

**MARKETING OF
PHARMACEUTICAL PRODUCTS IN GOVERNMENT HOSPITAL**

A CASE STUDY OF A.B.U. TEACHING HOSPITAL

ZARIA.

BY

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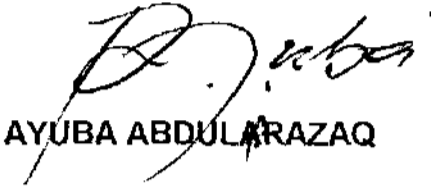
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SEPTEMBER, 1997

DECLARATION

I hereby declare that this project has been written by me, and that it is a record of my own research efforts. It has not been previously been presented in any application for a higher degree. And all sources of informations are acknowledged by means of footnotes or references.



AYUBA ABDURAZAQ

SEPTEMBER, 1997

CERTIFICATION

This project is entitled **MARKETING OF PHARMACEUTIC PRODUCTS IN GOVERNMENT HOSPITALS. A CASE STUDY OF AHMAI BELLO UNIVERSITY TEACHING HOSPITAL, ZARIA** by **AYUBA ABDULRAZAK** meets the regulations of Governing the award of the degree of Master of Business Administration (MBA) of Ahmadu Bello University, Zaria and is approved for contribution to knowledge and literary presentation.



Research Project Supervisor Signature Date 19/10/99

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LIST OF ABBREVIATIONS

| | | | |
|-----|--------|---|---|
| 1. | DRFs | - | Drug Revolving Funds Scheme |
| 2. | P.T.Fs | - | Petroleum (Special) Trust Funds Scheme. |
| 3. | FHC | - | Free Health Care |
| 4. | WHO | - | World Health Organisation |
| 5. | PHC | - | Primary Health Care |
| 6. | ABUTH | - | Ahmadu Bello University Teaching Hospital |
| 7. | CBA | - | Cost/Benefits Analysis |
| 8. | CEA | - | Cost/Effectiveness Analysis |
| 9. | CUE | - | Cost/Utility Analysis |
| 10. | NHS | - | National Health Services |
| 11. | UK | - | United Kingdom |
| 12. | GMP | - | Good Manufacturing Practice |
| 13. | FMOH | - | Federal Ministry of Health |
| 14. | NEDP | - | National Essential Drugs Programme |
| 15. | ARI | - | Acute Respiratory Tract Infection |
| 16. | AD | - | Acute Diarrhoea |
| 17. | HAI | - | Health Action International |
| 18. | EDL | - | Essential Drugs List |
| 19. | EDP | - | Essential Drug Programme |
| 20. | NDP | - | National Drugs Policy |
| 21. | UNICEF | - | United Nations Children's Fund |
| 22. | EDSP | - | Essential Drug Supply Project |

DEDICATION

This Research work is dedicated to my Parent Alhaji Ibrahim Ayuba and Hajia Halimatu Ayuba for their great support, encouragement and unique prayers. And to my wife Bilikisu and my children Abdulsamad, Ibrahim and Memunat for their patience and understanding.

This achievement belongs to you.

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ABSTRACT

The effectiveness in the marketing of pharmaceutical products in the public hospitals is very much dependent on the availability of drugs and other related pharmaceutical consumables.⁵

Procurement of drugs and provision of free health care by the Government could no longer be sustainable due to economic recession, high inflation, limited funds and high prices of pharmaceutical products. And these led to the frequency shortage of drugs in many of the government owned hospitals that has forced policy makers to consider alternative sources of funding for health activities, e.g. imposition of user fees. A scheme under which patients are charged for their prescribed drugs and the money so recovered being used to purchase more drugs. This was tagged Drug Revolving Fund (DRF) Scheme (1987) and Petroleum (Special) Trust Fund (PTF assisted DFR (1997) to replace free health care (FHC.)

This study attempts to find out how charging of drugs affects patient attendance in relation to other factors such as availability of drugs, management and operation of pharmaceutical activities, staff - patient relationship. And Ahmadu Bello University Teaching Hospital, Zaria was selected for a case study.

In view of this, data were collected, collated from Pharmacy Bulk Stores and Medical Records department to cover a period of 5 years (1992 -1997). And three set of questionnaires were administered to the Pharmacists, Doctors, Nurses and other staff of the hospital and their client (patients) selected at random.

The study reveals that availability of drugs at reasonable cost encourage high patients attendance in the hospital.

Therefore, to ensure effective marketing of pharmaceutical products in public hospitals, there must be consistent flow of drugs and other related pharmaceutical consumables.

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CHAPTER ONE

1.0 INTRODUCTION

In recent years, there has been a big increase in the number of drugs marketed but this increase has not been matched by a proportional improvement in health. If anything, the indiscriminate use of multiple drugs in treatment has led to a big increase in the frequency of drug - induced diseases.³

The present situation is that drugs are procured with little regard to the needs and priorities of health care in the country. Availability of drugs in the health care system is largely a response to the sales promotions activities of manufacturers and distributors such pressures lead to a proliferation of available drugs which bears little relation to the actual needs of the population. The result is the present situation in which the basic drugs needs of a large percentage of the population cannot be satisfactorily met by the available drugs. There is therefore need for a change to a system in which, as far as the public sector of the health care system is concerned, priority is given to drugs proven to be therapeutically effective, cost effective, to be reasonably safe and to satisfy the health needs of the population.³

In line with this, the World Health Organisation (WHO) Essential Programme has indeed, revolutionized the drugs supply system throughout the world. Governments are now being very careful about the drugs they buy for their various health care systems. In addition, the reckless buying

of the past has now given way to rational selection, quantification of requirements, distribution and rational use.

Having accepted the Alma Ata declaration of health for all by the year 2000 and beyond, making health care accessible to the entire population has become a major concern of the government, and the primary health care programmes is designed to make the attainment of the goal of health for all possible. One of the essential elements of Primary Health Care (PHC) is the provision of the essential drugs. Drugs occupy a unique position in health care. They make health care credible because they can cure diseases, relieve symptoms and alleviate suffering. The psychological satisfaction produced by drugs creates a favourable environment on which the preventive and educational elements of health care can be built with consequent further improvement in health. It is obvious, therefore, that the present situation in which regular availability of the most needed pharmaceutical products cannot be ensured is not conducive to the attainment of the goal of health for all.³

In the past the government of the country was providing free health care services. But today, because of increase in the country's population and increased economic depression which affected all the third world countries, specifically, and the world at large. This made it difficult for the government in these third world countries provide the usual free health care services. Limited funds and high prices of pharmaceutical products

contributed to the frequent shortage of drugs experienced in many of the public health institutions.

This led to a deteriorating condition of the health services rendered in the country.

Therefore, in order to improve the quality of health care delivery system in the country, the drug revolving funds schemes was introduced in some of the country's government owned hospitals. Hence the need for effective marketing of pharmaceutical products in government hospitals in order to sustain and improve on the quality and standard of the health care delivery system in Nigeria.

1.1 HISTORICAL BACKGROUND

The Ahmadu Bello University Teaching Hospital Zaria (ABUTH) is one of the oldest hospitals in Nigeria. It started in 1968, with the objectives of providing facilities for the training of doctors and other professionals allied to medicine, primarily for the then Northern region; and the whole country at large. Formally, came to being with the following constituent institutions⁴:

- i. A.B.U. Teaching Hospital, Zaria (plus TB Annex).
- ii. A.B.U. Teaching Hospital, Kaduna
- iii. A.B.U. Teaching Hospital, Malumfashi
- iv. Orthopaedic Hospital, Dalla, Kano
- v. Medical Auxilliary Training School, Kaduna
- vi. School of Nursing, Zaria

vii. School of Midwifery, Kaduna

viii. School of Hygiene, Kano.

Between 1967 to 1975, ABUTH was a constituent of, and administered by the Ahmadu Bello University, Zaria.

While in 1976, Federal Government took over the control of ABUTH, Zaria with an autonomous board of Management.

1976 to 1985 was a period of gradual disengagement from the University, with accompanying handing over of some facilities to State Governments. e.g. Nursing Home in Kaduna, Orthopaedic Hospital, Dalla, Kano, School of Hygiene, Kano, Dispensary in Samaru, Zaria. And ABUTH became legally and operationally separated from the University.

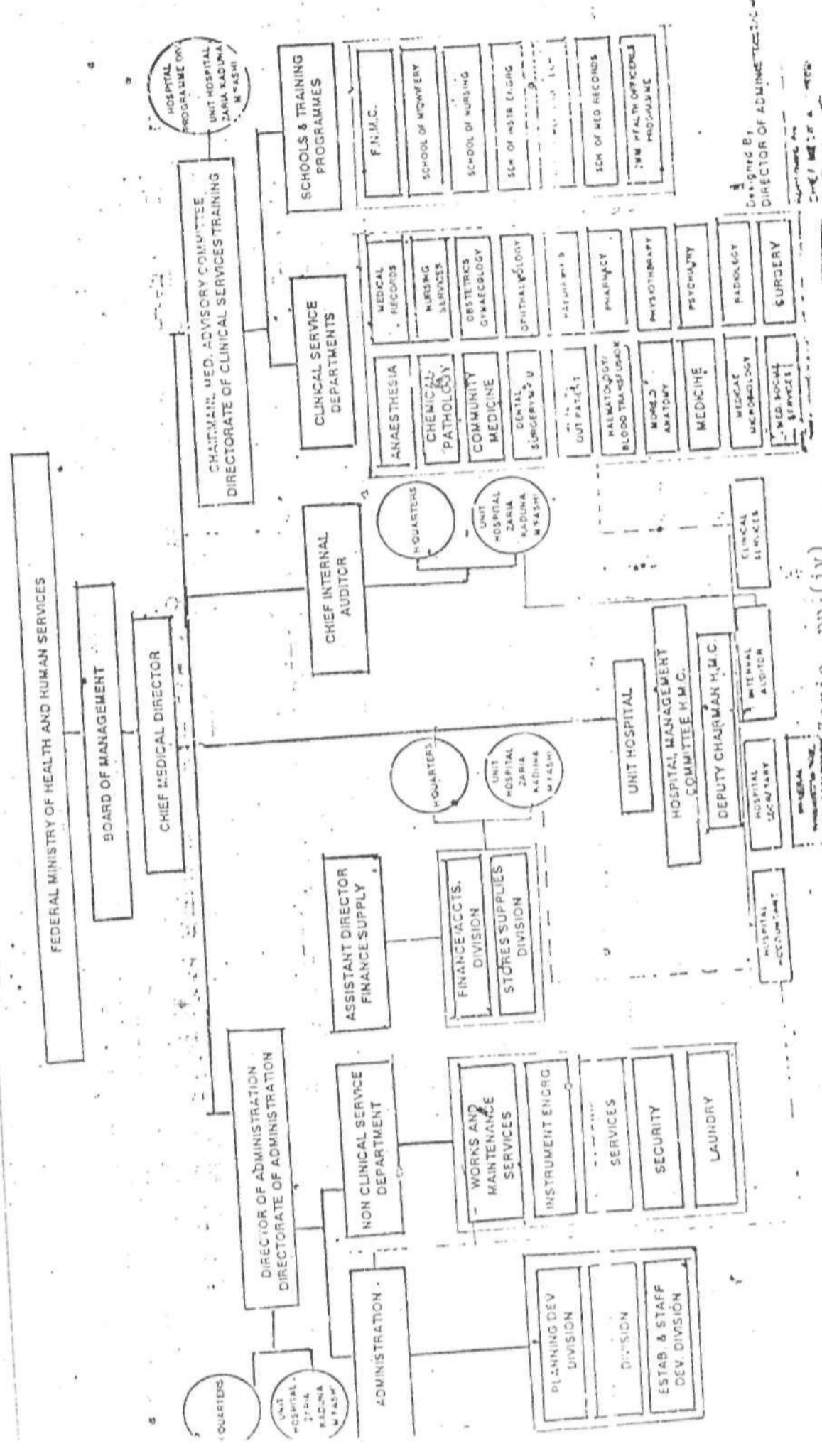
Presently, the ABUTH's consists of three hospital, Zaria, Kaduna and Malumfashi and associated satellite clinics with over 1000 beds distributed among them. The administrative headquarters is located in the Main Campus of the University in Samaru, Zaria. A new 540 beds Teaching Hospital is under construction at Shika near Samaru, Zaria which is expected to be completed and commissioned soon.⁴

Tertiary health care is offered at all the units General Out-patient services. In addition, in-patient care is offered in the main clinical specialties.

Chart 1 depicts the organisational chart for Ahmadu Bello University Teaching Hospitals, Zaria which is headed by the Board of Directors who are

Chart 1

AHMADU BELLO UNIVERSITY TEACHING HOSPITALS' ORGANIZATIONAL CHART.



Source: Operational Manual, A.B.U. Zaria. pp. (iv)

responsible to the Federal Ministry of Health. The Chairman is their adviser and co-ordinator. The Chief Medical Director is the administrative head and the Chief Executive. The ABUTH is divided in such a way that there is training programme, services departments and each department is directed by a Head who is assigned with a specific function to perform and accountable to the Chief Medical Director (the Chief Executive).

The structure of the ABUTHs is hierarchial, where the authority to perform functions, comes from the top in a descending order and feedback flows upward in the same manner.⁴

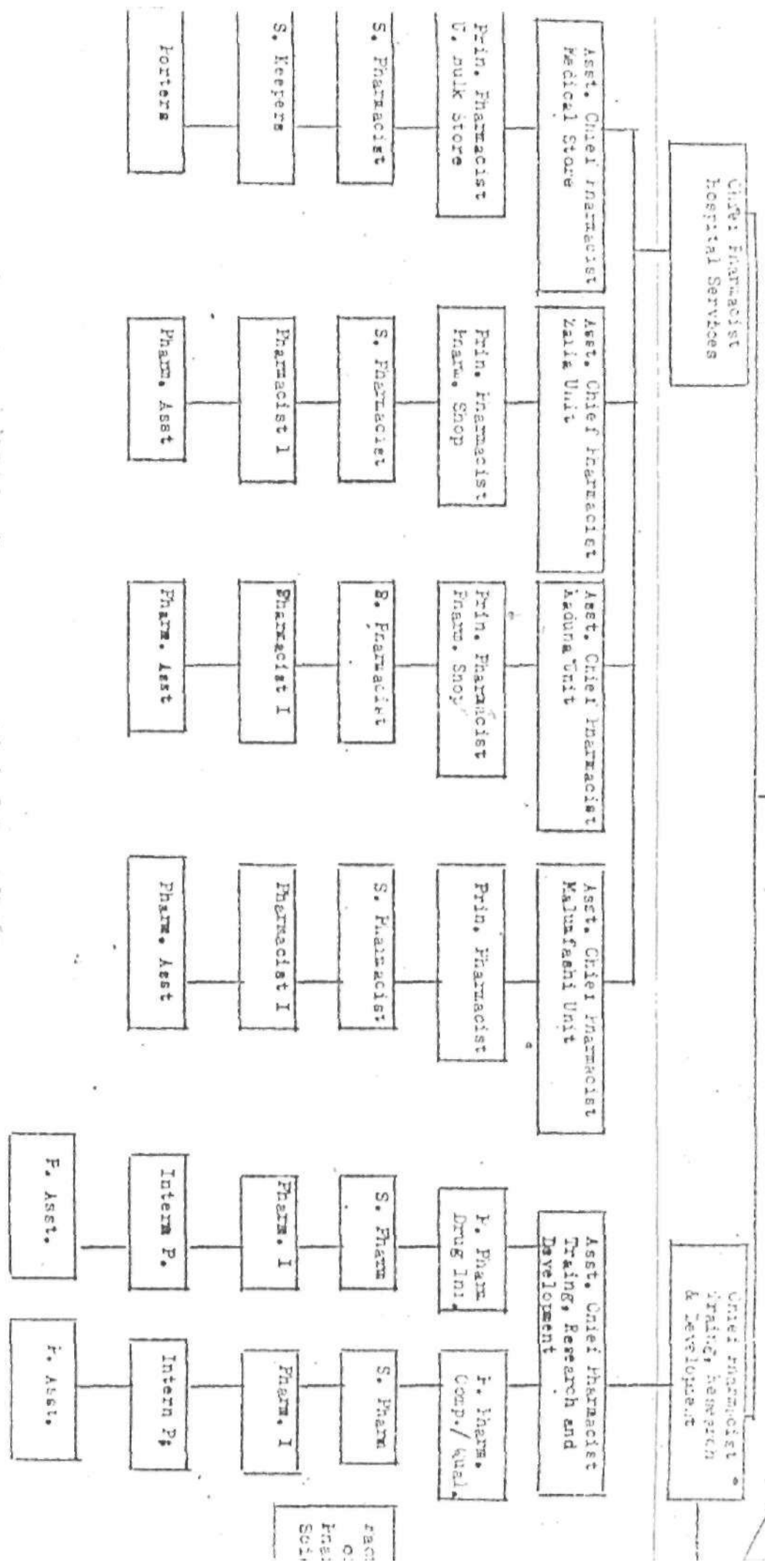
1.1.1 ABUTH PHARMACY DEPARTMENT

Pharmacy Department is one of the many divisions of the hospital. It exerts a great deal of influence on the professional statue of the hospital as well as upon the economics of the total operational costs of the institution, because of its inter-relation with other service departments.

Chart II depicts the organisational structure of the Pharmacy Department. This department is headed by the Assistant Director, Pharmaceutical Services, who by law is a registered Pharmacist. He is responsible for the smooth running of the department; next to him is the Deputy Chief Pharmacist who help in the day to day running of the department. There are other registered Pharmacists, Pharmacy Assistance who also contribute their quota in the running of the department.

The various functions performed by the department are as follows:-¹

Chart II



Source: Operational Manual, Pharmacy department A.B.U TH Zaria.

1. To ensure the availability, provision and distribution of good quality drugs and related pharmaceutical products in the hospital.
2. Maintain drug and inventory control system.
3. Plan and co-ordinates departmental activities.
4. Develops policies.
5. Schedule personnels and provide supervision.
6. Co-ordinate administrative needs of the Pharmacy and therapeutic Committees.
7. Train newly employed Pharmacy department personnel (e.g. Intern Pharmacists and Pharmacy Technicians).
8. Provide medication to all patients of the hospital.
9. Co-ordinate programme for undergraduates.
10. Maintain prescription records.
11. Provide drug information services and drug therapy to Doctors, Nurses, Medical and Nursing students and hospital staff.
12. Purchase, receive, store and distribute drugs.
13. Compound and dispense out-patient prescriptions.
14. Co-ordinate Pharmacy continous education programmes (e.g. clinical and business meetings).

1.1.2. ABUTH PHARMACY SHOPS

In view of success recorded in the operation of DRFs since its inception in 1987, it appeared to be a very viable venture and indeed, it

helped solved some of the problems of drug supply to the patients who attended the hospital. Thus, the Zaria ABUTH Pharmacy Shop was opened in the 22nd of June, 1987. The important operating guidelines for running the shop was drawn up. In this manual, duties of each officer were carefully spelt out. The Pharmacist was detailed as the officer in-charge of the operations. The accounts department supplied the Accounts Clerks who were responsible for collection of all monies at the shop. The Stores department supplied the Accounts Clerks who were responsible for collection of all monies at the shop. The stores department provides the Store Keepers who would be responsible for keeping the stores records. The staff from these two department are responsible to Pharmacist in-charge of the operations as well as the head of their various departments. The operational manual also detailed the method of transactions at the shop as follows:⁴

- a) Person(s) wishing to buy drugs from Pharmacy shop must present prescriptions written by a doctor with prescribing privileges in the ABUTH Complex.
- b) The shop operates on cash basis.
- c) The pharmaceutical products not requiring prescriptions will be sold to patients registered with the hospital.
- d) Staff treatment and exempted patients are issued vouchers and all outstanding debts to be settled by Hospital Management Committee

and Ahmadu Bello University Teaching Hospitals Management accordingly.

- e) Adequate provision for refund of items or drugs not used.
- f) The money collected would be banked daily or the next banking day. Cashiers were to ensure that all customers were issued with official receipts for any purchase whatsoever.
- g) For accountability sake, there is checking at all stages of the operation by the Internal Auditor. And periodic checking by the External Auditors.
- h) Monthly and annual stocks taking is in placed.

1.2 STATEMENT OF THE PROBLEM

Health problem is a global affair, people all over the world experience different health problems. This is why the World Health Organisation (WHO) saw the need to set a target of health for all by the year 2000. The former free health care system had some problems. The government could no longer provide easily the basic health services because of the economic fortunes of the country.

The limited funds and high prices of pharmaceutical products, contributed to the frequent shortage of drugs and other related products experienced in many of the government owned hospitals. The federal government now embarked on (DRFs) 1987 and PTF assisted DRF (1997) to replace the free health care (FHC). The problem is, therefore, how many

people can afford to buy their drugs after paying for admission and other consultation fees? How would the health institutions be able to successfully maintain and effectively market the available pharmaceutical products to the advantage of the patients and the health institutions concerned?

1.3 HYPOTHESIS

1. That there are available pharmaceutical products to be effectively marketed.
2. That most patients can afford to pay for their drugs.
3. Price of drugs can also affect patient attendance.

1.4 OBJECTIVES OF STUDY

The primary objective of health care is to keep people healthy within the ultimate goal of bringing about a better life for the individual in the community. In recent times, the economic fortunes of many governments especially those of the developing countries have faltered to the point that they could no longer afford most of the free programmes including health. However, the crunch has come so hard that the governments have been forced to ask the people to participate in paying for the health programmes which have become rather expensive and can gulp an unprecedented percentage of any country's earnings.

The continuing increase in the cost of health care delivery and dwindling financial resources have caused untold hardship to millions of

people. The W.H.O. has always identified the right to health care as fundamental tenet of civilised society in a world at peace. It was in realisation of this that the Alma-Ata declaration been termed "Health for All by the year 2000".

The objective of this study is to investigate how effective is the marketing of drugs and related pharmaceutical products in public hospitals and what benefit cost-wise has accrued to the hospital management and patient at large. And to profer solutions to the problems hindering progress in health care delivery system and drug matters especially in government owned hospitals in the country.

1.5 SCOPE OF THE STUDY

This study is a case study centred only on Ahmadu Bello University Teaching Hospital, Zaria. The study tends to investigate the major marketing activities of the hospital under DRF (introduced in 1987) and Petroleum Trust Fund (PTF) assisted Drug Revolving Fund (DRF) (introduced in 1977) programmes in recent years, with respect to National Drug Policy, selection and quantification of drugs; procurement methods and strategies; quality assurance; supply, store management and inventory control system, distribution strategies, rational utilisation of drugs and other pharmaceutical products.

1.6 PURPOSE AND SIGNIFICANCE OF STUDY

The purpose of this study is to profer solutions to problems enumerated in this research study and such solutions can help in the successful operation and marketing of pharmaceutical products with optimum benefits to the patients and the health institution concerned.

In addition, this study is important because of its relevance to the development and management of drugs procurement, storage, distribution and rational use of drugs in a hospital.

1.7 LIMITATIONS OF THE STUDY

As usual with research work, there are certain limitations which the researcher will always encounter that will make or try to make his or her work difficult or incomprehensive. Some of these associated with this study are as follows:-

- 1) The fact that our case study ABUTH, Zaria is one of the Government hospitals in the country. As such certain aspects discovered may only be peculiar to this hospital and not a general occurence or happening.
- 2) All pharmaceutical products marketed by the hospital are not manufactured by the hospital and suppliers of such products could not be contacted to ascertain certain facts associated with the procurement of such products despite the efforts made and the few interviewed declined to give information on the company marketing

strategies.

- 3) The information gathered is limited to that made available by the respondents. That is to say information provided may not be free from bias, hence a source of inadequacy of research findings.
- 4) There is also the constrained imposed by time and lack of finance which has made it impossible to study all problems associated with case study.

Despite all these, the study was carried out within the available information and resources successfully.

1.8 PRESENTATION OF STUDY

The study is presented in five chapters. Chapter one introduce some vital aspects of the study. It states the historical background of ABUTH, Zaria, statement of the problem, hypothesis in which it based, objectives scopes, purpose and significance of the study. Limitation and presentation of study and definition of terms are also stated in this chapter.

Chapter two deals with review of related literatures, where various definitions related to study were given.

Chapter three contains the research methodology adopted. It also contains information on the research design, sources of data, population and sample size, research instruments and data analysis techniques.

Chapter four presents, analysis, interpretations and evaluates the data collected. It is therefore the core of this study, since it reports the

research findings based on the data collected and the questionnaires that are administered.

The summary of the research findings as well as conclusion and recommendations are contained in chapter five.

1.9 DEFINITIONS OF TERMS

1) **Hospital:** A hospital is defined as an institution for curing the sick and wounded including ambulatory (out patients) and in patients. The building of a hospital should be organised in such a manner that it should provide safety for all attendants while the activities of the hospital should be in the hands of responsible management. It needs the combined attention and synergism of pharmacists, doctors, nurses and laboratory scientists.

There is hardly, if any, societal institutions which is as important and crucial as hospital for the simple fact that it is meant for preserving life.

It therefore follows that provision should be made to foster an uninterrupted functioning of the hospital in order to ensure and facilitate effective medical services to humanity.¹⁵

2) **Pharmacy Practice:**

Pharmacy practice generally involves the knowledge and art of medicine that is, formulation in suitable and appropriate dosage form for treating disease conditions.

3) **Drug:**

Drug can be defined as any substance either from plant or animal origin which when administered changes the physiological functions of the body.

4) **Pharmacist:**

A pharmacist is defined as a drug expert who specialises in the manufacturer, formulation, compounding, dispensing, sales, import and export of drugs and related pharmaceutical products. He also provides useful information to patients on their medication and also makes available relevant information to medical doctors, nurses and other health workers on drug matters.

FOOT NOTES

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CHAPTER TWO

2.0 REVIEW OF RELATED LITERATURE

People everywhere demand good health. The great awareness to ways and means of achieving good health has made it mandatory that governments should provide in some cases the basic health care needs of the people and in some others the totality of what it takes to keep the people healthy. The final aim is to attain a better quality of life.¹

Vast sums of money have been spent by many countries on health care. The developed countries have developed fantastic programmes in an attempt to satisfy the health care needs of their population. With these programmes, there is need for building huge structures such as hospitals, provision of sophisticated equipment's, and allocation of huge sum of money has been spent on health care. These poor countries invariably tend to copy, and this only result in a continuing rise in expenditure on health care. This rise has overwhelmed many governments who are no longer able to cope with the ever increasing cost of health care delivery. The result is that many programmes have either been trimmed down or abandoned completely.¹

A number of theories has been applied to measure the economic benefits of health care. In the 1950s, the cost/Benefit Analysis (CBA) aimed at calculating the ratio between costs and benefits of the individual methods of medical treatment was used and the results were used to allocate funds

to the various sectors, within the health care system.¹

In the 1960's the Cost/Effectiveness Analysis (CEA) was used to identify which treatment (or non-treatment) provided the best value for money. CEA focused on the most efficient use of resources through a mutual comparison between the cost effectiveness of the various individual methods of treatment. Therefore, it had an important role of play in how to spend public health care money as effectively as possible.¹

A third method of measuring analysis is known as Cost/Utility Analysis (CUA). It aims at finding manageable measures for the degree of physical and mental well-being and to weigh this factor against the cost of treatment. Its final objective is to measure the quality of life using certain health indicators and profiles, (such as provision of good essential quality drugs and related pharmaceutical products).

Whatever index is used, the fact remains that the cost of health care delivery has increased over the years due to a world-wide economic recession. In addition, it is quite evident that the staggering cost of maintenance has driven the health care system into disarray.¹

In the face of these difficulties, and knowing that providing health care is a task that must be accomplished, it is only logical to change strategies. To do this, the infrastructures and adequate pharmaceutical products necessary to run the system has to be put back in place. Pharmaceutical availability is an area urgently in need of review. Government hospital

pharmacies are so inadequately stocked that even, in the Teaching Hospitals, staff often have to tell patients to find their drugs elsewhere.¹

Today, the contemporary hospital pharmacist has become deeply involved in the total care of the patient and plays a crucial role in achieving the most rational use of drugs by getting involved in the procurement of quality drugs, quality control of pharmaceutical products, storage, inventory control, compounding or small scale manufacturing of drugs and dispensing of pharmaceutical products.¹

With the pharmacist's involvement in drug purchasing, the hospital can be saved much money, since he is able to select the appropriate drugs from the right sources and at the most reasonable price.

The Primary Health Care, the current corner stone of the Federal government's National Health Policy, has its roots in the 1978 Alam-Ata declaration. It is described as the essential scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community.

Furthermore, the primary obligation of a pharmacist to a society is to carry on its professional activities in a productive, efficient economic unit. To continue to fulfill its professional, social and economic functions, the pharmacist must be productive and profitable on a continuing basis. It must survive. Its profit is the excess of revenue over cost, within the frame work of the concept of the pharmacy as a marketing system, the pharmacy's

selling operation has become more important than ever before.

The very success of today's pharmacy depends more significantly on its effectiveness. This does not necessarily mean that selling is the most important activity of the pharmacy.

The selling operation is a sub-system that is interrelated with and reacts to many other sub-systems in the greater system of pharmacy. It is the sub-system that extends beyond the pharmacy into its market environment where it interacts with customers (that is, patients in the hospital). The sales operation may be viewed as one sub-system linking the pharmacy system with the greater system of the market. This is illustrated in the figure 2.1 below.

Fig. 2.1



Sales Operation Concept

The sales operation, not only communicatively links the pharmacy with the market, but it also provides the medium for translating the meanings of each to the other. The function of sales becomes one of implementing the pharmacy's strategies in the market place.

Nearly, every pharmacy's potential reflects conditions that constantly vary and are largely uncontrollable by pharmacy management's. These conditions include shifts in the size and composition of the neighbourhood population, changes in levels and distribution of income and evaluation of new needs and wants within customer groups.⁹

Thus, the pharmaceutical manager should adopt plans and strategies that best fit his individual potential market.⁹

2.1 PRODUCT STRATEGY

The selection of drugs for the hospital use is done by the Drug Revolving Funds (DRF) committee. This committee is responsible for evaluation and standardization of drug therapy in the hospitals. The mechanism by which drugs and other related pharmaceutical products and brands are selected is called the Hospital Formulary System. This is not just a list of drugs in their therapeutic and pharmacological groups. To have a drug included in the formulary, a doctor must make a request on the appropriate form to be submitted to the DRF committee, which has the sole responsibility of deciding whether or not a drug is included. An approved drug is given a code number which identify that product.

This product is then eligible to be purchased by the Tender Committee.⁸

At the beginning of each Tender period, the DRF Committee meets to review the stock position of all drugs in the A.B.U. Teaching Hospital

Complex. The Central Pharmacy Bulk Store take inventory of what is available in the store and the list presented to the committee.

With the information from all the user departments and store, the committee is then able to pick out the drugs that need to be ordered. It also fixes the quantities and brands to be purchased. An advertisement is made calling for quotations. The suppliers then buy the Tender documents and quote.

The quotations are returned to the Secretary who then calls a meeting of the Tender Committee who then holds meetings for the vetting of the quotations, and there after makes recommendations to the Board of Management which then awards the contract to the suppliers⁸. It is pertinent to mention here that the Tender Committee takes a lot of pains to make sure that the Tender awards are made to deserving suppliers. Companies quoting must have the following requirements.⁸

- a. A registered Pharmacist who has current year licence from the Pharmacist Council of Nigeria (PCN).
- b. A current licence of premises issued by the PCN.
- c. A certificate of incorporation, from corporate Affairs Commission, Federal Republic of Nigeria.
- d. Tax Clearance certificate for the last three years meeting these requirements help to eliminate those who are not qualified to deal in drugs and thus make it possible to get the right quality product into

the hospital. However, in recent times, with scarcity of money, this system is almost abandoned patients have suffered untold hardship.

Many drugs which are purely hospitals' items are not available for months on end. This serious situation is being alleviated by Petroleum Trust Funds assisted DRF.

System of buying drugs by tender has its merits and demerits. Although it helps to streamline the purchasing of drugs. It is not a best method for a hospital. A hospital that must serve patient's need at all times should so able to buy drugs on emergency cases and keep a constant flow of drugs .

With tender system, certain drugs are over-stocked which usually leads to a lot of waste occurs as a result of non-use or expiry of drugs.⁶

2.2 PRICING STRATEGY

Most African countries import greater percentage of their drug needs from outside the countries. The level of import can be as much as 95% with only about 5% local production. With the high exchange rates, the cost of drugs has skyrocketed to unprecedented level. People have died as a result of lack of these essential drugs. Added to this, most people can afford to pay for the drugs or the health care charge because they do not earn enough income. Whatever money they have is better channeled to providing food for the family.⁷

Internationally, Pharmaceutical products are priced based on four

types of pricing policies and regulations. They are;⁷

1. Product price control which is practised in France, Italy, Portugal and Spain.
2. Reference pricing as in Germany and Netherlands.
3. Profit control system as in the United Kingdom.
4. No control as in the United States. A hybrid of product price control and reference pricing as in Canada.

In product pricing countries, there is virtually no market for a product until a price has been established. First, the product is approved for marketing (that is, must be safe, effective and good quality) before determining price. After marketing approval, a price application is made to government. This is review to determine whether to grant the request or seek a lower price. Reference pricing is strictly not a price control. The producer is free to seek a price for a product for a group than the established reference price for a group of drugs regarded as interchangeable. The German experience has shown that products priced above the reference price will experience a major reduction market share.⁷

Profit control as practised in United Kingdom permits producers to set prices at any level but must limit company profitability on sales to National Health Services (NHS). Current target profit in the U.K is less than 25% returns on capital. The no control pricing policy is operated in the United States of America. There is no restriction on new products or price

increases neither is there any government body that must set or approve a product price before it is available to consumers.⁷

In Nigeria, a no control policy is operative which is subject to market forces. Basically, we are operating a free market economy where there is no price control policy on commodities (food and drugs inclusive). The results is that over last three (3) years, the prices of some drugs have risen by upward of 500 to 1000%. This has very serious health implications. Where a prescribed drug can not be purchased by the patient and the disease is life threatening.⁷

The introduction of essential drug policy in the Nation does not seem to have had any significant effect on the generic drug prices. The irony is that pharmaceutical manufacturers are complaining of a very harsh economic climate but their book profits appear to be increasing daily and declared dividend are not amelioration and mitigation of disease conditions should be available and affordable to the average citizens.⁷

The setting of prices are normally made in the short run and usually being influenced by the pricing policies, capacity utilization and corporate objectives. Unless prices cover at least the incremental costs the related sales will have a negative impact on the profit of company. One way prices are bring down in the hospital is through bulk purchases. And before setting the price for each time, a market survey conducted to find out the cost outside. This helps in fixing the price at which the hospital sells. A good

rule in operation is to sell at least 15% - 20% below market prices. Although the marketing of pharmaceutical products in the hospital is not a profit making venture as such, it is necessary to have a small mark-up to compensate for losses that could occur and to take care of materials such as stationery and other running costs used in the management of the system. A 20% mark-up has been found to be sufficient. Usually a price is sent to pharmacy shops.

This is updated from time to time as prices changes.

The pricing is done at the Central Bulk Stores before the items are delivered to the pharmacy shops where the sales is made.

2.3 DISTRIBUTIVE STRATEGY

In recent times, a lot of interest has been generated all over the world on drugs and drug distribution. Government all over the world are continuously circulated in their countries. Some show keen interest about the drugs that are exported especially to the third world. The world Health Organisation (WHO) has established guidelines for good manufacturing practice (GMP) and verification scheme on the quality of drugs moving in international commerce. This scheme applies to raw material and finished products including drugs for veterinary use.⁶

The idea behind the primary health care strategy as enunciated by the WHO in Alma-Ata in 1979 was to bring health care closer to the people in their own setting and as one of its most important attributes. The supply of

drugs is one the eight essential elements of HPC. In 1988, the WHO estimated that "of the 5 billion people in the world, between 1.3 and 2.5 billion people have little or no access to essential drugs". This means that there is a deficiency in the distribution system throughout the world and into different countries.⁶

Historically, a greater percentage of drug distribution was done by governments in most of the developing countries of Africa. Nearly all the drugs used in these countries were imported and distributed free to public hospitals with exclusively government operated.

In Nigeria, an efficient net work of distribution was established to serve the whole country. Regional medical stores were established in the West, East and North with the stores situated in Lagos, Port-Harcourt and Kaduna. It was from this points that drugs were sent to the various hospitals.

Requisitions were well documented and authorised by appropriate officers. Vehicles were provided to transport the drugs promptly to requisitioning units mostly on monthly basis. After the independence, with creation of states, states medical stores were created and situated in each state capital. By 1984 the situation has become critical and government could no longer provide all the drugs required for treatment of patients in all its health facilities. Meanwhile, the drug inventories dwindled steadily resulting in the realisation that another approach had to be adopted to make drugs available in the public hospitals. By 1986, all the Teaching Hospitals

(ABUTH inclusive) in the country were ordered by Federal Ministry of Health to collect free drugs from Federal Medical stores, Oshodi, Lagos. This became practice until mid 1988 when A.B.U Teaching Hospital had to make purchase of items delivered by the FMOH via UK grant.

By August 1989, National Essential Drugs Programme (NEDP) kicked off with the birth of DRF. Distribution and utilisation of drugs and related pharmaceutical products in the hospital was smooth under pharmacy shop system. By early 1993, stock level of drugs worsened because drugs supplies by FMOH under NEDP decline and purchase by Pharmacy Shops and management had to be increased to sustained NEDP.⁶

In 1997, the PTF drug supplies to the ABUTHs alleviated the hospital from out of stock syndrome aggravated by FMOH failure to effect any further supplies/distribution of drugs to the institutions participating in the essential drug programmes.

2.4 PROMOTIONAL STRATEGY

Social marketing has not be widely used as a strategy to promote general rational drug use message although it has been used in specific areas of contraception, acute respiratory tract infection (ARI) and acute diarrhoea (AD). The aim of social marketing is to use commercial marketing approaches to change behaviours. It is usually associated with Mass Media promotional social marketing can be effective but tends to be very expensive and unless the campaign is sustained the impact tends to be short term.

Social marketing is best used to support other, more interpersonal forms of information and education.⁵

Promotional strategies of A.B.U. Teaching Hospital, Zaria in drug matters include the following:-

1. Provision of good quality drugs at affordable prices to patients.
2. Hours of operation - 24 hours coverage and emergencies call duty system to ensure that drug supplies to patients at all times.
3. Drug information specialist to both prescribes and patients - Advertising and promoting rational use of drugs from the preventive of illness and the enhancement of good health.
4. The Pharmacy department as sole custodian of drugs influences the drug and therapeutic committees in the preparation and composition of essential formulary.
5. Exemptions - Patients with Tuberculosis, Leprosy, Cancer are provided with free drugs and free medical management. Also children from 0 - 5 years are offered with free drug treatment. Also in place is the staff free treatment.
6. Economic incentives - price information and use of generic products, reliable quality assurance is G.M.P enforcement.
7. Professional and public acceptance.
8. Supportive legislation and regulation
9. Advocacy and campaigning via Health action International (HAI).

These networks of strategies influence effective marketing and rational use of pharmaceutical product and successful application of essential drug projects.

2.3 ESSENTIAL DRUG PROJECTS

According to World Health Organization's estimates, 85% of the world's production and consumption of drug is by the developed countries. However, over 60% of the world population is found in the developing countries. This implies that there is a disproportionate distribution of drugs world wide. The developing countries do not have enough capital to make their own drugs, neither do they have enough materials and equipment to manage their distribution.⁴

Essential drugs have been defined by the WHO as those that satisfy the health care needs of the majority of the population, they therefore be available at times, in adequate amounts and in appropriate dosage forms. To help the equitable distribution of drugs at reasonable cost, and help bring sanity into the drug business in the country. At the 28th World Health Assembly (WHA) in 1975, a resolution was passed on the selection and procurement of essential drugs at reasonable cost. By 1978, an action programme on essential drugs was initiated.⁴

BY 1982, individual countries had invited to formulate national drug policies and more 70 countries had developed lists of essential drugs for the public sector based on the WHO model lists.⁴

In 1983, the WHO action programme on essential drugs (ED) was a world wide collaborative programmes between member states, WHO, UNICEF, other organisations of UN system, the Pharmaceutical industry and other NGOs. Its aim was to ensure regular supply of safe ;and effective drugs of acceptable quality, at least possible cost to all patients.⁴

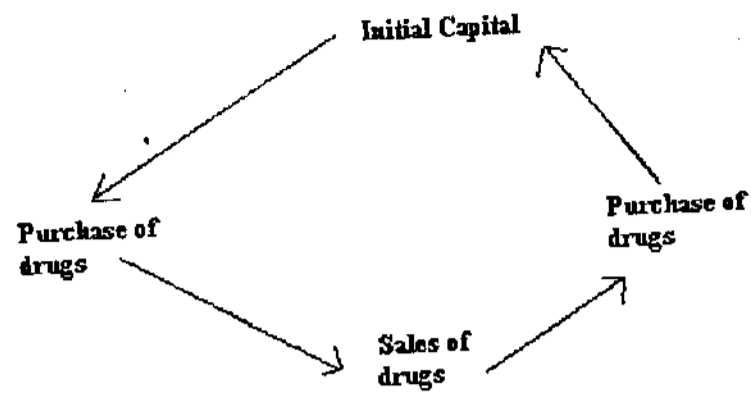
The concept of EDL was endorsed by the Federal Government of Nigeria in 1984, in its national health policy and strategy. A national drug formulary and Essential Drug List (EDL) were approved in 1986, followed by launching of the National Drugs Policy (NDP) in 1990. In 1990, the EDP was therefore designed to help rehabilitate the badly damaged health sector so as to restore the confidence of the general public in the government health system.⁴

EDL control and streamline the number of drugs that can be imported or produced in the country to 409 because no country can afford the ever increasing number of drugs available. The current EDL contain 409 different drugs which are expected to satisfy the health needs of the great majority of the people at all levels of health care delivery. The drugs have been arranged therapeutically to assist prescribes in choosing the appropriate medicine for the effective treatment of their patients.⁴

2.6 DRUG REVOLVING FUND (DRF)

The Drug Revolving Fund (DRF) scheme is a near concept in making drugs available for adequate treatment of patients in the government

hospitals.



Perpetual DFR System²

It is an established fact that drugs are indispensable for good health care. Inadequate supply of drugs has affected the service offered in the hospital through-out the country. In recent times, the problems has resulted in loss of confidence, by the general public, in the ability of health institutions and health facilities to provide even basic health care need. It has also led to ineffectiveness and inefficiency of the whole health system of the country. In 1978, the Federal Ministry of Health working closely with the WHO and its sister Agency, UNICEF, developed the system of cost-recovery called DRF.³

DRF is a system in which an capital is provided for the purchase of drugs which are sold to patients. Money realised from sales in then ploughed back to purchased more drugs, which are again sold and the money continuously recycled.²

The objectives of DRF are as follows

1. To make drugs available at all time for treatment of patient in the hospital.
2. To provide pharmaceutical products at prices which patients can afford.
3. In the pass, drug purchases were done haphazardly by many government hospital. However, with introduction of DRF much more had to be taken in selecting items purchased. Only essential drugs are to be purchased according to hospital formulary based on EDL.

The major changes introduced with DRF are tighter controls improved efficiency and effectiveness in drug procurement, distribution and use. It has a salutary effect on drug distribution. The amount of waste has now been reduced. Fewer drugs are now purchased and managed better than before.

TABLE 1

**TOTAL DRUGS PURCHASED AND SALES RECORD FOR THE ABUTH
FROM 1992 TO 1997.**

| YEAR | TOTAL DRUG PURCHASE (N) | SALES (N) |
|-------|-------------------------|---------------|
| 1992 | 2,653,089.78 | N/A |
| 1993 | 4,623,429.09 | N/A |
| 1994 | 6,895,723.74 | 4,996,978.22 |
| 1995 | 10,733,723.10 | 10,894,564.88 |
| 1996 | 12,135,067.81 | 13,522,280.72 |
| 1997 | 11,125,619.40 | 10,846,604.29 |
| TOTAL | 49,176,652.92 | 40,260,428.11 |

N/A: Data not available.

**2.7 PETROLEUM (SPECIAL) TRUST FUND ASSISTED DRUG
REVOLVING FUND**

In 1997, the Board of Trustees of the PTF noticed the acute shortage of drugs and pharmaceutical consumable in all public health care institutions in the country, thus decided to assist in alleviating the resultant suffering, this has caused the teaming population of the patients. consequently PTF allocated portion of its proceeds towards the cost of procuring essential drugs for distribution to all public health care institutions nation wide for use to the public at affordable prices under its Essential Drug Supply Project. (EDSP).¹⁰

The main objective of the project is to ensure a sustainable supply of efficacious, safe and affordable essential drugs to all the three tiers of the national health care delivery system.

A.B.U Teaching Hospital received the seed drugs of about thirty-three million naira (N33,000,000,00) to be managed and eventually integrated fully within the existing Drug Revolving Funds (with at least 100% cost recovery)..

A separate Pharmacy Shop and staff are provided to run the PTF assisted DRF. The funds management consultants were appointed to ensure cost recovery, effective monitoring and evaluating with emphasis on accountability and transparency. This will in addition make the DRF self-sustaining, efficiency and effective proceeds from daily sales are lodge in the PTF accounts with Afribank PLC Zaria, in accordance with manuals issued by the zonal funds management consultants. The operational activities of the scheme is being managed by the Assistant Chief Pharmacist and aided by other senior pharmacists and supporting staff of A.B.U Teaching Hospital, Zaria. Drugs are dispensed to patients on cash and carry basis.

TABLE 2

TOTAL DRUG SUPPLIED BY PETROLEUM TRUST FUNDS (PTF)
TO A.B.U TEACHING HOSPITAL, ZARIA FROM 1996 TO 1997

| YEAR | TOTAL SUPPLIES | SOURCE |
|-------|----------------|----------|
| 1996 | 25,478,966.03 | P. T. F. |
| 1997 | 7,280,459.22 | P. T. F. |
| TOTAL | 32,759,425.25 | |

SOURCE: Pharmacy Bulk Store, ABUTH, Zaria

FOOT NOTES

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2. G.O Obiaga (1990) - Drug Revolving Funds Scheme. A Teaching Hospital Experience. Publication of ABUTH Pharmacy Bulletin No. 108, March/ April 1990. PP 223-240
3. G.O Obiaga (1990) - Effective Management of Drug Revolving Funds. Pharmacy Bulletin No. 111 September/October 1990. PP. 276 - 292.
4. G.O Obiaga (1991) - Essential Drug Programme, A Reappraisal. ABUTH Pharmacy Bulletin No. 113, January/February 1991. PP. 9 - 11
5. W.H.O. (1997) - Essential Drug Monitoring No. 23,1997. PP. 9 - 11
6. G.O Obiaga (1990) - Role of Government in Drug Distribution, ABUTH Pharmacy Bulletin No. 107, January/February, 1990, PP. 203 - 216
7. Dr. Wilson O.E (1996) - Maintaining Qualitative Pharmacy in Depressed Economy Published by Nigerian Journal of Pharmacy. Vol. 27,

8. G.O Obiaga (1983) - Memorandum of drugs Supply In institute of Health, submitted to Board of Management Committee to IOH, April 11, 1983.
9. C. Patric Thorps (Ph.D) - Pharmacy Management for Students 2nd Edition. London 1979. PP. 51 - 33.
10. Afri-project consortium (1997) - Guidelines for the Operation of PTF Assisted Drug Revolving Funds and Bamako Initiatives project. 1997. PP. 1 - 16.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research is simply the process of arriving at dependable solution to problems through the planed and systematic collection, analysis, and interpretation of data, oriented toward the discovery of the relationships that exist among the phenomena of the world in which we live.¹

Research methodology deals with the techniques of locating and collecting data, analysis and classifying the data logically and their subsequent interpretation to arrive at a logical conclusion.

3.2 RESEARCH DESIGN

This provides a set principles, guidelines and steps which helps researchers in the research process. A case study method is used in this study, which involves a careful and thorough examination of situations, management and operation of the Pharmacy department of Ahmadu Bello University Teaching Hospitals, Zaria.

Questionnaires are applied in this case study in order to make the findings reliable and valid.

3.3 SOURCES OF DATA

The main source of data and information that form the basis of analysis for this study were the primary and secondary sources of data.

3.3.1 PRIMARY SOURCES

The primary sources of data included questionnaires that were administered on some of staff Ahmadu Bello University Teaching Hospital, Zaria e.g Pharmacists, Doctors, Nurses and some selected patients, selected atrandom to collect information on their opinion on marketing effectiveness of pharmaceutical products in the hospital.

Information were also obtained from the hospital DRF accountant, officers and medical record department, on the Tender activity, total purchased, storage facility and patient attendance from 1992 to 1997 respectively.

3.3.2 SECONDARY SOURCES OF DATA

The study made an extensive use of various secondary sources of obtaining data and information. The secondary sources that are used include Pharmacy Bulletin, Magazines, Textbooks, relevant articles in pharmaceutical journals, Business Newspapers and other publications in the libraries.

3.4 POPULATION AND SAMPLE SIZE

The data used in this study was collected from the pharmacy and medical record department of Ahmadu Bello University Teaching Hospitals, Zaria form 1992 to 1997. The total drugs purchased by pharmacy Bulk store and drugs and related pharmaceutical products supplied by the P.T.F for the year 1996 to 1997 were collected to ascertain drug availability in the hospital

for patient use.

The data obtained from the medical record department from 1992 to 1997 is used to ascertain patients' attendance in both in-out patient department of the hospital.

TABLE 3
TOTAL PATIENT ATTENDANCE AT A. B. U. TEACHING
HOSPITAL ZARIA FROM 1992 TO 1997

| YEAR | OUT-PATIENTS | | TOTAL | IN-PATIENT (ON ADMISSION) | | TOTAL |
|------|--------------|--------|--------|---------------------------|--------|-------|
| | MALE(M) | FEMALE | M/F | MALE | FEMALE | M/F |
| 1992 | 27,873 | 30,129 | 58002 | 3,198 | 3,172 | 6,370 |
| 1993 | 25,272 | 27,410 | 52682 | 3,024 | 3,010 | 6,034 |
| 1994 | 22,057 | 23,888 | 45,945 | 1,841 | 1,499 | 3,340 |
| 1995 | 25,949 | 38,356 | 54,305 | 2,026 | 3,661 | 5,687 |
| 1996 | 22,602 | 27,295 | 49,897 | 2,011 | 2,699 | 4,710 |
| 1997 | 30,616 | 40,482 | 11,098 | 2,752 | 2,961 | 5,713 |

SOURCE: Medical Records Department, A.B.U., Teaching Hospital, Zaria

3.5 RESEARCH INSTRUMENTS

In conducting this research the following methods of data collection were used.

Questionnaires applied in this study consisted of closed-ended and

open ended questionnaires. The questions were written in simple English with alternative answers for the closed-ended questions. The questionnaire comprises of 3 sets.

set I for pharmacists.

set II for Doctors, nurses and other health workers.

set III for patients and patients' relatives.

Historical research method was used to collect secondary data from previous publications and other documents that assisted us to know what actually happened in the past and its relation to the present state of affairs in addition to helping us relate the past to the present.

Descriptive research method was used to collect both primary and secondary data through direct and indirect observation of the presence of operation in the chosen case field assisted greatly in getting first the information that is actually regarding how the operation of hospital pharmacy practice is being carried out.

3.6 DATA ANALYSIS TECHNIQUES

To arrive at a reliable information that will serve the objective of the study and test for the hypothesis, the data collected would be tabulated and analysed using enumeration statistics. This involves the use of percentages, and descriptive method in the analysis.

The data collected to be analysed would be based on the respondent's responses to the questionnaires presented. The findings

obtained from direct observation will also be included in the analysis of the data presented and tabulation of findings.

FOOT NOTES

1. E.C.Osuala - Introduction to Research Methodology New Edition. PP.1

CHAPTER FOUR

4.0 DATA PRESENTATION, ANALYSIS AND EVALUATION

4.1 PRESENTATION OF DATA

The data used in this study was collected through questionnaires. The set of questionnaires administered were meant to augment the information gathered from primary and secondary source of data.

The information gathered is presented based on the analysis of data collection from respondents. Further more this information is presented in a tabular form and briefly discussed and interpreted accordingly. For the purpose of academic convenience, percentages are given as computed where necessary.

4.2 ANALYSIS OF DATA FROM PHARMACISTS

The responses from pharmacists are hereby analysed and interpreted as follows:-

4.2.1 DRUG PROCUREMENT

The Pharmacists were asked to assess the initial capital made available to run the DRF and the recovery of this initial capital, who are the major suppliers of these drug? and is there any committee responsible for the procurement of these drugs? And responses are tabulated as shown below.

TABLE 4 - INITIAL CAPITAL

| RESPONSES | NUMBER | PERCENTAGE |
|---------------|--------|------------|
| Adequate | 3 | 30 |
| Very adequate | 1 | 10 |
| Not adequate | 6 | 60 |
| TOTAL | 10 | 100% |

From the table above, 60% of respondents said that the capital was not adequate to run project. This inadequacy affected the availability of drugs in the hospital which invariably affected sales - output and patients satisfaction, because their drug needs were not fully met in the hospital.

However, 4 out of 10 respondents agreed that the recovery of the initial capital is between 40-60%. This fact may be relied upon because they have had reasonable years of work experience with ABUTH.

TABLE 5 - MAJOR SUPPLIERS

| RESPONDENT | NUMBER | PERCENTAGE |
|--------------------------------------|--------|------------|
| Federal Government | 1 | 10 |
| Local Pharmacy Shop | 3 | 30 |
| Multinational Pharmaceutical company | 6 | 60 |
| TOTAL | 10 | 100% |

6 out of 10 respondents said that the major suppliers of drugs are Multinational company. This agreed with the fact that drugs procured into the hospital should be of high quality standard.

Federal government supplied the seed stock at the initial stage of the DRF project.

TABLE 6 - PURCHASE COMMITTEE

| RESPONDENT | NUMBER | PERCENTAGE |
|------------|--------|------------|
| Yes | 10 | 100 |
| No | - | - |
| TOTAL | 10 | 100% |

From table 6, all respondents agreed that there is a committee responsible for drug procurement comprising of pharmacists, Doctors, nurses and DRF Accountants. The committee will certainly analyse the drugs need of the hospital and the financial implication involved with over all objectives of meeting patient drug needs and to ensure continuing of the health care delivery system

4.2.2 DRUG AVAILABILITY

Drug availability affects patient's attendance. The number of patients has increased considerably since the introduction of PTF scheme. This is due to drug availability in the hospital at affordable prices.

A yes or No question was asked in this regard and all the 10 (100%) respondents agreed that drug availability (with introduction of PTF) has increased the number of patients who patronise the hospital.

4.2.3 PROMOTIONAL STRATEGY

4.2.3.1 24 HOUR SERVICE COVERAGE

TABLE 7

| REPOUDENT | NUMBER | PERCENTAGE |
|-----------|--------|------------|
| Yes | 10 | 100 |
| NO | - | - |
| TOTAL | 10 | 100% |

All respondents agreed that there is a 24 hour service to the patients, that is, pharmacy shop is open for 24 hours so that patients can procure their drugs.

4.2.3.2 QUALITY CONTROL

TABLE 8

| RESPONDENT | NUMBER | PERCENTAGE |
|----------------------------------|--------|------------|
| Random sampling | 2 | 20 |
| Premilinary physical Examination | 7 | 70 |
| Use of laboratory | 1 | 10 |
| TOTAL | 10 | 100% |

70% of respondents agreed that quality control of Pharmaceutical product in ABUTH is preliminary physical examination and 20% by random sampling and 10% use of side laboratory (in cases when quality of drug is questionable). All those three methods are to ascertain that fake and substandard drugs do not go through the hospital to the patients.

4.2.3.3 PRICING SYSTEM

TABLE 9

| MAKE UP SYSTEM | 20% (a) | 5 - 15% (b) | a or b | TOTAL |
|----------------|---------|-------------|--------|-------|
| Respondents | 2 | 3 | 5 | 10 |
| Percentage | 20 | 30 | 50% | 100 |

Mark-up on the cost price can range from 5 - 20%. 5 out of 10 respondents agreed that pricing policy range from as low as 5% and as high as 20% and this enhances affordability of drugs by the patients.

TABLE 10 - EFFECT OF PRICING SYSTEM ON PATIENT

| RESPONSES | NUMBER | PERCENTAGE |
|----------------|--------|------------|
| High patronage | 6 | 60% |
| Low patronage | 3 | 30% |
| I don't know | 1 | 10% |
| TOTAL | 10 | 100% |

From table 10 above, 60% respondent recorded for high patronage, this is due to pricing policy that favors low cost of drugs in addition to quality

standard of drugs, and counseling of patients.

4.3 ANALYSIS OF DATA FROM DOCTORS, NURSES AND OTHER STAFF OF THE HOSPITAL

The data from doctors, nurses and other staff is analysed as follows:-

During the period of conducting this research work the doctors were on industrial action and thus, survey excludes the medical doctors.

4.3.1 MEETING DRUG REQUIREMENT IN THE HOSPITAL PHARMACY SHOPS

The respondents were asked whether the Pharmacy department have has been meeting the drugs needs of the patients, 60% of the respondents agreed that the needs been met to some extent, while 20% stated to full extent. Thus 80% of the respondents agreed that their drugs needs in the hospital have been met.

This confirms that the performance of the hospital Pharmacy shop depends largely on the availability of drugs. This is show in Table 11 below.

TABLE 11

| RESPONSES | NUMBER | PERCENTAGE |
|--------------------|--------|------------|
| To full extent | 2 | 20% |
| Very little extent | 2 | 20% |
| Some extent | 6 | 60% |
| TOTAL | 10 | 100% |

They were also asked to give yes or No responses on some questions whether the drugs sold in the hospital is cost effective ? Do they encounter any particular difficulty in filling prescription in the pharmacy shops ? Do they receive their drugs on time ?

Do they receive adequate drug information from the hospital pharmacist ? And the responses were shown in the table below.

4.3.1.2 **TABLE 12 - COST EFFECTIVENESS OF HOSPITAL DRUGS**

| RESPONSES | NUMBER | PERCENTAGE |
|-----------|--------|------------|
| Yes | 7 | 70 |
| No | 3 | 30 |
| TOTAL | 10 | 100% |

7 (70%) of them stated as indicated in the table 12 above that drugs sold in the hospital are cost affective. With drugs purchased in the hospital pharmacy shop and administered to patients, the rate of improvement is fast and prompt. This confirm the view that the drug available in the hospital are genuine and cost-effective.

4.3.1.3 **DIFFICULTY IN FILLING PRESCRIPTION IN THE HOSPITAL PHARMACY SHOP**

TABLE 13

| RESPONSE | NUMBER | PERCENTAGE |
|----------|--------|------------|
| Yes | 8 | 80% |
| No | 2 | 20% |
| TOTAL | 10 | 100% |

8 (80%) of the respondents stated that they encountered difficulty in filling their prescription in the pharmacy due to the following reasons non-availability of drugs and too many procedures in filling the prescription.

4.3.1.4 **RECEIVING DRUGS ON TIME FROM PHARMACY SHOPS**

TABLE 14

| RESPONSE | NUMBER | PERCENTAGE |
|----------|--------|------------|
| Yes | 1 | 10 |
| No | 9 | 90 |
| TOTAL | 10 | 100% |

9 (90%) of respondents said that drugs are usually received with delay from pharmacy shops due to too many protocols.

4.3.1.5 HAS PATIENT NUMBER INCREASED SINCE
INTRODUCTION OF PTF

TABLE 15

| RESPONSE | NUMBER | PERCENTAGE |
|----------|--------|------------|
| Yes | 8 | 80% |
| No | 2 | 20% |
| TOTAL | 10 | 100% |

80% responses was recorded for yes, with introduction of PTF, the number of patients have increased considerably due to drug availability at affordable price.

4.3.1.6 QUALITY OF DRUGS AND OTHER PHARMACEUTICAL
PRODUCTS AVAILABLE IN THE HOSPITAL
PHARMACY

| RESPONSE | NUMBER | PERCENTAGE |
|--------------|--------|------------|
| Genuine | 6 | 60% |
| Very Genuine | 4 | 40% |
| Not Genuine | - | - |
| TOTAL | 10 | 100% |

6 (60%) respondents agreed that drug available in the hospital is genuine and 40% gave responses that drug being sold in the hospitals is very genuine, thus 100% responses recorded for quality pharmaceutical

products available in the hospital.

4.3.1.7 THE ESSENTIAL DRUG LIST FOR THE HOSPITAL

TABLE 17

| RESPONSE | NUMBER | PERCENTAGE |
|---------------|------------------|------------|
| Very adequate | 1 | 10% |
| Adequate | 2 | 20% |
| Not adequate | 6 60% | 60% |
| TOTAL | 10 | 100% |

6 (60%) respondents said that EDL is adequate for the hospital especially the Teaching Hospital with varying range of specialties of varying drug requirement. The present EDL lacks quite majority of drugs that are needed by the patients in the hospital.

4.4 ANALYSIS OF DATA FROM PATIENTS AND PATIENT'S RELATIVES

Analysis from patients and patient relatives hereby analysed and interpreted ad follows.

4.4.1 DO YOU MEET YOUR DRUG NEEDS IN THE HOSPITAL?

TABLE 18

| RESPONSE | NUMBER | PERCENTAGE |
|----------|--------|------------|
| Yes | 6 | 60% |
| No | 4 | 40% |
| TOTAL | 10 | 100% |

60% of patients met their drug needs in the hospital while 40% do not meet their drug needs. Therefore there is still need to improve on stock of drugs available for patient care.

4.4.2 IS THE OUT OF STOCK SITUATION FREQUENCY ?

TABLE 19

| RESPONSE | NUMBER | PERCENTAGE |
|----------|--------|------------|
| Yes | 7 | 70% |
| No | 3 | 30% |
| TOTAL | 10 | 100% |

70% of patients responded that the out of stuck syndrome is very frequent in the hospital pharmacy shops and there is need to improve drug availability in the hospitals and Government should embark in supply of more drugs into the hospital pharmacy to meet the patients demand and that essential drugs made available at all times, and affordable price.

4.4.3 HOW DO YOU RATE THE RELATIONSHIP BETWEEN YOU
AND THE PHARMACY STAFF

TABLE 20

| RESPONSE | NUMBER | PERCENTAGE |
|-------------|--------|------------|
| Cordial | 8 | 80% |
| Not cordial | 2 | 20% |
| TOTAL | 10 | 100% |

80% of the patients responded that a cordial relationship between them and the hospital pharmacist and that the pharmacy staff are friendly, courteous, and helpful. They do encourage and advice patients on their medications.

4.5 SUMMARY OF FINDINGS

From the analysis of the data collected and responses obtained during the survey, we have made some findings which will be the basis for some broad conclusions. Findings include the followings:-

4.5.1 **TEST OF HYPOTHESIS**

Hypothesis I -That there were available pharmaceutical products to be effectively marketed.

Findings - Table I revealed the level of drug procurement and the sales record. And it was discovered that the more availability of drugs the more or the higher the sales. In 1996, the highest sales figure of N13,522,280.00

was realised and this corresponds with the highest purchase figure. It is noted from the same table that the more the availability of drugs the highest the sales recorded. Table 18 revealed that 60% of patients met their needs in the hospital. Table 16 revealed that 100% of respondents agreed that hospital drugs of high standard. From table 12, 70% of respondents said that hospital drugs are cost-effective. Therefore, from the respondents point of view, one can rightly say that though there are no enough drugs in the hospitals, but the available ones are effectively marketed. Hypothesis 2 - That most patients can afford to pay for their drugs. The study revealed that there is 40 - 60% cost recovery, this confirmed the hypothesis. Table 18 further confirmed the hypothesis since 60% of respondents met their drug needs in the hospital pharmacy shop. Hypothesis 3 -Price of drugs can also affect patients' attendance.

Table 10 revealed that 60% of respondents recorded high patronage due to pricing policy that favours low cost of drugs in the hospital, in addition to quality standard of hospital drugs.

Table 3 also revealed the total patient attendance at Ahmadu Bello University Teaching Hospital, Zaria from 1992 to 1997. This hypothesis thus confirmed.

In view of these findings that we draw the following conclusions.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

In this chapter, a summary of findings was given. The chapter also contains the conclusions arrived at as well as recommendations. The study was designed to determine the effective marketing of pharmaceutical products in government hospitals. It is based on both primary and secondary data. The primary data was collected through three sets of questionnaires. The first questionnaire was administered on ten (10) Pharmacists who were selected at random. While the second was administered on the doctors, nurses and other staff. The third questionnaires centered on patients and their relatives. As for the secondary data, it was collected from pharmacy publications, Bulletins, Journals, magazines, and textbooks relevant to the study.

5.1 SUMMARY

The study attempts to assess the effectiveness in the marketing of pharmaceutical products in Ahmadu Bello University Teaching Hospital, Zaria which ensure drug availability at affordable prices.

In chapter one of this study, attempt was made at examining the background of the study. Brief historical background of ABUTH was stated with an attempt made at examining the problem of the study, objective of the study and definition of term. This chapter also highlights, the purpose of the

study and the benefits that will be accrued to the organisation.

In chapter two, the writer examined and reviewed related literature on product strategy, pricing, distribution and promotion strategies. The meaning and the importance of the strategies and those of essential drug project, DRF and P.T.F. assisted DRF were clearly stated.

While in chapter three, the main source of data and information that form the basis of analysis for this study was obtained from both primary and secondary sources.

Information were obtained from the ABUTH Pharmacy bulletins, drug Newsletter, Pharmaceutical journals and the relevant pharmaceutical textbooks.

Questionnaires were administer on pharmacist, medical doctors professional nurses, other health workers and patients and patients relatives to obtain their view on some issues the study highlighted.

In chapter four (4), data presentation, analysis and evaluation were carried out with information gathered from the respondents leading to a logical conclusion. This information is presented in a tabular form and briefly discussed and interpreted accordingly.

The study gives informtion about numbers of drugs and the impact of fees on the patient behaviour. One argument often used for cost-recovery programmes is that drug availability will be increased, but, in this study it reveals that few programmes managed to recover the full recurrent costs.

Fees often increase at a rate below inflation and this mean that over time less and less funds are available to replenish supplies.

From the study, it is clear that strategies such as hospital formulary, drug utilization review or clinical guidelines can be effective tools for promoting the essential drug concept, ensuring an efficient drug management and rational drug use in the hospital.

5.2 CONCLUSIONS

This study highlighted the importance of health to the nation's economic development.

The cost recovered from the sale of drugs was between 40 - 60% which shows that the DRF project is fairly managed. The method of procurement which could have said to be adequate was not because of too many bureaucracies that were involved. The lead-time of the hospital is too long causes unnecessary out of stock of some essential drugs.

The stores and receiving process was seen to be adequate and often optimum storage conditions were maintained.

The essential drugs lists was seen to be inadequate with the current trend of events in the epidemiology of disease, diagnosis and the needed therapy.

Distribution of drugs is a very important aspect of drugs management. Government all over the world have evolved regulations controlling distribution of drugs within their various countries. The WHO has concerned

it self with helping these countries (including Nigeria) through the drug Action Programme which helps to formulate or redesign pharmaceutical policy and draft pharmaceutical legislation. Through the certificate scheme on the quality of drugs moving in international commerce, distribution of drugs from the manufacturing countries especially is expected to obviate the problems of fake, adulterated and substandard drugs. Government must work to suit the prevailing conditions within the country taking into consideration all the government hospital (e.g ABUTH). A lot more attention must be paid to distribution of essential drugs to these hospitals. This will enhance better service to the populace and contribute immensely to the health care of the nation.

5.3 RECOMMENDATIONS

The problems enumerated in this study can be alleviated and improved upon if some measures recommended below are adequately implemented.

- 5.3.1. The essential drugs should include drugs essential for quality health care and not be restricted only to drugs essential for primary health care of ambulatory patients. The model list should be an aid to identifying the research needs and that hospital drugs formularly should accommodate the needs of all patients.
- 5.3.2 A more rational method of drug procurement is to choose a good supplier who will make deliverance at specific intervals with little or no change in

price for up to one year (that is selective tenders) this will ensure constant flow of genuine drugs in the hospital.

- 5.3.3 Proper record keeping is a key to good management of drug procured. The use of computer is highly recommended. Issues from the stores to the pharmacy shop or dispensing areas must be well documented.
- 5.3.4 Pricing of drugs should be done carefully and should be competitive with legitimate local pharmacy shops in town.
- 5.3.5 Increase Capitalization. Increased capitalization would allowed for low cost bulk purchasing and this can be accomplished by ABUTH management granting more funds to increase capital base of pharmacy shop.
- 5.3.6 Administrative Control. The manager of the pharmacy shop should have clear authority over purchase and sales of drugs, this will reduce the unnecessary delay in placing order for drugs.
- 5.3.7 Patient impact - In order to increase patient attendance, the hospital pharmacist and the hospital staff in general should improve on their attitudes towards their patients. And the hospital should promote the fact that high quality, genuine drugs are always available at affordable price.
- 5.3.8 Provision of adequate transportation and good communication system. The pharmacy shop should be provided with vehicles which could be used in running around for drugs either locally or direct from the manufacturers. A good system of communication be in placed such as the use of telephone to contact the suppliers who are out of town. This will reduce the cost of

traveling and faster the delivery of drug at the point of use.

5.3.9 Establishing and managing drug information and research unit to educate the health professionals, patients and general publics on rational use of drugs.

5.3.10 Hospitals should become an important focus for strategies to improve drug use by:-

5.3.10.1 Promoting collaboration and information exchange between health team members in the hospital.

5.3.10.2 Facilitating the development of hospital drugs and therapeutics committees and evaluating their impact.

5.3.10.3 Studying drug consumption and total treatment cost at hospital level for better allocation of available human and material resources.

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APPENDIX I

DEPARTMENT OF BUSINESS ADMINISTRATION

FACULTY OF ADMINISTRATION

A.B.U. KONGO CAMPUS

ZARIA

M.B.A THESIS QUESTIONNAIRES

This research is for academic purpose only. You are requested to answer the questionnaire freely and truthfully. Any information obtained will be treated as confidential and the identity of respondent will be preserved.

Please kindly tick (✓) where appropriate and write your comments where necessary.

Section A

1. The initial capital made available for Drug procurement (that is, DRF).
 - a. Adequate ()
 - b. Very adequate ()
 - c. Not adequate ()

2. Cost recovery of initial capita is
 - a. 100% and above ()
 - b. 80% - 100% ()

- c. 60% - 80% ()
- d. 40% - 60% ()
- 3. Who are your major suppliers ? ()
 - a. Federal government ()
 - b. Local Pharmacy shops ()
 - c. Multinational Pharmaceutical company ()
 - d. All of the above ()
- 4. do you have purchasing committee ?
 - a. Yes ()
 - b. No ()
- 5. If yes, how is it constituted ?
 - a. Pharmacists ()
 - b. Doctors ()
 - c. Nurses ()
 - d. Store Officers ()
 - e. DRF Accountants ()
- 6. does the Institution have a separate Trading Account for the drugs being sold ?
 - a. Yes ()
 - b. No ()
- 7. has patient number increase since the introduction of PTF scheme ?
 - a. Yes ()
 - b. No ()

8. can you attribute reasons for your answer in 7 above on the basis of drug availability ?

Comment:.....
.....

9. Does Pharmacy Department offers 24 hours services to the patient ?

a. Yes ()

b. No ()

10. Is your department

a. Over staffed? ()

b. Under staffed? ()

c. Adequately staffed? ()

11. How do you mark-up drugs to be sold to patients in your hospital ?

a. 20% mark-up on the cost price ()

b. 5% - 15% mark-up on the cost price ()

c. a or b ()

12. What effect does your pricing system have on patients' attendance ?

a. High patronage ()

b. Low patronage ()

c. Don't know ()

13. give reasons for your answer to question 12 above.

.....
.....

14. Is your purchasing done by
- a. Close Tender ()
 - b. Open Tender ()
 - c. Emergency Purchase ()
15. How is quality control carried out to ensure the fake and substandard drugs do not go through the institution to patients ?
- a. Random Sampling ()
 - b. Preliminary physical examination ()
 - c. Use of side laboratory ()
16. Is your drug store managed be
- a. Pharmacist ()
 - b. Store officers ()
 - c. All of the above ()
17. Do you have drug information centre ?
- a. Yes ()
 - b. No ()
18. Could you itemised peculiar problems inhindering work as a drug expert in the hospital ?
-
-

19. **SECTION B**

1. Age 25 - 35 years ()
35 - 45 years ()
45 - above ()
2. Sex Male ()
Female ()
3. Years of work experience with ABUTH Zaria complex
 - a. 1 - 10 years ()
 - b. 2 - 20 years ()
 - c. 20 years and above ()

APPENDIX II

DEPARTMENT OF BUSINESS ADMINISTRATION

FACULTY OF ADMINISTRATION

A.B.U. KONGO CAMPUS

ZARIA

M.B.A THESIS QUESTIONNAIRES

This research is for academic purpose only. You are requested to answer the questionnaires freely and truthfully. Any information obtained will be treated as confidential and the identity of the respondent will be preserved.

Please tick (✓) the appropriate answer and write your comments where necessary.

SECTION A

1. Has the Pharmacy Department met your over all drugs mater ?
 - a. To the full extent ()
 - b. Very little ()
 - c. It some extent ()

2. Is the drug in the hospital cost effective ?
 - a. Yes ()
 - b. No () - Comment:.....

3. Do you usually encounter any particular difficulty in filling your prescription in the pharmacy ?

a. Yes ()

b. No ()

- What is the length of the delay ?

.....

5. How would you rate the quality of drugs and other pharmaceutical products available in the hospital ?

a. Genuine ()

b. Very genuine ()

c. Not genuine ()

6. The essential drug list is

a. Very adequate for the hospital ()

b. Adequate for the hospital ()

c. Not adequate for the hospital ()

7. If your answer to question 6 above is c, comment briefly:

.....

.....

8. How do you rate relationship between you and the hospital pharmacists?

a. Cordial ()

b. Not cordial ()

- Comment:.....

.....

9. What are the suggestions and criticism for improving the availability of drugs in the hospital ?
- a.

10. Has patient number increased since the introduction of P.T.F ?
- a. Yes ()
- a. No ()
11. Give reasons for the choice of answer to question 10
-

12. Do you receive adequate drug information from the hospital pharmacists ?
- a. Yes ()
- b. No ()
- comment:.....

13. Do pharmacist partake in the Clinical Ward round with Doctors and Nurses etc ?
- a. Yes ()
- b. No ()
- Comment:.....

14. How do you rate emergency drug supplies to the theater, medical and pediatric wards, obstetric and Gynecology and Surgical wards ?

- a. Adequate ()
- b. Very adequate ()
- c. Not adequate ()

15. SECTION B

- 1. Sex Male ()
 Female ()
- 2. Age 25 - 35 years ()
 36 - 45 years ()
 45 and above ()
- 3. Years of work experience with ABUTH, Zaria
 1 - 10 years ()
 10 - 20 years ()
 20 years and above ()
- 4. Your profession
 Doctor ()
 Nurses ()
 Others () - Specify:.....

APPENDIX III

DEPARTMENT OF BUSINESS ADMINISTRATION

FACULTY OF ADMINISTRATION

A.B.U. KONGO CAMPUS

ZARIA

M.B.A. THESIS QUESTIONNAIRES

This research is for academic purpose only. You are requested to answer the questionnaires freely and truthfully.

And any information obtained will be treated as confidential and the identity of respondent will be preserved.

Please kindly tick (✓) where necessary and write your comments where necessary.

SECTION A

1. Is this your first visit to ABUTH, Zaria ?
 - a. Yes ()
 - b. No ()
2. Are you an out-patient ?
 - a. Yes ()
 - b. No ()
3. If your answer to question 2 is No, are you on admission ?
 - a. Yes ()

- b. No ()
- 4. If your answer to question 3 is No, are you a patient's relative or a member of staff ?
 - a. Staff ()
 - b. Relative ()
- 5. Do you meet your drug needs in the hospital ?
 - a. Yes ()
 - b. No () - Comment:.....

- 7. What appeals to you about the hospital ?
 - a. Genuine drugs (good quality) ()
 - b. Affordable drugs and medical services ()
 - c. Good reputation ()
- 8. Is the out of stock situation frequent ?
 - a. Yes ()
 - b. No ()
- 9. Is there provision for refund of unused pharmaceutical products ?
 - a. Yes ()
 - b. No ()
- 10. Do pharmacy staff show interest in you as their patient (customer) ?
 - a. Yes ()

b. No () - Comment:.....

.....

.....

11. Are the pharmacy staff friendly, courteous and helpful ?

a. Yes ()

b. No () - Comment:.....

.....

.....

12. Do they encourage and advise you on your medication ?

a. Yes ()

b. No ()

13. What problem do you encountered in obtaining drugs from the pharmacist ?

a. Non-availability of drugs ()

b. Too little quantity of drugs supplied ()

c. Waiting time is long ()

14. Could you please suggest way(s) of solving your choice of answer to question 13 above ?

.....

.....

.....

SECTION B

- | | | | |
|----|-----|--------------------|-----|
| 1. | Sex | Male | () |
| | | Female | () |
| 2. | Age | 25 - 35 years | () |
| | | 36 - 45 years | () |
| | | 45 years and above | () |