Comparative analysis of drug revolving fund (DRF) and public private partnership (PPP) program on drug supply management in University college hospital (UCH), Ibadan, Nigeria

[1]Yejide O. Oseni and [2]Olusegun Afolabi
[1]Pharmacists Council of Nigeria, South West Zonal Office, Ibadan, Nigeria
[2]Department of Community Health, Obafemi Awolowo University, Ile-Ife, Nigeria

Corresponding Author: Yejide O. Oseni
Email: yejideoseni@yahoo.com   Phone: +2348033330927

ABSTRACT

Background: Financing drugs supply through DRF was adopted at UCH, Ibadan from 1988 until 2005, when it was reverted to PPP whereby partnership in healthcare provisioning was emphasized.

Objectives: This study was aimed at comparing the two models and how the National Drug Policy goals have been achieved.

Method Pharmacy stock records were analyzed while questionnaire was administered to outpatients. Interviews were also conducted for pharmacists with in-depth information of the two models.

Results: Records revealed that availability of the tracer drugs was more consistent during the PPP than DRF. Patronage was high (86.9%), yet patients complained of non-availability of essential drugs as they still patronize community pharmacies to fill their prescriptions. Generally, the selling prices of the drugs were higher than that of community pharmacy.

Respondents at interviews opine that fast-moving and profit-oriented drugs were the focus of PPP which seemingly undermined quality as opposed to essential and orphan drugs of DRF. Respondents preferred DRF to PPP based on sustainability and recommended reversion to it.

Conclusion: It was concluded that drug subsidy via health insurance scheme should be given priority by government. Revitalized supply through tender in DRF will reduce stock-outs and high cost of drugs. Furthermore, all relevant stakeholders should be involved in the planning and implementation of any program adopted and proper coordination is paramount for success and sustainability.

Key words: Essential drugs; drug financing; public health facilities; national drug policy; sustainability

Analyse comparative des fonds de roulement pour les médicaments (DRF) et le partenariat public privé (PPA) sur la gestion de l'approvisionnement en médicaments à l'hôpital de University College (UCH), Ibadan, Nigeria

Auteur correspondant: Yejide O. Oseni
Email: yejideoseni@yahoo.com Phone: +2348033330927

RÉSUMÉ

Contexte: Financement approvisionnement en médicaments par DRF a été adopté à l'UCH, Ibadan de 1988 à 2005, quand il a été revenue à laquelle PPP partenariat dans les soins de santé provisionnement a été soulignée.

Objectifs: Cette étude visait à comparer les deux modèles et comment les objectifs de la politique nationale sur les drogues ont été atteints.

Méthode: pharmacie comptabilité ont été analysés pendant questionnaire a été administré aux patients ambulatoires. Ont aussi été interrogés pour les pharmaciens de l'information en profondeur des deux modèles.

Résultats: Les dossiers ont révélé que la disponibilité des médicaments-traceurs est plus conforme au cours de la PPP de DRF. Patronage était élevée (86,9%), mais les patients se plaint de la non-disponibilité des médicaments essentiels car ils fréquentent encore les pharmacies communautaires à remplir leurs ordonnances. En règle générale, les prix de vente des médicaments sont plus élevés que celui de la pharmacie communautaire.
Les répondants aux entrevues menées au opine que mouvement rapide et médicaments à but lucratif ont fait l'objet de PPP qui apparemment miné la qualité par opposition aux médicaments essentiels et orphelins de DRF. Les répondants préféraient DRF PPP fondé sur la durabilité et a recommandé le retour à elle.

Conclusion: Il a été conclu que la subvention de la drogue par régime d'assurance-santé doit être une priorité par le gouvernement. Offre revitalisé par appel d'offres en DRF permettra de réduire les ruptures de stock et le coût élevé des médicaments. En outre, toutes les parties prenantes doivent être impliquées dans la planification et la mise en œuvre de tout programme adopté et une bonne coordination est primordiale pour le succès et la durabilité.

Mots clés: médicaments essentiels; financement des médicaments; les établissements de santé publics; politique pharmaceutique nationale; durabilité

INTRODUCTION

Drugs are essential for preventive and curative health services. Significant demand, limited funds and high prices contribute to frequent shortage of drugs in many public health facilities. The role of the government is to put in place a viable national medicine supply system and establish an effective and efficient administrative framework for the financing of medicines in both public and private sectors. Indeed, this is the goal of the National Drug Policy (NDP), launched in 1990 and reviewed in 2005[1]. The government has a central role in ensuring that drugs distributed to Nigerian populace are effective, affordable, safe and of good quality; and has a responsibility to promote the rational use of drugs.

Alternative drug supply strategies for public drug supply include the traditional central medical stores system, autonomous supply agencies, the direct delivery system, the prime vendor system and fully private supply[2]. Governments also have the responsibility to ensure that drug-financing mechanisms are managed in such a way as to achieve equity of access to essential drugs[3].

Efforts to reach the NDP goal at public health facilities are being complemented by support from development partners who usually provide essential medicines particularly for priority health diseases[4].

Despite the efforts of governments and partners in Nigeria, geographic and economic access to essential medicines remains elusive. The 2002 baseline assessment of the Pharmaceutical sector in Nigeria showed that 54% of essential medicines were not available at public health facilities[5].

Drug financing by the public has been challenged by financial constraints through public fund due to limited fund available by the government to meet all its demands. The management of drug supplies therefore needs to be addressed with caution as different methods of drug supplies can affect the availability of drug in a health facility. The drug supply needs an underpinning financial management system and an assured source of supply[6].

One method of financing drugs and other pharmaceutical supplies has been the establishment of Drug Revolving Fund (DRF) scheme in which after initial capital investment for its take off, drug supplies are replenished with monies collected from the sales of drugs[7,8].

DRF scheme which is one of the Bamako Initiatives was introduced into Nigeria health system in 1988 on creation of National Health Policy (NHP). The scheme was aimed at guaranteeing a reliable supply of low cost effective generic drugs at all levels of health care. It was to be self - funded, while improving prescribing practice and increasing equitable access to service.

The NHP (revised 2004) also emphasizes the importance of partnerships and collaborations in health care provision[9], hence the development of "National Policy on Public Private Partnership (PPP) for Health in Nigeria" in November 2005[10].

University College Hospital, UCH, adopted the DRF scheme as a means of supply of drugs in the facility. Financing the drug supply was done through the dedicated DRF account and the process of medicine management cycle was followed[11]. The Chief Medical Director (CMD) and Director (Finance) were signatories to the DRF account without the Head of Department (HOD, Pharmacy) involvement as against the DRF guidelines and National Drug Policy (NDP)[1]

In the year 2005, the management of UCH reverted to PPP model in financing drug supplies and other pharmaceuticals to the facility. Fund managers were introduced to the Pharmacy Department in May 2005 to take over the stock and management.

The process of drug supply system previously adopted by the department was followed with the input of the fund manager to assure quality of drugs purchased. Payment to suppliers was handled by the fund managers while patients also paid for their drugs to the designated account of fund managers. The fund managers declared the profit to the hospital management and this is shared according to the sharing formula earlier agreed on in the Memorandum of Understanding. However, Pharmacy department still performed all the professional duties in the department including store management in collaboration with the fund managers. This process was adopted for drug supply until early 2011 when a new management was constituted and gradual change was noticed which fell at the time of the study.

Introduction of PPP in pharmacy department has met with a lot of reservation from pharmacists in Nigeria especially when the pharmacy department management was not carried along and where DRF

scheme was working like UCH[12]. The fear that hospital pharmacists will soon be jobless (as expressed by pharmacists in different forum) was an issue when it was first introduced in Lagos state, Nigeria. Reactions from Pharmaceutical Society of Nigeria and responses from Pharmacists Council of Nigeria were very evident.

Although there exist challenges in the implementation of the DRF scheme if not well utilized, other emerging issues as complexity of the system, cost of medicines and sustainability in the PPP might come with the program hence a sustainable financial drug supply system in health facility need to be addressed.

Since inception of the PPP, little or no studies have been done to evaluate the program and its comparative advantage over the deposed DRF scheme (if any), which is still in use in most facilities.

The objective of the study was to assess the efficiency and effectiveness of the PPP scheme with the aim of comparing it with the deposed DRF scheme operative in UCH drug supply management system and how the National Drug Policy goals have been achieved.

METHODS
This current study spans between the month of May and August 2011

Document Analysis: Service records used in the pharmacy department of UCH for the period of one year each when the two models have been implemented in the facility were assessed and then analyzed. Twenty (20) drugs most often prescribed which was determined by the consumption rate of drugs, were used as tracer drugs in their generic names while information was sourced from stock control cards. Prices of same drugs at the pharmacy department were compared with that at a community pharmacy less than 200m to UCH main gate where many patients do source for their medicines. Indicators for comparism were availability of drugs; Level of out-of-stock (number of stock-out days) and cost of drugs

(a)   Availability of drugs; Level of out-of-stock
Time out of stock days normally refers to the number of days that a product was not available in the store or clinic for use. For the purpose of the study, a one year period each was assessed for the period when the two models were implemented in UCH. The percentage time out of stock for a set of tracer essential drugs gives a measure of the procurement and distribution capacity

to maintain a constant supply of drugs. Effective treatment of diseases and conditions is dependent on the drugs being available.

Calculation:

Average % time out of stock
= $\frac{\text{Total \# of days out of stock for tracer drugs}}{365 \text{ days}} \times 100$

The indicator on availability was also expected to give an indication for sustainability of the PPP. This was done for all the tracer drugs.

(b)   Cost of drugs
The sales prices of the 20 tracer drugs in the facility were compared with the same tracer drugs in the community pharmacy during PPP program. This indicator serves to evaluate the procurement performance of the facility

Calculation:
$\frac{\text{facility sales price of one tracer drugs}}{\text{Market sales price of same drug}} \times 100$

Quantitative method: Use of Questionnaire
Semi-structure questionnaire was designed, pre-tested and administered to patients who attend the out-patient department of UCH. These were old patients who had been using the service of UCH. This group was established through questionnaire administration. The aim was to assess the patients' view/opinion on the services provided in the pharmacy department of UCH in terms of availability, quality and cost of drugs in the facility.
Study population includes out-patients at the General Out-patient department (GOPD) and Medical out-patient department (MOP) who had been using the service of UCH while all first- timer out-patients were excluded from the study
Non-probability Purposive sampling method was employed. The pre-determined number of out-patients was targeted with the assistance of the nurses in the OPD.

Sample size determination for quantitative analysis
Sample size was calculated using the formula (N) = Z^2pq/d^2. Where Z = standard normal variate for 95% confidence level, p = prevalence of stock out, set at 9% (0.09), q = (1-p), d= acceptable difference (0.05).

Sample size was calculated to be 126. However, sample

size was increased to a total 160 to compensate for attrition (i.e. inadequately filled and unreturned questionnaires)

Quantitative data were analyzed using **Statistical Package for the Social Sciences (SPSS)** version 15.0 and Window Programs for Epidemiologists (WINPEPI) to conduct statistical tests to determine frequencies, percentages, chi-square and P-value of key indicators.

Qualitative method (unstructured): Qualitative social science research instruments were subsequently designed to compare the DRF scheme and PPP model in the facility. **Focused Group Discussion (FGD)** was conducted among eight (8) pharmacists in the pharmacy department who had worked for over seven (7) years in the service of UCH and has been involved in the execution of both programs. **In-depth interview (IDI)** was conducted among HOD and Head of Units (HOUs) of the pharmacy department who were of management cadre. These were ten (10) in number. Responses from participants were taken using audio-tape and observational notes by the research assistants. The interviews were expected to ascertain the following:

- Advantages of the two models
- Factors that undermine success of the two schemes
- Involvement of stakeholders in designing and implementation of the two scheme
- Factors that affected the policy changes and motives of the UCH management
- Relative comparative advantage in achieving the NDP goal
- Comparative analysis using some key performance indicators

Qualitative Analysis: The researcher was able to identify the factors that were observed to make a difference, positively or negatively, in programme process and implementation. The audio-tape was replayed to get the required information while the observational notes was used to complement the

information and was analyzed. Factors affecting the sustainability outcomes of each program were triangulated. Data and method triangulations were done to establish the completeness and confirmation of findings.

Data Collection

Two levels of assistants were employed. The assistants that administered the questionnaires had at least secondary school education while Pharmacists were employed for carrying out the FGD and IDI. The two sets were trained for the level of responsibilities given. Responses during the FGD and IDI were taken in observational notes by the assistants (pharmacists) while tape recordings were also done during the interviews. Relevant records were taken from the stock cards of the tracer drugs in the pharmacy store with the assistance of Pharmacists-in-charge of the store.

Research Ethics

Approval was taken from UCH management while informed consent was obtained from all persons (patients and pharmacists) who voluntarily agreed to be interviewed.

RESULTS

Availability of drugs:

The result of availability of drugs under DRF scheme and PPP program is presented in Table 1. Only four (4) out of the tracer drugs, namely injection ceftriazone 1g, injection ciprofloxacin 200mg, injection diazepam 10mg and tablet paracetamol 500mg, fell within the standard of 95% availability during DRF scheme while six (6) of the tracer drugs - namely tablet amoxycillin/clavunanic acid, injection metronidazole 500mg, tablet nifedipine, tablet diclofenac 50mg, tablet ciprofloxacin 500mg and tablet coarinate - fell outside the standard when PPP model was operational.

Table 1:Stock-out days during DRF scheme and PPP program

S/N	Products	Total days stock out		P-value
		Jan - Dec 2004(%) DRF	Jan - Dec 2010(%) PPP	
1.	Tablet Artesunate 80mg / lumenfantrine480mg	*	20(5.48)	
2.	Tablet Amoxycillin/ clavunanic acid 625mg	37(10.11)	33(9.04)	0.62
3.	Injection Ceftriazone 1g	Nil (0.0)	Nil (0.0)	
4.	Injection Ciprofloxacin 200mg	Nil (0.0)	16(4.38)	<0.001
5.	Injection Metronidazole 500mg	*	85(23.29)	
6.	Injection Pentazocine 30mg	*	9(2.47)	
7.	Injection Diazepam 10mg	Nil (0.0)	Nil (0.0)	
8.	Tablet Moduretic	61(16.67)	14(3.81)	<0.001
9.	Tablet Paracetamol 500mg	Nil (0.0)	8(2.19)	<0.001
10.	Tablet Ascorbic acid 100mg	98(26.78)	Nil (0.0)	<0.001
11.	Tablet Nifedipine 20mg	55(15.03)	63(17.26)	0.412
12.	Tablet Lisinopril 5mg	249(68.03)	Nil (0.0)	<0.001
13.	Tablet Diclofenac 50mg	244(66.67)	61(16.71)	<0.001
14.	Tablet Glibenclamide 5mg	111(30.33)	Nil (0.0)	<0.001
15.	Tablet Acethylsalicylic acid 75mg	*	14(3.84)	
16.	Tablet Ciprofloxacin 500mg	147(40.16)	25(6.85)	<0.001
17.	Tablet Metformin 500mg	*	17(4.66)	
18.	Tablet Vit.B.Complex	*	Nil (0.0)	
19.	Tablet Metronidazole	51(13.93)	Nil (0.0)	<0.001
20.	Tablet Coarinate (junior)	*	36(9.86)	

*record was not found

Cost of drugs:

Table 2 reveals the comparative assessment of cost of drugs during DRF and PPP programs. Of the twenty (20) drugs surveyed, only six (6) drugs (30%) (i.e. Tablet Artesumate/lumefantrin (94.83%), Tablet Amoxycillin /clavunanic acid (94.74%), Tablet Nifedipine (66.67%), Tablet Diclofenac (76.92%), Tablet Gilbenclamide (60%) and Tablet Metronidazole (50%)) were sold at a cheaper rate than what obtained in the community pharmacy.

Table 2:Comparing assessment of cost of medicines in pharmacy department and community pharmacy

S/N	Product Capsule / tablet / injection	Pack size	UCH Pharmacy price(N) (PPP, April 2011)	Community pharmacy Price(N) as at April 2011	UCH pharmacy price / community pharmacy price x 100%
1.	Tablet Artesunate 80mg / lumenfantrine480mg	6	550:00	580:00	94.83
2.	Tablet Amoxycillin/ clavunanic acid 625mg	14	1080:00	1140:00	94.74
3.	Injection Ceftriazone 1g	1	600:00	550:00	109.09
4.	Injection Ciprofloxacin 200mg	1	130:00	120:00	108.33
5.	Injection Metronidazole 500mg	1	80:00	70:00	114.29
6.	Injection Pentazocine 30mg	1	115:00	100:00	115.00
7.	Injection Diazepam 10mg	1	255:00	250:00	102.00
8.	Tablet Moduretic	100	700:00	500:00	140.00
9.	Tablet Paracetamol 500mg	1000	1000:00	1000:00	100.00
10.	Tablet Ascorbic acid 100mg	1000	1000:00	500:00	200.00
11.	Tablet Nifedipine 20mg	100	1000:00	1500:00	66.67
12.	Tablet Lisinopril 5mg	28	476:00	300:00	158.67
13.	Tablet Diclofenac 50mg	100	1000:00	1300:00	76.92
14.	Tablet Glibenclamide 5mg	100	600:00	1000:00	60.00
15.	Tablet Acethylsalicylic acid 75mg	100	300:00	200:00	150.00
16.	Tablet Ciprofloxacin 500mg	10	150:00	120:00	125.00
17.	Tablet Metformin 500mg	100	600:00	600:00	100.00
18.	Tablet Vit.B.Complex	1000	500:00	500:00	100.00
19.	Tablet Metronidazole	100	200:00	400:00	50.00
20.	Tablet Coarinate (junior)	3	495:00	450:00	110.00

Out of 171 patients interviewed, 160 questionnaires were analyzed, giving a response rate of 93.6%. Respondents that fell within the expected range of old patients to be surveyed were 97% while 86.9% of the respondents do patronize pharmacy department to get their medicines. The respondents were mostly female (53%) and 25% between 50-59 years of age. Others included 40-49 years (18.8%), 60-69 years (17.5%), 70 & above (15.6%), 30-39 years (15%) and 20-29 years (8.1%). Respondent that had been using the service of UCH for over five (5) years were 35.6% while 30.7% of them had been patronizing pharmacy department for the same period (i.e. over 5years).

Most of the respondents (80%) prefer to patronize UCH pharmacy department than any community pharmacy outside the hospital while 70.6% of the respondents were willingness to recommend the pharmacy department to their family, relatives and friends. However, the respondents who decline their willingness to recommend pharmacy department to others (i.e. 29.4% of respondents) have long waiting time as the commonest reason (61.7%) followed by regular stock out of medicines (44.7%) and high price of medicines (42.6%). Other reasons were low quality of medicines

(8.5%), continuous change in brand of medicines (4.3%) and attitude of staff of pharmacy department (4.3%). The respondents' suggestion is in line with the above that government should provide free medicines / subsidy price of medicines in order to make essential medicines available (44.6%) and employ more pharmacists to reduce the patient waiting time (22.8%).

Result of FGD and IDI

Major stakeholders in the IDI schemes were identified as UCH management, Pharmacy department, drug suppliers, fund managers, patients, legal unit of UCH, Account Department, Federal Ministry of Health (FMOH) and Federal Government of Nigeria.

Table 3: Advantages and Challenges of DRF Scheme in UCH itemized during the FGD

Advantages of DRF scheme	Challenges identified in the implementation of DRF scheme
▪ Availability of drugs ▪ Affordability of drugs ▪ Pharmacy department being in total control of the DSM system ▪ Prompt payment of suppliers ▪ profit made is solely for the hospital and not shared with fund manager ▪ There is trust between suppliers and the hospital management ▪ prompt supply of dr ugs due to prompt payment	▪ Diversion of fund ▪ Improper application of the scheme by not making HOD pharmacy as a signatory of the DRF account ▪ Free drugs given to UCH staff tend to deplete the capital in the DRF account ▪ 5- 7% withholding tax built into price increase the price of drugs in DRF scheme

Table 4: Advantages and Challenges of PPP Model in UCH itemized during the FGD

Advantages of PPP Models	Challenges identified in the PPP models
▪ The management is not investing ▪ Easy access to fund to purchase out of stock drugs ▪ It reduces bureaucracy and bottleneck in payment system ▪ Pharmacists that are fund managers are being enriched	▪ The fund managers do not have a sense of ownership as they see it as business venture ▪ Fund manager's goal is at variance to UCH goal which is "service , research and training" as specify in the motto of UCH ▪ Fund manager can influence decision in drug purchases negatively ▪ Drugs became more expensive since suppliers were not being paid promptly ▪ Patient accessibility to drug is reduced ▪ Suppliers lost confidence in UCH through the use of fund manager and some multinational stopped supplies ▪ Dedication of UCH pharmacy staff to work was reduced

When asked if PPP has been able to correct the challenges of DRF scheme, responses were in the negative. *"PPP has not, it has even worsened it. It's only the fund manager that declare profit, HOD pharmacy doesn't also have a say in the account, fund is still been diverted".*
The respondents also believed that PPP was not appropriate for drug supply because pharmacists, they believed, rendered direct services to patient, hence the facility was not able to boast of a better achievement of NHP and NDP goals

Table 5: Comparative analysis of DRF and PPP models by respondents obtained during FGD

S/N	Indicators	PPP	DRF
1.	Essential drug list (EDL)	No emphasis on EDL	There is emphasis on EDL
2.	Procurement	Majorly on fast -moving and profit oriented ones	Majorly on EDL and orphan drugs
3.	Payment	Delay in payment	Payment is more prompt
4.	Focus	Business oriented	Absolute professionalism
5.	Availability of drugs	Less available	More available
6.	Sustainability	Less sustainable due to poor management	More sustainable because there is a proper laid down guidelines in it implementation
7.	Patronage	Reduction in patient patronage	More patient patronage
8.	Operative system	Less reliable as some multinational stop supply of drugs	More reliable with multinational companies supplies
9.	Complexity of the system	More complex with involvement of fund manager in p urchases of drugs	Less complex with direct purchases by pharmacy department
10.	Diversion of fund	Into personal pocket	Still within the system

Table 6: Comparative analysis of DRF and PPP models by respondents during IDI

S/N	Indicators	PPP	DRF
1.	Payment schedule	Money was not in control of UCH establishment as Fund managers pay the suppliers	Was better because the UCH management monitored the fund
2.	Stability of suppliers	Was not sure that suppliers will deliver supplies	Sure that suppliers wi ll deliver
3.	Access to supplies	Poor. Most multinationals stop supplies	Okay. Dealings was with UCH establishment
4.	Debt payment	Prolong debt by fund managers	Not prolonged by the institution as sole manager
5.	Management of fund	Fund manager as sole manager	Institution as sole manager
6.	Bureaucracy	Less on procurement procedure	More of due process
7.	Markup	Is not affected	Is not affected
8.	Stock out level	High	Less
9.	Sustainability (divergence of opinions by respondents) stated as : ▪ Depends o n the management ▪ About equal	▪ Less sustainable ▪ It was pointed out that most of the problems emanated during the last three years of implementation stage	More sustainable

The factors that can undermine the success of the PPP were further stated at the IDI as follows:

i) Model managed by a non-professional i.e. not by pharmacist

ii) No input from other stakeholders

iii) No mechanism to enforce that the fund managers pay suppliers and declare the profit on time

iv) Faulty take-off and implementation

v) No seed money for fund manager as earlier promised in the MoU

Respondents' responses on the policy change clearly

revealed their limited knowledge on the PPP policy as none of them was aware of the initiative of Prof. Eyitayo Lambo (former Minister for Health) on the PPP in health as expressed in the communique after a consultative meeting of March 30- April 01, 2005 on the need for private sector involvement in health and the PPP policy of November 2005 that followed[9,13.]

The senior managers' exposure to a similar program around the world also showed limitation to those applicable in Nigeria and could not ascertain where it had been practiced around the globe with success stories. Their knowledge on the above would have facilitated the acceptability of the program and increase chances of its success and sustainability.

➢ *"May be not in pharmacy, it might be successful in other aspects. We understand PPP in Build Operate and Transfer (BOT), catering services, etc, but not in drug supplies where a private individual will come and sit down and manage drug supplies. I have not seen it practiced in this area"*

➢ *"We only know of Lagos state and we heard that the program has started to collapse. In Oyo state, it was not successful either."*

DISCUSSION
Availability of adequate and efficacious drugs supplies tends to impact positively on the ability of health facility to provide health care. The study showed, through the stock control cards surveyed, that availability of tracer drugs was more consistent during PPP program than DRF scheme. This was at variance with the patients' responses who complained of non-availability of all essential drugs in the facility which caused them to patronize community pharmacy in filling their prescription.

The pharmacists who had experienced the two models were of the opinion that availability of essential drugs was better during DRF scheme. The respondents also noted that the fund manager prefer to invest more on fast moving drugs, hence the constant availability of these tracer drugs. WHO on Drug supply choices: what works best?[2] indicated that full privatization of drug supply would have implications for equitable access to drugs in an environment where profit will become the motive for supply.

A similar study carried out by Uzochukwu et al [14] when comparing the availability of drug in DRF and non- DRF facilities of Enugu state, Nigeria, revealed that a DRF facility had a better availability of essential drugs in

number and in average stock than a non-DRF scheme.

The respondents however deduced that poor availability of tracer drugs noted in the stock card records during DRF scheme could be due to poor management of DRF account already been experienced during the period under review i.e. 2003-2004.

It is generally expected that selling price of medicines in public health facility should be competitive as may be compared with what operates in a private pharmacy. This assumption is collaborated by result of national medicine price and availability surveys conducted by WHO/ Health Action International (HAI), (2008)[15] whereby over fifty (50) surveys were undertaken by end of 2007 across the globe. The result generated reliable evidence showing that in many low- and middle-income countries, medicine prices are high, especially in the private sector. The outcome from the present study as shown in Table 2 revealed that only one-third of the tracer drugs in the pharmacy department were sold at cheaper rate than the community pharmacy price. This observation may probably be as a result of defective procurement method, extent of profit margin, etc.

Despite the non-availability of all essential drugs and high cost price of medicines, 86.9% of the patients still patronize the pharmacy department due to expected quality assurance of drug purchased. However, about half of the patients complained of long waiting time in filling their prescriptions.

The above is consistent with the result of Uzochukwu et al (2005)[16] when the University of Nigeria looked at the behaviour of health workers since 1988 and how patients feel about the service provided by some DRF health facilities in part of southeast, Nigeria. Despite this, more than half of the patients considered the health workers polite and were satisfied with the drug given while they were dissatisfied with waiting time, advice given and fee charged.

In the light of the forgoing, there is need for pharmacy department to improve in their services to the patients in order to overcome the obvious complaints.

One major reason that accounted for high patronage was the assurance of quality of drugs purchased from the pharmacy department of UCH. However, this was threatened during the PPP program as profit making was gradually setting in. The fund managers were

finding it difficult to pay suppliers; hence the multinational companies had started to withdraw supplies of drugs to the facility which is a factor that might affect the quality of drugs purchase in the long run as noted by pharmacy staff. This was in accordance with the study conducted by Druce et al in Initiative for Public-Private Partnership for Health (IPPPH, 2004)[17] on PPP in Botswana for improving access to HIV/AIDS related pharmaceuticals where it was concluded that even though the drug supplied through donation partnership and discount arrangement were valued by government, it was clear that decision about drug selection were made without company's involvement. Hence the process of medicine management cycle should not be neglected in any program in order to continually assure quality.

Respondents' responses at both the FGD and IDI were in agreement as all prefer the reversion to DRF scheme believing it has more advantages than the PPP despite the challenges in its implementation. This they believed can be handled administratively if the management is in total support. However, they attribute sustainability of any program adapted mostly to proper coordination and involvement of all stakeholders from the formulation stage through the implementation stage and monitoring and evaluation which was in line with PATHS and DFID (2009)[6] conclusion on the Technical Brief 'Strengthening Sustainable Drug Supply Systems', that sustainability is dependent on the presence of a robust monitoring and evaluation system, strong stakeholders participation, and the introduction of performance based incentives to operators. WHO[18] also recommended that drug supply systems chosen should first be based on a careful analysis of the underlying causes for the weaknesses of the existing system and not because they function in a "successful" market economy.

Limitation of the Study
Simple random sampling would have been the best sampling method but was not feasible, practical or theoretically sensible because of the difficulty in getting the sampling frame organized where we can actually draw the sample from and decide on the number of patients (respondents) we would have in the final sample.

CONCLUSION
The research showed that there are still challenges with financing drug supply management system at the facility as the challenges associated with DRF scheme were not resolved by the PPP program. It was concluded that drug subsidy via health insurance scheme should be given priority by government. Revitalized supply through tender in DRF will reduce stock-outs and high cost of drugs. Furthermore, staff motivation should be taken into consideration in PPP program as it was in DRF scheme, all relevant stakeholders should be involved in the planning and implementation of any program adopted while proper coordination is paramount for success and sustainability.

REFERENCES
1. FMOH/ WHO (2005). National Drug Policy (NDP), First Revision, 2003. Nigeria Federal Ministry of Health Production, pp.4-17.
2. WHO (1998). Drug Supplies Choices: what works best? Essential Drug Monitor (EDM) 025-026: 7-9
3. WHO (1998). Health Reform and Drug Financing in Action Programme on Essential Drugs. Essential Drug Monitor (EDM) 025-026:2
4. FMOH /WHO (2010). Indepth Assessment of Procurement and Supply Management Systems for Medical Products. Printed in Nigeria pp.5-12
5. FMOH/WHO (2002). Baseline Assessment of the Nigeria Pharmaceutical Sector. Nigeria, Federal Ministry of Health Production, pp.5
6. PATHS and DFID (2009). Technical Brief on Strengthening Sustainable Drug Supply Systems, pp.2-3
7. Gilson L. (1997). The lessons of user fee experience in Africa. Health Policy and Planning 12: 273-85.
8. Ridde V. (2011). Report from West Africa: is the Bamako Initiative still relevant for West African health systems. International Journal of Health Services 41(1):175–184
9. FMOH (2004).Revised National Health Policy (NHP), 1st revised ed. Abuja, Nigeria, pp. 2-6
10. FMOH (2005). National Policy on Public Private Partnership for Health in Nigeria. Nigeria, Federal Ministry of Health Production, pp. 7-8
11. MSH/WHO/DAP (1997). Management Sciences for Health/World Health Organization / Action Programme on Essential Drugs in Managing Drug Supply, 2nd ed. Hartford, C.T: Kumarian Press Inc. Cincinnati, pp.2-10
12. Dele Ogunyemi (2005). UCH Workers Protest

Proposed Privatizations of Hospital Services. Daily Trust, 24 May, 2005,pp.14

13. FMOH (2005). Communiqué issued at the end of a 3-day National Consultative Workshop on Public Private Partnership in health in Nigeria held at the Nicon Hotel, Abuja, March 30th – April 1st 2005. Daily Trust, 6 June, 2005,pp.14

14. Uzochukwu B.SC., Onwujekwe O.E., & Akpala C.O. (2002). Effect of Bamako- Initiative Drug revolving fund on availability and rational use of essential drugs in primary health care facilities in south-east Nigeria. In Health Policy and Planning 17(4):378-383

15. WHO/HAI (2008). Measuring medicine prices, availability, affordability and price components 2nd edition. Geneva, World Health Organization production, pp.1-7

16. Uzochukwu B. and Onwujekwe O. (2005). Healthcare reform involving the introduction of user fees and drug revolving funds: influence on health workers' behaviour in southeast Nigeria. In Health Policy, Nigeria, vol.75 pp.1-8

17. Druce N., Kgatlwane J., Mosime O. and Ramiah I. (2004). Impact of Public-private Partnerships Addressing access to pharmaceuticals in Low and Middle Income Countries: Botswana. In Initiative on Public-Private Partnerships for Health (IPPPH), Global Forum for Health Research. Printed in Switzerland pp.32-34

18. WHO (1998). Editorial: Managing Drug Supply. Essential Drug Monitor (EDM) 025-026: 1