salbutamol inhaler 0.1 mg per dose	Ventoline	GSK		1 inhaler: 200 doses		/dose	
<i>Most sold generic equivalent</i>	Salbutamol	Moskhimpharm prepatai		1 inhaler: 200 doses			
<i>Lowest price generic equivalent</i>				1 inhaler: 200 doses			
Fluconazole caps/tab 150 mg	Diflucan	Pfizer		30		/tab	
<i>Most sold generic equivalent</i>	Diflazon	KRKA		30			
<i>Lowest price generic equivalent</i>				30			
Fluphenazine decanoate inj 25 mg/ml	Modecate	Sanofi-Winthrop/ BMS		1 ampoule		/ml	
<i>Most sold generic equivalent</i>	Fluphenazine decanoate	Rotex Medica		1 ampoule			

<i>Lowest price generic equivalent</i>				1 ampoule			
Furosemide tab 40 mg	Lasix	Hoechst		10			/tab
<i>Most sold generic equivalent</i>	Furosemid	Monos Pharm		10			
<i>Lowest price generic equivalent</i>				10			
Chloramphenicol tab 500 mg	Chloromycetin	Parke Davis or Pfizer		10			/tab
<i>Most sold generic equivalent</i>	Chloramphenicol	Monos Pharm		10			
<i>Lowest price generic equivalent</i>				10			
Cephalexin tab 250 mg	Keflex	Lilly		10			/tab
<i>Most sold generic equivalent</i>	Ospexin	Biochemie		10			
<i>Lowest price generic equivalent</i>				10			
Ceftriaxone inj 250 mg powder	Rocephin	Roche		1 vial			/vial
<i>Most sold generic equivalent</i>	Rocephin	Roche		1 vial			
<i>Lowest price generic equivalent</i>				1 vial			
Ciprofloxacin tab 500 mg	Ciproxin	Bayer		1			/tab
<i>Most sold generic equivalent</i>	Philco-Cipro	Philco Pharma		1			
<i>Lowest price generic equivalent</i>				1			
Eritromycin tab 250 mg	Erythrocin	Abbott		10			/tab
<i>Most sold generic equivalent</i>	Eritromycin	Syntez		10			
<i>Lowest price generic equivalent</i>				10			

Annex 6: National Pharmaceutical Sector Form, Mongolia

Date: 12 August, 2004

Population: 2'476'644

Daily wage of lowest paid government worker 2292.9 ₮

Rate of exchange (commercial "buy" rate) to US dollars on the first day of data collection: 1 US\$=1195 ₮ (tugrug)

Sources of information:

1. "Adoption of the Government Policy on Drugs", Mongolian Parliament Resolution #68, 2002;
2. "To renewal of the Essential Drug List", Health Minister's Order #168, 2001;
3. "Rule of procurement of pharmaceuticals", Order of Health Minister and Minister of Finance and Economics # 01/06, 2002;
4. "Regulation on State Drug Registration", Health Minister's order # 177, 2003;
5. "Reimbursement of Drug from Health Insurance Fund", Resolution of Subcouncil of Health Insurance, National Council of Public Insurance # 03, 2002;
6. "Resolution on Salary of Government Officers" Government Resolution # 42, 2004
7. Information data of Directorate of Medical Services (Government Executing Agency, MOH);
8. Data, National Statistical Office, 2003;
9. "Out of pocket survey", National Statistical Office, 2002
10. Health Statistic, MOH, 2003;
11. National Health Accounts, Preliminary estimations, 2003
12. Annual report, State Social Insurance General Office, 2003
13. Currency exchange rate (9.8.2004), Mongol Bank ;

General information on the pharmaceutical sector

Is there a formal National Medicines Policy document covering both the public and private sectors?

Yes No

Is an Essential Medicines List (EML) available?

Yes No

If yes, state total number of medicines on national EML:

If yes, year of last revision: 2001

If yes, is it (tick all that apply):

- National
 Regional
 Public sector only
 Both public and private sectors
 Other (please specify):

If yes, is the EML being used (tick all that apply):

- For registration of medicines nationally
- Public sector procurement only
- Insurance and/or reimbursement schemes
- Private sector
- Public sector

Is there a policy for generic prescribing or substitution? Yes No

Are there incentives for generic prescribing or substitution? Yes No

Public procurement³

Is procurement in the public sector limited to a selection of essential medicines? Yes No

If no, please specify if any other limitation is in force:

Type of public sector procurement (tick all that apply):

- International, competitive tender
 - Open
 - Closed (restricted)
- National, competitive tender
 - Open
 - Closed (restricted)
- Negotiation/direct purchasing

Are the products purchased all registered? Yes No

Is there a local preference?⁴ Yes No

Are there public health programmes fully implemented by donor assistance which also provide medicines? Yes No

(e.g. TB, family planning, etc.)

If yes, please specify: *TB, family planning, STD, IMCI.*

Distribution⁵

Is there a public sector distribution centre/warehouse? Yes No

If yes, specify levels:

There is a state drug wholesaler. It is joint stock company with 51% of shares owned by state.

Are there private not-for-profit distribution centres: Yes No
e.g. missions/nongovernmental organizations?

If yes, please specify:

Number of licensed wholesalers: 50

Retail

Urban Rural Overall

³ If there is a public procurement system, there is usually a limited list of items that can be procured. Products procured on international tenders are sometimes registered in the recipient country only by generic names. Import permits to named suppliers are issued based on the approved list of tender awards. An open tender is one that is publicly announced; a closed one is sent to a selection of approved suppliers.

⁴ A local preference means that local companies will be preferred even if their prices are not the cheapest. Local preference is normally in the range of 10–20%.

⁵ The public sector often has a central storage and distribution centre which may have at least one sublevel. The private not-for-profit sector may be dominated by one type of NGO (e.g. church missions), but may also comprise others such as Bamako Initiative type projects, Red Cross or Red Crescent Society, Médecins Sans Frontières.

Number of inhabitants per pharmacy (approx.)	4776.8	2472.2	3420.8
Number of inhabitants per qualified pharmacist (approx.)	2690.9	42125.7	4470.5
Number of pharmacies with qualified pharmacists	403	25	428
Number of medicine outlets with pharmacy technician	293	431	724
Number of other licensed medicine outlets	-	-	-

Private sector⁶

Are there independent pharmacies? Yes No Number: *no data*
 Are there chain pharmacies? Yes No Number: *no data*
 Do doctors dispense medicines?⁷ Yes No

If yes, approximate coverage or % of doctors who dispense:
 Are there pharmacies or medicine outlets in health facilities? Yes No

Financing

(Give approximate figures, converted to US dollars at current exchange rate: commercial "buy" rate on the first day of data collection)

Type of expenditure	Approximate annual budget (US dollars)
National public expenditure on medicines including government insurance, military, local purchases in past year	8,445.29 million
Estimated total private medicine expenditure in past year (out of pocket, private insurance, NGO/mission)	8,648.53 million
Total value of international medicine aid or donations in past year	920 thousand
What percentage of medicines by value are imported?	0.97 %

Government price policy

Is there a medicines regulatory authority? Yes No
 Is pricing regulated? Yes No
 Is setting prices part of market authorization/registration? Yes No
 Do registration fees differ between:
 ■ Innovator brand and generic equivalents Yes No
 ■ Imported and locally produced medicines Yes No

Public sector

Are there margins (mark-ups) in the distribution chain? Yes No
 ■ Central medical stores 10 %
 ■ Regional store 15 %
 ■ Other store (specify) 0 %
 ■ Public medicine outlet 10 %
 Are there any other fees or levies? Yes No

If yes, please describe:

⁶ Retail outlets may be called pharmacies, medicine outlets, drug stores, chemists, etc. They may be run/owned by a qualified pharmacist (with diploma) or another category: e.g. pharmacy technician, or a lay person with short training.

⁷ Many countries allow doctors to dispense and sell medicines.

Private retail sector

Are there maximum profit margins? Yes No

If yes (if they vary, give maximum and minimum):

- Wholesale %
- Retail %

Is there a maximum retail price (sales price)? Yes No
(If it varies, give maximum and minimum)

- Maximum:
- Minimum:

Do patients pay professional fees (e.g. dispensing fee)? Yes No

If yes, please describe:

“Other” sector

Are there maximum profit margins? Yes No

If yes (if they vary, give maximum and minimum):

- Wholesale %
- Retail %

Is there a maximum sales price? Yes No

Insurance, risk-sharing or prepayment schemes

Are there any health insurance, risk-sharing or prepayment schemes or revolving medicine funds? Yes No

If yes, please describe: *Social Health Insurance Skim-Compulsory for all.*

Are all medicines covered? Yes No

If no, state which medicines are covered (e.g. EML, public health programmes):

Health insurance covers 105 items of essential medicines.

Are some patients / groups of patients exempted, regardless of insurance coverage? (e.g. children < X yrs, war veterans) Yes No

If yes, please specify:

Estimated percentage of population covered 76.6 % (by the end of 2003)

Is it official policy to supply all medicines free at primary health care level? Yes No

If no, are some free? Yes No

If yes, tick all that apply:

- Tuberculosis
- Malaria
- Oral rehydration salts
- Family planning
- Others, please specify:

Are there official user charges/patient co-payments/fees? Yes No

Are all medicines supplied free at hospitals? Yes No

If no, are some free?

Yes

No

If yes, please specify: *Inpatient cases and some outpatients.*

Retail

	Urban	Rural	Overall
Number of inhabitants per pharmacy (approx.)	1423501/ 298=4776 .8	1053143/ 426=2472 .2	2476644/ 724=3420 .8
Number of inhabitants per qualified pharmacist (approx.)	1423501/ 529=2690 .9	1053143/ 25=42125 .7	2476644/ 554=4470 .5
Number of pharmacies with qualified pharmacists	403	25	428
Number of medicine outlets with pharmacy technician	688	243	931
Number of other licensed medicine outlets	no	no	no