Affordability of Medicines in Fiji

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Executive Summary
As part of the Fiji School of Medicine practice-based research program, a survey was undertaken of medicine prices throughout Fiji in September 2004. Price and availability data were collected and analysed for 36 retail pharmacies (out of a total of 39 in Fiji). Third-year Bachelor of Pharmacy students were trained as data collectors and utilised the methodology as developed by Health Action International in conjunction with the World Health Organisation.

For a core list of 30 medicines, data on availability and price were recorded in each pharmacy and in the central agency for public sector drug distribution. Availability and price were recorded for the innovator brand, most used generic and lowest price generic.

As there is no drug registration process in Fiji, in the public sector the quality of medicines is controlled through monthly retrospective sample analysis. There is no such quality control process in the private sector, although the private sector would be prepared to make samples available for analysis. This will be the subject of a future research study.

Acquisition prices in the public sector compared very favourably with international comparator prices as published by the Management Sciences for Health. Similarly, in the private sector there was also a favourable comparison. The dispensed price for generic comparators was about three to six times cheaper than for the innovator brand.

An affordability estimation was made by determining the work time required at lowest government salary, in order to purchase a standard course of a sample of medicines. This

indicated that during stock-outs in the public sector, a range of essential medicines is actually affordable in the private sector for employed persons.

Introduction and Background
During September 2004 a field study on measuring the prices of dispensed medicines was carried out in Fiji. The intention was to obtain some accurate comparative figures in order to determine the actual situation in relation to equitable access to medicines in the country. The method used is as developed by Health Action International and the World Health Organisation.

The study was undertaken by the Fiji School of Medicine as part of the practice-based research program of the Department of Pharmacy and Therapeutics.

Fiji is a collection of approximately 350 islands located in the South Pacific Ocean with a population in excess of 800,000 people. This population comprises Melanesians (indigenous Fijians), Indians (Indofijians) and others. Fiji is a developing country whose main sources of income include sugar cane and tourism.

In the year 2000 there was a civilian-led coup which resulted in reduced investment in the country and increased emigration of both Fijian and Indofijian citizens, especially amongst the educated classes. The country has now returned to democratic government, but the financial effects of the coup are still in evidence with reduced funds in real terms having been made available to individual government ministries in the budget for 2005. Frequently, there are media reports about lack of medicines in the public sector and no information has been provided to the general public about the need for rationing within the health services. Although an Essential Drug List (EDL) is in place, no absolute commitment has been given by the Ministry of Health on guaranteed availability of those medicines to the public. Anecdotal reports from health service staff indicate that the medicine supply situation in hospitals and in health centres is worsening. The problem

has reached such a low point, that a committee of enquiry into medicine supply has been established by the government.

Objective
This research activity was undertaken for several reasons:
1) To obtain medicine price data within the private sector of Fiji in order to be able to make comparison to the situation in other countries;
2) To assess the affordability of private sector medicines in Fiji based on the salary of the lowest paid government worker;
3) To assess the availability of core essential medicines in the public and private sectors;
4) To provide de-identified medicine price comparisons between retail pharmacies in Fiji for equivalent quality standard medicines;
5) To obtain medicine price information when medicines are provided out-of-hours from a dispensing doctor;
6) To provide a research activity capacity-building exercise for the Bachelor of Pharmacy students;
7) To inform the policy development process in the Ministry of Health Pharmaceutical Services Division as it considers options to improve medicine availability for the people of Fiji.

The survey was undertaken throughout the country over three standard working days of 27th, 28th, 29th September 2004.

Methodology
The method chosen for this study was as developed by Health Action International (HAI) and the World Health Organisation (WHO).

The data collectors were first trained in a series of tutorials, then provided with practice experience in one retail pharmacy setting.

The cross-sectional study period was limited to three days, in order to minimize the effect of fluctuating exchange rates and other factors such as stock-outs which can occur at different times. For the results to be comparable it was felt that availability and prices should be collected at the same point in time.

The data collectors worked in teams of two of their own choosing. The data collection teams were randomly allocated to one of nine geographical areas in Fiji on each of the two main islands of Viti Levu and Vanua Levu and visited every retail pharmacy in their area. Every retail pharmacy in the country was asked to participate in the study. There are no retail pharmacies on any of the other islands.

Every pharmacy had previously been notified in writing of the proposed study and their assistance sought by the Principal Researcher. Nearer the study time, the President of the Pharmaceutical Society of Fiji wrote to every pharmacy again requesting their support. In the week immediately before data collection, the Principal Researcher telephoned every

pharmacy and determined the most convenient time for the data collection exercise and notified the pharmacist of the names of the data collection team for that area.

On arrival at each pharmacy, the data collectors introduced themselves to the pharmacist and presented a letter from the Principal Researcher providing authority for them to gather information. The students were required for the core list of 30 medicines, to identify the medicine on the shelf, then to collect dispensed price information, without any dispensing fee for each of the initiator brand, the most prescribed generic and the cheapest generic.

In a sample of four pharmacies, the Principal Researcher collected the same data for a smaller basket of drugs. Information was then compared to that collected by the students, as a quality assurance exercise on the data collection accuracy.

Before data collection had commenced, the Principal Researcher had contacted the President of the Fiji College of General Practitioners and requested him to nominate two dispensing doctors who would be agreeable to the survey being undertaken in their practice. This data collection was undertaken by the Principal Researcher.

The Principal Researcher collected the central public sector information on drug availability and acquisition price from the Fiji Pharmaceutical Services Division at the Ministry of Health.

Following completion of all data collection, the Principal Researcher checked information, clarified any discrepancies and calculated unit costs where these had not been done.

Information was then entered into the HAI/WHO electronic data workbook and subsequently analysed.

On running the auto-check on the excel files of data, it became apparent that there were many errors in data entry with some prices having been recorded for the full pack, rather than for the specified unit in the study. There were gaps in both lowest price generic and most prescribed generic which required attention. All identified discrepancies were checked against raw data and if necessary, corrected. Variations in price between outlets were also double-checked when it was felt that the variation could not be adequately explained. Data were removed for the pharmacy which had completed their own price collection and for the one dispensing doctor who had agreed to participate.

Ethical Issues
It was recognised that there would be considerable sensitivity about the provision of commercial-in-confidence price information. For this reason the Principal Researcher provided an unqualified guarantee to prospective participants that all information would be de-identified before any publication or comparison was undertaken.

A steering committee was established in order to give more rigor to the process and to oversee final results for policy development. Committee members included: Principal Researcher, President Fiji Pharmaceutical Society, Chief Pharmacist Ministry of Health, President Fiji College of General Practitioners, Executive Secretary Consumer Council of Fiji, Journalist Fiji One Television. The Committee and Principal Researcher were in contact by electronic means.

The full research proposal was first submitted to and approved by the Fiji National Research Ethics Committee (FNREC) and to the Ministry of Health Research Committee. Both the Fiji Pharmaceutical Society and the Fiji College of General Practitioners were given prior notification of the research plans.

Limitations
There is currently no drug registration process in Fiji, so comparative quality of medicines could not be accurately guaranteed. It was decided to include only those medicines whose label indicated British Pharmacopoeia (BP) or United States Pharmacopoeia (USP) standard as required by the Fiji Pharmacy and Poisons Act. A proposed future study will determine quality comparisons of medicines available in the private sector. There is already support in the Fiji Pharmaceutical Society for such an activity. The quality of medicines in the public sector is presently controlled through retrospective sample analysis at a government analytical facility in another country.

Of the 39 retail pharmacies in Fiji, one declined to participate. Also, for security reasons, the data collection team was unable to gain access to a medicine shop located within the gold mine precincts and providing medicines on prescription to gold mine staff who have been seen by the company doctor. A third retail pharmacist completed the data collection form himself and as a result, information obtained from that pharmacy was not complete, and as stated above, subsequently removed. Thus, 36 private sector pharmacies remained in our sample for analysis.

One of the dispensing doctors nominated by the Fiji College of General Practitioners stated that he had discontinued dispensing and recommended an alternative general practitioner. He too however, stated that he was no longer engaged in any medicine dispensing. As a result, information obtained on medicines dispensed by doctors was limited to one practice setting. This cannot be seen as representative, and analysis is not included in this report.

From existing records, the Director of Customs was unable to identify the most sold generic drugs for the 30 medicines. This information was obtained through discussion with a sample of three pharmacists.

Results and discussion
Results are presented on medicine availability, price comparisons within country and to other countries in the private sector, and an assessment made of "affordability" based on the lowest paid unskilled government worker.

The international reference price is the median price for generic medicines quoted from one or more international non-profit wholesalers to public or non-profit procurement agencies. The source for these prices is the Management Sciences for Health 2003 database. The price is free on board (FOB).

In our final sample, information was collected on 30 core indicator medicines in 36 private sector pharmacies, one private sector general practitioner and one public sector central agency. Three private sector pharmacies were omitted from analysis as one declined to participate, one recorded the price data himself, and the Gold mine pharmacy was not accessible. The General Practitioner was subsequently dropped from analysis because one observation could not be considered representative.

We surveyed two antimalarial medicines (artesunate and pyrimethamine with sulfadoxine) even though there is no malaria in Fiji. This decision was taken because there is considerable travel between Fiji and Vanuatu, PNG, and the Solomon Islands – all countries where there is endemic malaria. Therefore, it was at least theoretically possible for artsunate and sulphadoxine-pyridoxine to have been found in the private sector. In addition, the public sector periodically buys antimalarials for the army when they go on peace-keeping duties to endemic areas. Neither of these two medicines however, was located in either public or private sector at the time of the survey.

Certain medicines are not on the Fiji EDL (acyclovir, captopril, diclofenac, fluconazole, fluoxetine, indinavir, losartin, lovastatin, nevirapine, omeprazole) so these were naturally not located in the public sector, but with the exception of fluconazole, indinavir and nevirapine, all were located in the private sector.   Prior to the survey, we hypothesised that we might find fluconazole, nevirapine and zidovudine for private patients or tourists with HIV/AIDs.

Certain strengths are not commonly prescribed in Fiji (amoxicillin 250mg, beclomethasone 50mcg/dose inhaler, hydrochlorthiazide 25mg,) so these medicines although available in other strengths, were not routinely available in the study strength. When these medicines are listed as not available in the data summary, treatment is in fact available but with a different strength.

The National Drug Policy for Fiji was adopted by Cabinet in 1994. Since that time there has been progressive implementation of the policy. A comprehensive Essential Drug List (EDL) is available and fully accepted in the public sector however it has not been taken up by the private sector. Prescribing in the public sector is primarily by generic name, however in the private sector both brand and generic names are in use based on each individual prescriber's preference. The existing legislation requires that in the private sector, the pharmacist must supply the brand prescribed by the doctor, however in practice, the pharmacist may discuss alternative generic products and prices with the patient who then makes the selection.

Public sector procurement is by international competitive tender from pre-approved suppliers utilising the WHO Certificate of Compliance for pharmaceutical items moving

in commerce. There is no drug registration system in Fiji, however quality of medicines sourced in the public sector is controlled through retrospective analysis of a monthly sample at an autonomous analytical facility in another country.

There is currently no such control over quality of medicines procured in the private sector, and doctors and pharmacists are legally entitled to import any medicine excepting narcotics and other restricted substances, provided that the label states compliance with either British Pharmacopoeia (BP) or United States Pharmacopoeia (USP) standard. There are eleven licensed wholesalers in Fiji which have authority to import medicines. It is illegal to import medicines of other standard such as Indian Pharmacopoeia (IP) unless those medicines are also of BP or USP standard. The survey located no medicines of Indian Pharmacopoeia standard, although some medicines with no stated standard on the label were found. Medicines with no standard stated were omitted from the study. Potential quality differences will only be satisfactorily solved when the Fiji legislation is altered and a process of drug registration introduced.

Retail pharmacists can also purchase medicines from the Fiji Pharmaceutical Services revolving fund bulk purchase scheme (BPS). This is one method used by the government to lower prices for essential medicines in the private sector as pharmacists and doctors can purchase requirements at cost price plus a lower than usual mark-up (20%). This saving is then passed on to the patient.

Although the study indicates that the antiretrovirals indinavir and nevirapine which are used in the treatment of HIV/AIDS are not available, such drugs are being sourced for identified patients in Fiji through the Global Fund and are subject to a special distribution process.

There are currently 39 retail pharmacies in Fiji and these are located totally in urban centres. Doctors are legally entitled to dispense and supply medicines provided that they are not located within five kilometres of a retail pharmacy. In practice, some doctors do supply medicines outside hours when there is no nearby pharmacy service which is open, or to tourists in resort locations which are remote from the urban centre pharmacies.

All pharmacies are independent, except for one chain store pharmacy which existed prior to the enactment of existing legislation. In the past, a series of community medicine shops, run by individual local communities existed to provide medicines at low cost which were unavailable in the public health facilities. Due to poor management, drugs of unknown quality, unsatisfactory dispensing processes by unqualified staff, lack of compliance with the EDL, and accounting irregularities these medicine shops were all closed down.

All medicines in both public and private sectors in Fiji are imported.

The budget for medicine purchase in the public sector for 2004 is reported to be F$8.0325 million. Patients access medicines on the EDL free-of-charge and make no co-payment.

There is no medicine regulatory authority and prices are controlled through the Fiji prices and Income Board (PIB) which sets percentage mark-ups at wholesale and retail level. There is no value-added tax (VAT) on dispensed medicines but this tax is payable on medicines purchased over the counter without prescription. The PIB also sets maximum retail prices for certain common household medicines such as Panadol® (paracetamol).

Health insurance schemes exist in Fiji, but these cover only a limited range of medicines.

Table One shows results from a data validation exercise, where we compared data collected by a student surveyor with data collected by the Principal Investigator.

Table One   Quality Assurance of Data Collection Process, Unit Price in F$

Medicine	Site 33	Site 5	Site 8	Site 32
	PR (student)	PR (student)	PR (student)	PR (student)
Carbamazepine 200mg brand	0.27 (0.2725)*			
Carbamazepine 200mg lowest price	0.11 (0.1068)*			
Salbutamol Inhaler brand - pack price	7.50 (7.5)			
Salbutamol inhaler lowest - pack price	4.42 (3.97) **			
Atenolol 50mg brand		0.55 (0.55)		
Atenolol lowest price		0.02 (0.02)		
Glibenclamide 5mg brand		0.13 (0.13)		
Gl;ibenclamide 5mg lowest price		0.03 (0.03)		
Diclofenac 25mg brand			0.19 (0.19)	
Diclofenac 25mg lowest price			n/a (n/a)	
Hydrochlorthiazide 25mg brand			n/a (n/a)	
Hydrochlorthiazide 25mg lowest price			n/a (n/a)	
Captopril 25mg brand				n/a (n/a)
Captopril 25mg lowest price				0.32 (0.32)
Metformin 500mg brand				0.18 (0.18)
Metformin 500mg				0.03 (0.03)

Medicine	Site 33	Site 5	Site 8	Site 32
	PR (student)	PR (student)	PR (student)	PR (student)
lowest price				

PR = Principal Researcher
n/a = medicine not available on the shelf on day of inspection
* This is an artificial difference due to a more exact calculation to four decimal points by the Principal Researcher of student collected cost data for a 100 tablet pack size.
** This difference in price of salbutamol inhaler is due to a different low cost generic having been in stock on the different days that the student data collectors and the Principal Researcher called.

All other prices are exactly the same. This is due to the fact that medicines on the dispensary shelves were almost invariably pre-labelled with a cost per tablet, in order to expedite the dispensing process and to ensure that sale price was based on actual cost price. Wholesaler price varies with each importation. For these reasons it is considered that the prices recorded by the student data collectors were indeed accurate.

The availability of medicines to patients at facilities was examined only in the private for-profit sector. Table Two shows the extent to which we encountered the targeted medicines in private pharmacies. Innovator brand medicines and generic medicines appear to be similarly likely to be found at least somewhere on the private market, but generics are more likely to be widely available.

Table Two   Availability of Medicines, Private Sector
(from a survey of 30 medicines in 36 outlets)

	No. of meds found in zero surveyed outlets (% of targeted meds)	No. meds found in at least 1 surveyed outlet (% of meds)	No. of meds found in at least half of surveyed outlets (% of meds)
Innovator Brand	7 (23.3%)	23 (76.7%)	11 (36.7%)
Most sold generic	8 (26.7%)	22 (73.3%)	6 (20.0%)
Any generic version	8 (26.7%)	22 (73.3%)	19 (63.3%)

Results on medicines prices are presented as the median price ratio (MPR) for brand and generic equivalents in the private sector. That is, local prices are presented as ratios over international reference prices. We can be fairly confident about our price results if at least 4 price observations per medicine product type have been found. The MPR is the median among all outlet price observations for a medicine, divided by the reference price.

Table Three shows overall results for medicines with sufficient price data. As a summary figure, the median of MPRs across all medicines in the analysis is presented. Note that these results should not be directly compared (i.e., brand median MPR versus generic median MPR), because each grouping contains a somewhat different set of medicines, and this can affect the summary result.

Table Three indicates that innovator brands were priced at about 9 times the international reference prices, and 50 percent of the brands are priced between 4 and 20 times the

reference price. Some increase over the reference prices is expected, as the reference prices are acquisition costs, not dispensed prices at retail level. Large ratios over the reference prices may represent either high acquisition costs or high mark-ups between initial purchase from the manufacturer and final price to patients, or both.

The most sold generic and the lowest price generic are between 2 and 3 times the international reference price, with 50 percent priced respectively in a range of 1 to 4 times the international reference price.

Table Three   Overall Price Results, Private Sector (for different sets of medicines)

	No. of meds with sufficient data for price analyses (n >= 4 obs)	Median of median price ratios	25th percentile of price ratios	75th percentile of price ratios
Innovator Brand	20	9.21	4.67	19.10
Most sold generic	19	2.49	1.50	3.31
Lowest price generic	22	2.73	1.86	3.33

A truly valid comparison of brand and generic medicine prices must include pairs of equivalent medicines. It is possible to make this comparison for 16 pairs of brand and most sold generics, 19 pairs of brand and lowest price generics, and 19 pairs of nationally most sold and lowest-priced-at-outlet generics. These comparisons are shown in Table Four. Results for the two generic categories appear to be similar, whereas brand prices are roughly 3 to 6 times higher than generic prices.

Table Four   Comparing MPRs for Matched Pairs of Medicines, Private Sector

	No. of meds included in paired price ratio comparison	Median of median price ratios (MPRs)	25th percentile of MPRs	75th percentile of MPRs
Innovator Brand	16	12.60	7.15	20.88
Most sold generic	16	2.35	1.38	3.28
Innovator Brand	19	9.92	5.66	19.45
Lowest price generic	19	2.86	1.69	3.56
Most sold generic	19	2.49	1.50	3.31
Lowest price generic	19	2.86	2.27	3.31

Table Five shows examples of MPRs for specific medicines, along with the 25th and 75th percentile price ratios, across all outlet observations. These latter two columns indicate the degree to which prices for the same or similar products varied from shop to shop.

Table Five   Examples of Medicine Price Ratios

		MPR	25th percentile price ratio across all observations	75th percentile price ratio across all observations
Carbamazepine 200mg	Innovator Brand	8.26	7.96	8.85
	Most sold generic	2.21	1.77	2.95
	Lowest cost generic	2.95	2.06	2.95
Ciprofloxacin 500mg	Innovator brand	79.01	45.04	88.61
	Most sold generic	4.25	3.32	4.61
	Lowest price generic	4.06	3.32	4.61
Diclofenac 25mg	Innovator brand	20.14	18.13	23.60
	Most sold generic	3.45	3.45	5.18
	Lowest price generic	5.76	3.45	8.06
Metformin 500mg	Innovator Brand	6.60	6.35	7.26
	Most sold generic	0.99	0.99	1.65
	Lowest price generic	0.99	0.99	1.65
Omeprazole 20mg	Innovator brand	4.73	4.64	5.09
	Most sold generic	0.59	0.54	0.71
	Lowest price generic	0.54	0.50	0.60

For some medicines there was little or no variation between the lowest price generic and the most sold generic. In some cases it was in fact the same product.

There was more variation between innovator brand and generic prices with on average a four to six times difference. For ciprofloxacin there was a remarkable 20 times difference. Pricing between pharmacies for the same product was not consistent. This may have been due to different acquisition cost prices related to different purchase dates or to variable compliance with government set mark-ups.

Some variation between generic and brand pricing was anticipated, but where this variation is very large, it is possible to either question the brand manufacturer's pricing

policy, or the level of in-country mark-ups, or perhaps differences in quality of manufacture. We did not gather information on manufacturer's selling price or post-manufacturer mark-ups. It is unknown whether counterfeit or substandard medicines exist in the Fiji market. Product quality testing was beyond the scope of this survey.

Comparison of the public sector procurement price with the international reference price is more instructive, as this a comparison of acquisition costs. These central acquisition prices are compared manually for a sample of 6 of the 30 medicines.

Table Six   Comparison of Public Sector Acquisition Price with International Comparator

	Procurement Price F$ per unit	MSH 2003 reference price F$ per unit	% of MSH reference price
Amitriptyline 25mg	0.0069	0.0129	53%
Amoxycillin 250mg	0.0301	0.0293	103%
Carbamazepine 200mg	0.0265	0.0338	78%
Fluphenazine 25mg/ml inj	0.7072	0.8289	84%
Phenytoin 100mg	0.0069	0.0121	57%
Salbutamol inhaler	0.0143	0.0165	87%

Table Six indicates that the Fiji Pharmaceutical Services Division is sourcing medicines at prices considerably lower than the international reference price. It should also be remembered that Fiji procurement costs include cost, insurance and freight (CIF) whereas the international comparator price is free on board (FOB). This provides assurance then, that the public sector of health care in Fiji is obtaining very good value for money through the current purchasing process. Fiji sends samples of procured medicines overseas for testing on a limited basis, and results to date have indicated that government procurements are generally of good quality. Nevertheless, we are unable to say anything certain about the quality of the particular products encountered during the course of this survey.

In the public sector, of the 16 essential medicines which should have been available 2 (12.5%) were out of stock at the time of assessment. This however, is at the central agency and provides no information on the situation at hospitals and health centres. In the majority of private sector pharmacies, of the 23 medicines which it was expected would definitely be available, all were in stock.

Medicines supplied by the one dispensing doctor surveyed met BP or USP standard and all appeared to be of similar standard to those found in the retail pharmacies as they had been purchased from the same wholesalers. Prices were higher than in retail pharmacies, thus reflecting the additional costs of out-of-hours supply.

An affordability measure for medicines in the private sector was obtained by determining the number of days work necessary to purchase a standard course of each medicine. The salary chosen for this exercise was that of the lowest paid government worker (unestablished staff) at F$2.50 per hour.

Table Seven   Affordability of Private Sector Medicines in Fiji

Medicine	Quantity	Time of work needed for lowest price generic
Amoxicillin 250mg	One week (21)	48 minutes
Amitriptyline 25mg	One month (90)	1 hour 36minutes
Atenolol 50mg	One month (30)	48 minutes
Diclofenac 25mg	One month (90)	1hour 36minutes
Ranitidine 150mg	One month (60)	1hour 36minutes

Just over three quarters of an hour's work is sufficient to purchase a one week course of amoxicillin 250mg or a one month course of atenolol 50mg. Just over one and a half hours work is necessary to purchase a one month supply of amitriptyline, diclofenac, or ranitidine. In summary, for a range of conditions including bacterial infection, depression, hypertension, arthritis, peptic ulcer, provided that the patient is in employment, if essential medicines are not available in the public sector then those medicines are affordable in the private sector. A significant proportion of the population is engaged in the agricultural and informal work sectors, so for them medicines are not affordable in the private sector.

Conclusion and Recommendations

This medicine price survey succeeded in providing some capacity building in research activity and data collection for the third year Bachelor of Pharmacy students at the Fiji School of Medicine. It is not possible from the study survey to assess availability of the study medicines at individual hospitals and health centres. It would be useful to adapt the methodology and range of medicines, and to repeat the study in the public sector during 2005, to obtain accurate information on drug availability at the point of access by patients.

The availability of medicines in the public sector at the central level, and in the private sector is assessed as being satisfactory. Very few medicines were found to be out of stock in the private sector, rather if a medicine was not available then the pharmacist had taken a decision not to stock that product and to order it on receipt of a prescription. This reduces the risk of wastage, which the pharmacist carries through having in stock, a range of medicines which is larger than the usual demand.

In the public sector medicines are being purchased by the government for prices considerably lower than the international comparator prices. Previous government experience suggests that the quality of purchased medicines is not substandard.

In relation to affordability of medicines in the private sector, for a sample of five conditions, medication is assessed as being affordable, provided that the person is in employment. This is useful information to have in Fiji, as the health budget is limited and currently is insufficient to support the purchase of sufficient quantities of all medicines which are on the Essential Drug List. In terms of future policy direction, consideration could be given to the existing budget being devoted to satisfactory quantities of all inpatient medication requirements, as these are for the most acutely ill patients. Outpatients who are employed persons whose medicines are temporarily out of stock in the public sector, could then access their required medication through private sector pharmacies. It would be necessary for there to be a general education program, so that people could expect inpatient medicines to be always available, but to understand that on occasion, some outpatient medicines would not be available and that individual responsibility would then have to be taken to purchase those medicines from the private sector.

In Fiji, for cultural reasons compliance with time commitments and in medication taking behaviour is poor. Whilst consideration could be given to a process of co-payment for outpatient medicines through the private sector for all employed persons, such a process may lead to further deterioration in medication concordance due to the competing demands on the small amount of money earned by the majority of people. It would however, be possible to improve access to medicines through reduction of the range of drugs on the Essential Drug List (perhaps through the removal of "comfort" items) and improved collaboration between public and private sectors. Any such change would need to be supported by a comprehensive public education program.

Appendix i)

List of Medicines Surveyed	Comment
Acyclovir 200mg tablet	Not on public sector EDL
Amitriptyline 25mg tablet	
Amoxicillin 250mg capsule	500mg more widely used
Artesunate 100mg tablet	No malaria in Fiji: not available in either sector
Atenolol 50mg tablet	
Beclomethasone 50microgram/dose Inhaler	100microgram/dose available
Captopril 25mg tablet	Replaced on public sector EDL by Enalapril
Carbamazepine 200mg tablet	
Ceftriaxone 1G injection	
Ciprofloacin 500mg tablet	
Co-trimoxazole (80mg/400mg/5ml) suspension	
Diazepam 5mg tablet	
Diclofenac 25mg tablet	Not on public sector EDL
Fluconazole 200mg tablet/capsule	Not on public sector EDL
Fluoxetine 20mg tablet/capsule	Not on public sector EDL
Fluphenazine decanoate 25mg/ml injection	
Glibenclamide 5mg tablet	
Hydrochlorthiazide 25mg tablet	50mg strength on EDL
Indinavir 400mg capsule	Not on public sector EDL
Losarten 50mg tablet	Not on public sector EDL
Lovastatin 20mg tablet	Not on public sector EDL
Metformin 500mg tablet	850mg strength more widely used
Nevirapine 200mg tablet	Not on public sector EDL
Nifedipine 20mg tablet	
Omeprazole 20mg capsule	Not on public sector EDL
Phenytoin 100mg capsule/tablet	
Pyrimethamine with sulfadoxine (500+25) tablet	No malaria in Fiji: not available in either sector
Ranitidine 150mg tablet	300mg strength more widely used
Salbutamol 100microgram/dose inhaler	
Zidovudine 100mg capsule	