UNIVERSITY OF NIGERIA NSUKKA

SCHOOL OF POST GRADUATE STUDIES

FACULTY OF ENGINEERING

IMPLEMENTATION OF WEB-BASED HEALTH MANAGEMENT SYSTEM FOR NATIONAL HEALTH INSURANCE SCHEME

BY

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PG/M.ENGR/09/51094

DEPARTMENT OF ELECTRONIC ENGINEERING (DIGITAL ELECTRONICS AND COMPUTER SPECIALIZATION)

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APPROVAL PAGE

This is to certify that this project work has been read and approved by the under listed as meeting the requirements of the department of Electronic Engineering , Faculty of Engineering, the School of Post Graduate Studies , University of Nigeria Nsukka .

..... **.....**

PROF. O.U.OPARAKU **DATE**

PROJECT SUPERVISOR

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PROF. O.U.OPARAKU **DATE**

(HEAD OF DEPARTMENT)

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EXTERNAL EXAMINER **DATE**

DEDICATION

This project work is dedicated to God for His mercies and compassion, protection and guidance throughout the period of this research as well as other academic programmes at University of Nigeria Nsukka.

ACKNOWLEDGEMENT

Indeed this project work will not have been possible if the blessings, mercies and favors of God were not with me when this programme was started. Therefore my greatest and sincere thanks go to Him for all these favors. I am also greatly indebted to my Head of department and project supervisor Prof O.U. Oparaku for not only devoting his time in offering useful suggestions and guidance but also going around with me in gathering some of the materials that were useful in carrying out this project. Prof C.C. Osuagwu can never be forgotten when compiling names of people who played great roles while the programme was going on. His useful and fatherly advice has always and will continue to inspire me in my endeavors in life. Members of the entire staff in the department including Dr. C.Ani and Prof Nzeako deserve my sincere thanks.

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ABSTRACT

Web-based health management system for National Health Insurance Scheme is considered in this project work as an online information storage and retrieval internet portal where the stakeholders registered and participating in the National Health Insurance Scheme of the federal ministry of Health will be able to access relevant information regarding NHIS. The Internet portal will also be useful to prospective or intending participants who want to key into the programme. The stakeholders in the NHIS programme include Health Management Organizations, Health care Providers, health care professionals, tertiary institutions, federal employers and employees, agencies and parastatals, enrollees, Banks, Insurance companies and armed forces. The Health Management Organizations (HMOs), are classified into national , zonal, and state, while the health care providers consist of primary, secondary, tertiary and specialists. The health care professionals on the other hand are categorized into general medical practitioners, ophthalmologists, radiologists, dental surgeons, pharmacists, nurses/midwives. The other stake holders in the scheme include the non governmental organizations and paramilitary men .The Scheme is aimed at providing access to health care delivery services to the federal government workers, including the armed forces, students of tertiary institutions as well as other enrollees in the programme at subsidized rates on contributory basis. The main features of the system design include Home page where other menu items are displayed and accessed. The menu items include About Us, Operating Guidelines, NHIS Programmes, Requirements, NHIS Registration, Staff, profile, View, identity card and Frequently Asked Questions (FAQ).Each of the above listed menu items has other sub programme modules which allows the visitors to the site as well as the staff of the NHIS or the Administrators to use or work with the system for entry and display of users data respectively. The system can as well be queried for various options of activities .The implementation of the above design was carried out using Adobe Dream Weaver CS5, HTML, PHP Script programming language as the front end. Various database objects like Tables, Forms and Queries were created using MySQL at the backend. Different Graphical User interface windows were designed to enable all the stake holders or visitors to the website to interact with the system. Internet Explorer or Mozilla fire fox or any other browser can be used to visit the website. Comparison of features of different software Engineering process models for instance Iterative and Incremental process models were done. Various UML use-case diagrams were used to showcase the functionality of the new system. Implementation of health Insurance schemes in both developing and developed nations were also discussed. The portal address for this work is ***http://www.nhisng.org***

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

WEB-Based Health Management System for the National Health Insurance Scheme is an ICT based health management project that is intended to facilitate online implementation of management information system for stakeholders of the National Health Insurance Scheme .At the end of the work, the participants in the scheme will be able to use the online graphical user interfaces provided by the various designs in the project to carry out most of their hitherto manually operated activities and also have quick access to necessary information required for their day to day operations and management decisions. This will no doubt help to eliminate or reduce some of the major problems and challenges which the scheme is currently undergoing as a result of lack of a computerized national database that will assist in quicker processing of data or information from any location. A brief understanding of the scheme and why it was introduced by the Federal government of Nigeria may be necessary at this stage to enable us appreciate the project better. In Nigeria and indeed other third world nations, access to healthcare delivery systems and services is usually an uphill task especially for downtrodden and ordinary or less privileged persons in our society. Perhaps this is due to some factors which among others include increasing or prohibitive financial implications of improved medical facilities and services as well as near absence of primary, secondary and tertiary health institutions in most rural communities. To assist the poor masses and reduce the financial costs associated with healthcare facilities and delivery services the federal government through her various initiative programmes introduced the National Health Insurance Scheme (NHIS) for her workforce in 1989. (http://www.nhis.gov.ng)

The scheme has various aims and objectives but the major one being cushioning effects of costs of accessing medical services. Several stakeholders are involved in the scheme. Different operational guidelines are stipulated for the public and organized private sectors.

The scheme is a contributory one where employers and the employees are required to contribute certain percentages. The scheme covers employees and their spouses including four biological children not exceeding the age of eighteen years. To participate in the scheme enrollees register with an NHIS accredited healthcare provider of his or her choice while employers register or appoints Health Maintenance Organizations (HMOôs). The registered

participants in the scheme are usually referred to as enrollees. Other details about the NHIS programme will be explained as we access other chapters in this project. To carryout and implement the research a combination of web based scripting languages namely Pretext Hyper text Preprocessor, (PHP) scripting and Hyper Text Markup Language (HTML) as well as Adobe Dream Weaver were used. The choice of these programming languages is based on their strengths, flexibilities and other advantages that are inherent with them including portability with many different platforms. Furthermore MySQL was used as the database management system. The concept of Social Health Insurance was first mooted in 1962 by the Halevi Committee, which passed the proposal through the Lagos Health Bill. Unfortunately, it was truncated.In 1984, forced by the desire to source more funds for healthcare services, the National Council on Health under Admiral Patrick Koshoni, then Minister of Health, inaugurated a Committee chaired by Prof. Diejomoah which advised government on the desirability of Health Insurance in Nigeria and recommended its adoption.(*http://www.nhis.gov.ng/index.php)*

In 1985, Dr. Emmanuel Nsan, the Minister of Health set up a Committee on National Health Review headed by Mr. L.Lijadu. This committee also reported that Health Insurance is viable in Nigeria. Later in 1985, Prof. Olikoye Ransome Kuti, then the Minister of Health, raised a consultative Committee on National Health Insurance Scheme. The Committee was made of the Nigerian Labour Congress (NLC), Nigerian Employer Consultative Association (NECA). Nigerian Medical Association (NMA), Pharmaceutical Society of Nigeria (PSN), United Nations Development Programme (UNDP), Armed Forces Medical Directorate, National Planning Commission (NPC), Federal Ministry of Labour, and the Presidential Advisory Committee (PAC). Upon submission of their report another Committee chaired by Dr. E. Umez-Eronimi was set up to recommend an acceptable model for the implementation of a Social Health in Nigeria.

At the 28th meeting of the National Council on Health, another Committee was set up on National Health Insurance Scheme. After the submission of its report, the Federal Government approved the establishment of the National Health Insurance Scheme in 1989. In 1991, the Federal Government signed an agreement with the UNDP and the International Labour Organisation for planning and implementation of the scheme. Studies carried out involved actuarial analysis, computerization requirement, financial procedure, management information system, guidelines and draft law on the National Health Insurance Scheme.

In 1993, the Federal Ministry of Health presented a memorandum to the Federal Executive Council (FEC) praying for immediate implementation of the National Health Insurance Scheme.

In 1995, the National Health Summit endorsed the need to setup the National Health Insurance Scheme as soon as possible.

At its 42nd meeting, the National Council on Health (NCH) approved the repackaging of the NHIS to ensure full private sector participation. This model ensured the introduction of Health Maintenance Organisations (HMOs) as financial managers of the Scheme.

On October 15th, the National Health Insurance Scheme was finally launched. The enabling law Decree 35 of 1999 (now Act 35 of 1999) was signed in May 1999.

National Council on Health special meeting on NHIS held in Port Harcourt in July 2001 recommended the need for the scheme to take off. Thereafter an Implementation Planning Committee was set up which met in September 2001 and submitted its report recommending the immediate take off of the Scheme.

1.2 Project Definition:

The WEB Based Health Management System for the National Health Insurance Scheme is an Information and Communications Technology (ICT) based project that is intended to automate some of the major operations associated with the NHIS programme. The automation process will involve development of appropriate frameworks for computer software driven graphical user interface modules that will be Internet based to enable all the stakeholders perform most of their activities as well as have online access to their records. No doubt this will largely reduce some of the major challenges which the participants usually experience. At the end of this project it is also expected that it will address the issue of cases that are referred to other higher and better equipped hospitals by allowing necessary patient details to be downloaded to the new hospital.

1.3 Statement of problems

There is no doubt that the NHIS programme has very good intentions and packages for the stakeholders involved in the scheme especially the enrollees. Despite the laudable objectives of the scheme, there are a lot of factors militating against it thus making it difficult for the participants in the scheme to key into the programme with little or no difficulty. Some of these limitations revolve around the lack of appropriate online national database accessible to the operators of the scheme in information and data processing of most of the activities associated with the scheme. This has resulted in different problems that are being

encountered by the stake holders of the programme. The major areas of interest which this project intends to address and provide solutions to, include but not limited to the following;

- Problems associated with the delays in registration of the stakeholders
- Lack of NHIS central database for quick access to relevant data/information for prompt management decision making at different locations or states in the country.
- Rigorous processes of changing from one accredited health care provider to another by the enrollees
- Issues related to the problems associated with referral cases such as starting afresh all cases that are transferred from one hospital to another due to non availability of previous patientsô details from the referring hospital to the new health facility.
- Inadequate information about available equipment and departments as well as consultants at various health care centers in order to determine where cases can be referred to when the need arises.
- Delays arising from processing of enrollees application forms and identity cards for the participants
- Problems of double registration of enrollees

1.4 Aims and Objectives of the project

The major aim and objective of carrying out this project is to assist all the major stakeholders including the enrollees, accredited healthcare providers, MHOôs etc in accessing relevant data/information from the central database which is required for carrying out their respective tasks and finding solutions to other peculiar problems associated with the above mentioned activities.

The project is also intended to provide basic information on the operations and guidelines of the activities of the NHIS stakeholders through the internet or website so that interested beneficiaries can access relevant information to guide them as they participate in the scheme.

1.5 Justification for the Project:

The need and importance of carrying out this project cannot be overemphasized. As we pointed out earlier the project is to address most of the problems being encountered by the stakeholders especially the enrollees who find it difficult in accessing relevant information for the full benefits of the scheme. Since the project will be an internet based one, it therefore

means that the stakeholders can stay at the comfort of their rooms to access and retrieve relevant information for their needs and also to enable the administrators of the scheme to be able carryout some of their official assignments such as registration, record updates, process their identity cards, change their accredited healthcare providers as well as perform any other function as the need arises from any part of the country or even in the world at large. All these activities and more will be carried out without the person visiting the NHIS office which may be located several kilometers away once you have the necessary authorization.

1.6 Scope Of The Project

The scope of this project will cover some of the major NHIS accredited Health care providers within Enugu state metropolis such as University of Nigeria Teaching Hospital Ituku Ozalla, Annunciation Specialist Hospital Enugu, ESUT Park Lane Teaching Hospital Enugu and Orthopedic Hospital Enugu. To this end we shall be focusing on activities that will provide solutions to the problems already stated. Different graphical user interface modules will be created to handle activities such as Enrollee registration, update of records of the stake holders such as the health care providers and professionals, health management organizations, insurance and financial institutions, processing of identity cards, and even online change of accredited healthcare providers as well as online referral of cases from one health facility to another.

1.7 Project Organization

The project is organized into different chapters. Chapter one is intended to discuss introduction and general background history of the NHIS scheme as well as other relevant details which include the project definition and scope, problem statements, aims and objectives and justification for the project. Chapter two is used to discuss literature review where substantial details about how the programme is carried out in other parts of the world. Chapter three is where the necessary design work is carried out .Different database tables and forms used to design the graphical user interfaces are disclosed here. Project analysis and implementation is discussed in chapter four while chapter five focused on the recommendations and conclusions. Suggestions for further studies is also contained in this chapter

CHAPTER TWO

LITERATURE REVIEW

2.1 The Evolution of National Health Insurance Scheme in Nigeria

2.1.1 Introduction

In 1990, total health spending ranged from less than $10 per capital in several African and Asian countries to more than $2,700 per capital in the U.S.A. As a result of this, the ability of government especially in the 'developing nations', to implement their health policies, strategies, programmes and projects has been greatly affected. This chronic underfunding of the health sector makes it increasingly difficult for the public sector to provide health services for its populace in most part of the developing nations. The achievement of the Millennium Development Goals (MDGs) is also becoming bleak due to inadequate funding.
In Nigeria, the health sector is principally financed by the government. The government is faced with various challenges- a stagnant mono-cultural economy that depends on crude oil as a single export commodity, a rapid population growth, political instability and high rate of unemployment. Hence, the government cannot afford to commit enough money to the health sector which is now faced with the consequence of underfunding- decreased efficiency, decreased quality/quantity of service, diminished confidence in public sector health facilities and poor maintenance of equipment. An alternative source of health financing is thus inevitable if our vital health indices in Nigeria will not continue to deteriorate; hence the evolution of the National Health Insurance Scheme in Nigeria. Health Insurance is a means of spreading the risks of incurring health care cost over a group of individuals and households. Healthcare costs are often unaffordable to individuals if they have to pay the full cost of treatment as it occurs. Health Insurance is the pooling of resources by groups of individuals to take care of such needs. It entails risk sharing by contributors, thus individuals with higher resources subsidizes those with less and those with low incidence of illness subsidize those who require care more frequently. Health Insurance is defined as the ability to get health services when required without having to pay fully at the time of need because payment has been made by a fixed regular contribution by the insured or his/her employer or both (prepayment plan). The money is pooled by the provider of the insurance to pay for all those needing health care. The other alternative to health insurance is the out of pocket payment at the point of service delivery which has been on in Nigeria for decades. "Out of pocket" payment is the least desirable means of health care financing as it denies access to healthcare to those who cannot afford to pay at the time of their illness. Prepayment schemes appear to offer a better healthcare financing option than "out of pocket" schemes. The elimination of

"out of pocket" payment option is the goal of health insurance. Health insurance is now regarded as probably the most common form of financing healthcare worldwide.

2.1.2 Historical Perspectives

Among the industrialized countries, insurance can be traced back to the time of their developing era. Pooling of resources by groups of individuals in order to protect themselves against certain types of adversity such as disability and sickness can be traced back to the 11th and 12th centuries. In European cities, funds were built by guilds from periodic contributions of their members and the money used for members facing problems such as illness. Later in the 18th and early 19th centuries, factory wage earners replaced independent artisans, they formed groups in particular industries and certain localities and called the organisation - 'Sickness Funds'. This insurance idea grew in thousands in Europe in the late 19th century. In 1983, German Chancellor Bismarck enacted a law requiring all workers with wages less than a certain amount to benefit from social insurance. This marked the birth of Social Security Movement. Similar development followed in Austria, Hungary, Great Britain and the Scandinavian Countries. By 1927, all industrialized countries of Europe had followed suit including France although the range of population coverage and health service benefits differ from country to country. In Africa, Algeria in 1949 adopted a statutory health insurance programme, followed by Libya in 1957, Tunisia in 1960 and Egypt in 1067. Guinea was the first to establish social security for health care in Sub-Saharan Africa. The First attempt at adopting an health insurance system in Nigeria started in 1962 during the First Republic. The Federal Government invited Dr Halevi through the International Labour Organisation (ILO) to look into starting a health insurance system in Lagos. The then Minister for Health Dr Majekodunmi also presented the first bill to the parliament. The Nigerian civil war years caused the matter to be shelved but was resuscitated by the health council in 1984 when a committee was commissioned to study the National Health Insurance. In 1988, Professor Olikoye Ransome-Kuti commissioned the National Committee on Establishment of the NHIS, chaired by Emma-Eronmi. In 1989, Eronmi committee report was submitted and approved by the Federal Executive Council. The United Nations Development Programme (UNDP) and International Labour Organisation (ILO) consultants conducted their own studies in Nigeria to provide costing, draft legislation and implementation guidelines for establishing the NHIS in 1992. The Federal Executive Council which had given its approval in 1989 directed the Federal Ministry of Health in 1993 to start the scheme. In 1999, the enabling decree - Decree 35 was promulgated - May 10, 1999. On the 6th of June 2005, the

formal sector of the social health insurance scheme was flagged off by Chief Olusegun Obasanjo the then president of the Federal Republic of Nigeria. As at today, the scheme has covered all the Federal Ministries, Parastatals, Agencies, the Nigerian Police and Armed Forces. It is also firmly established in the organised private sector.

2.1.3 Objectives of National Health Insurance Scheme

The general purpose of NHIS is to ensure the provision of health insurance ñwhich shall entitle insured persons and their dependents the benefit of prescribed good quality and cost effective health servicesò (NHIS Decree No. 35 of 1999, part 1:1). The specific objectives of NHIS

include:

- The universal provision of healthcare in Nigeria.
- To control/reduce arbitrary increase in the cost of health care services in Nigeria.
- To protect families from high cost of medical bills.
- To ensure equality in the distribution of healthcare service cost across income groups.
- To ensure high standard of healthcare delivery to beneficiaries of the scheme
- To boost private sector participation in healthcare delivery in Nigeria.
- To ensure adequate and equitable distribution of healthcare facilities within the country.
- To ensure that, primary, secondary and tertiary healthcare providers are equitably patronized in the federation.
- To maintain and ensure adequate flow of funds for the smooth running of the scheme and the health sector in general (NHIS Decree No. 35 of 1999, part II: 5; NHIS, 2009).
- To ensure that every Nigerian has access to good healthcare services.
- To solve the problem of inappropriate use of levels of healthcare, leading to unnecessary cost and under-utilization of specialized facilities ensuring equitable patronage of all levels of health care. To improve and harness private sector participation in health care service delivery and to ensure institutional quality assurance.
- Limiting the rise in the cost of healthcare service

- To maintain high standard of healthcare delivery services within the scheme.
- To ensure availability of funds to the health sector for improved services and foster research in the health sector.
- To ensure efficiency in healthcare services

2.1.4 Benefits of the Scheme

The benefits derived from participation in the scheme are defined by law and include;

- Prescribed generic drugs, pharmaceutical care as contained in the National Essential Drug List;
- Diagnostic tests as contained in the Diagnostic Tests List
- Maternity care for up to four (4) live births for every insured contributor/couple;
- Preventive care including immunisation as it applies in the National Programme on Immunisation, health education, family planning, antenatal and post-natal care;
- Consultations with specialists, such as physicians, paediatricians, obstetricians, gynaecologists, general surgeons, orthopaedic surgeons, ENT surgeons, dental surgeons, radiologists, psychiatrists, ophthalmologists, physiotherapists, etc.;
- Hospital care in a standard ward for a stay limited to a cumulative of 28 days stay (after the 15 days covered by capitation), for physical and mental disorders. Thereafter the beneficiary or the Federal Government pays;
- Eye examination and care, excluding the provision of spectacles and contact lenses;
- A range of prostheses (limited to artificial limbs produced in Nigeria); and
- Preventive dental care and pain relief (including consultation, dental health education, amalgam filling, and simple extraction).
- Hospital in-patient and out-patient care
- General practitioner services in the communities
- Physician specialist services
- Medicaments
- Ancillary Services such as X-Ray, Laboratory tests
- Vision test and spectacles
- Prostheses, appliances and rehabilitation
- Basic dental maintenances
- Reconstructive dental care

2.1.5 Types of Health Insurance Scheme

Private:- This is through employer-owned on-sight health facilities or through contract with outside providers. Private health insurance individuals (volunteers, privately employed) are catered for by agencies. It is devoid of risk sharing, benefits are not as of right. The measure given by the individual or the employer is the same measure of service received. Benefits are not uniform, contribution payable is based strictly on the need of individual i.e the higher the health needs of the contributor, the higher the payment.

Social:- Payment is irrespective of needs and is usually based on employment and income. It is a form of payroll tax sharing between employers and employee earmarked to pay for health care. It is based on solidarity. Resources are pooled together among large population and it enhances security of each individual in the group.

Community Sponsored Insurance:- A community based programme which normally operates in the rural areas and mostly localized. It is co-ordinated and organised by cooperative societies, unions and non-governmental organisations. An example is the Country Women Association of Nigeria (COWAN) a rural co-operative union which has operated a credit-linked Health Development Fund (HDF) since 1989. The overall goal of this laudable scheme is to provide access to qualitative health care to the teeming population of Nigerians at an affordable cost and least possible inconvenience. The success will thus depend on popular understanding and implementation on the part of everyone that is involved in the scheme. The client (the subscribed population), the care-giver (professionals in the health sector), the health maintenance organizations (the managers of the scheme)and the NHIS secretariat (the umpire) will have to protect the scheme from the corruption bug in Nigeria as it gradually evolves into a formidable force in providing alternative to health care funding in Nigeria. We hope to contribute to this success by ensuring a proper understanding among all players and by periodic appraisals of the scheme.

2.1.6 How the scheme operates in Nigeria

There are five major stakeholders in the scheme:

- Employer
- Employee
- Primary Care Providers - Primary and Secondary

- Health Maintenance Organizations - Operators of the scheme
- Government Agency (NHIS) - Regulator of the scheme. For participation in the scheme, contributors will first register with an NHIS approved HMO and thereafter register with a primary health care provider of their choice from an approved list of providers registered by their HMO. The contributor and his/her dependants are issued ID cards on registration. In the event of sickness, he presents to his chosen Primary Care Provider (PCP) with his ID card. A contributor has the right to change his PCP after a minimum of six months if he is not satisfied with the services there. A contribution made by the insured person entitles his or her spouse and four children under the age of 18years to full health benefits. However, students in school up to the age of 25 years qualify as dependants. Extra contribution will be required for additional dependants. Contribution to be made by formal sector employees for health benefits under the scheme will be 15% of wages, the payment of which will be by both the employee and the employer. The employee pays 5% while the employer pays the remaining 10%. The employee's part of the contribution is deducted from his pay with the employer adding the remaining and forwarding the total payment to the appropriate quarters - HMO and NHIS. The implementation of the scheme will be in phases to cover all Nigerian Organized as follows;

  ÅEmployers in the formal sector (Public and Private). Their contribution will be paid by their employers and those in public sector by the Federal, Sate and Local Government. Parastatals, ministries and agencies as appropriate.

  ÅSelf employed person (market women, traders, artisans, farmers, business men etc.). They will be encouraged to pay their contributions either by themselves or through co-operative bodies formed by them.

  ÅEmployer of labour with ten or more workers in their establishment are to subscribe to the scheme and make contributions for their employees as aforementioned.

  ÅRural dwellers- These group will enjoy suitably tailored programmes designed for them which will be implemented in consultations with various organizations like banks, co-operatives, donor agencies, NGOs, local, state and federal governments.

  ÅVulnerable groups which include the unemployed, the aged, the disabled, the street children, retarded children and retirees. Their contribution is expected to be made by the Federal, State and Local governments, NGO, local communities and philanthropists. The implementation of this coverage plan is however expected to be

in phases. As it is today, only the employees of Federal Government ministries, agencies, staff of the Nigerian Police Force, Nigeria Army and employees of the organized private sector enjoy the scheme in Nigeria.

2.1.7 Strategies/Implementation Action Points in Nigeria

Reservations have been expressed regarding the public sector's capacity to manage such an administratively cumbersome scheme, given the poor performance of most public enterprises such as the National Housing Fund and National Providence Fund. In the evolution of the National Health Insurance Scheme therefore, recognition of inefficient and inappropriate use of resources as prevalent and recurring problems in the health sector informed the decision to make the scheme private sector driven. This private sector participation is expected to enhance financial probity and effective management. The function of the HMOs include;

ÅCollection of contributions from eligible employers and employees

ÅCollection of contributions from other contributors

ÅPayment of health care providers for services rendered.

ÅMaintenance of quality assurance in the delivery of the health care benefits under the scheme. Private or public individuals/establishment may form these organizations which are limited liability companies solely formed for the purpose of provision of health services and registered under the scheme. Health care providers are primary and secondary in category. The primary health care providers are the gate keepers. They will serve as first contact with the care system. They include: -

Private clinics/hospitals - Primary health care centers (private or government) - Nursing and maternity homes (overseen by doctors) - Outpatient departments of General, Specialist and Teaching Hospitals. Payments for services rendered by these providers to contributors is by capitation. Capitation is a predetermined sum of money paid by the HMO on behalf of a contributor for services rendered by the provider. This payment is made monthly whether the services are used or not. Secondary health care providers include Specialist doctors, pharmacists, laboratory scientists, radiographers, physiotherapists and dentists. They provide services to the contributors on referral from the primary health care providers. Their payment is made by HMOs on a fee-for-service basis.

Source:(The Nigerian Doctor (http://thenigeriandoctor.org/news.php?extend.850)

2.1.8 Launching of National Health Insurance Scheme by President Olusegun Obasanjo in June 2005

The concept of Social Health Insurance was first mooted in 1962 by the Halevi Committee, which passed the proposal through the Lagos Health Bill. Unfortunately, it was truncated. Successive government identified with it but lacked the political will to commence it. Documents were modified over the years and on October 15th 1998; the National Health Insurance Scheme was finally launched. The enabling law, Decree 35 of 1999 (now Act 35 of 1999), was signed in May 1999. National Council on Health special meeting on NHIS, held in Port Harcourt in July 2001, recommended the need for the scheme to take off. *https://www.google.tribune.com.ng/index.php/feature/31498-national-health-insurance-scheme-of-what-benefit-to-nigerian-masses)*

Precisely on Monday, 6th June, 2005, the scheme, aimed at providing easy access to healthcare for all Nigerians at an affordable cost through various prepayment systems, was launched by President Olusegun Obasanjo, while access to healthcare commenced in September 2005.The search for a comprehensive, cost-effective healthcare plan began in the 60ôs at the inception of self-government in Nigeria. Public Health insurance was first considered an administrable policy in 1962 by the Halevi Committee and acquired legal teeth through the Lagos Health Bill.

However, it was not until 22 years later that Government, driven in part by a dwindling revenue profile and a spiraling birth rate set up a Committee headed by Professor Diejomoah to advise it on the desirability or otherwise of a National Health Insurance Scheme. The Committeeôs positive recommendation set the ball rolling. Two more Committees with wider public and organized private sector participation were set up in 1985 to further study the subject while a harmonization Committee was inaugurated to work out a feasible model in 1988.

Several meetings of the National Council on Health, the countryôs broadest health policy formulating body, deliberated on the recommendations of these Committees, fine-tuning contentious proposals until it finally convened the Special meeting of July 2001 where the Council set up an Implementation Planning Committee upon whose report the scheme finally took off. Initiators of the programme inserted provisions to shield the scheme from abuse. Participants who default in their payment are excluded from enjoying the benefits until they pay what they owe and a month's subscription in advance.

Take off of National Health Insurance Scheme By Feb 18, 2003,

The hope of the average Nigerian to have a reliable and affordable healthcare delivery system has brightened with the take-off of the long-awaited National Health Insurance Scheme NHIS.

Modeled after the practice in developed countries where responsibility for quality healthcare delivery is shared, the Nigerian version at full implementation would spread health benefits across the primary, secondary and tertiary spectra. Having every segment of Nigeriaôs variegated population in mind, the National Health Insurance Scheme aims to mobilize resources in a sustainable manner for the provision of accessible, quality healthcare for all irrespective of status. The scheme comes in an attractive package of six components and contributors can access healthcare needs from approved public and private health service providers. Health Maintenance Organizations (HMOs) which are limited liability companies will be licensed by the NHIS to facilitate the provision of healthcare benefits to contributors under the Formal Sector Social health Insurance Programme to interface between eligible contributors, including voluntary contributors and the healthcare providers. The HMOs must be indemnified by approved insurance firms to the tune of N100million and maintain a bank balance of same amount from which the NHIS could mobilize funds to pay outstanding claims in the case of default. The scheme took off in Ijah, a rural community in Niger state, North central zone of Nigeria, where Nigeria's First Lady, Mrs. Stella Obasanjo flagged off the Rural Community Social Health Insurance and the Under-5 Children Health Programme components of the scheme.

2.2 The need for National Health Insurance Scheme

The need for the establishment of the Scheme was informed by the general poor state of the nationôs healthcare services, the excessive dependence and pressure on government provided health facilities, dwindling funding of healthcare in the face of rising costs, poor integration of private health facilities in the nationôs healthcare delivery system and overwhelming dependence on out-of-pocket expenses to purchase health. According to the World Health Organisation (WHO), in 2005, Nigeria was ranked 197th out of 200 on the basis of life expectancy. Life expectancy was put at 48 years for males and 50 years for females; while Healthy Life Expectancy (HALE) for both sexes was put at 42years. In HALE estimation, Nigeria only ranked higher than five countries; Sierra Leone, Afghanistan, Zimbabwe, Zambia and Lesotho.The WHO report further states that Nigeria accounts for 10 per cent of global maternal mortality figure, with 59,000 women dying annually from pregnancy and

child birth. It adds that for every maternal death, 30 others suffer long term disabilities while 40 per cent (about 800,000) of global obstetric fistulas occur in Nigeria. The frightening report also states that the health situation in the country has been so deplorable because only 39 per cent of births are delivered by skilled health professionals. It also states that the risk of a woman dying from child birth is 1 in 18 in Nigeria compared to 1 in 61 for all developing countries and 1 in 800 in developed countries, adding that only 23 per cent of children (12-23months) receive full course of immunisation against childhood killer diseases. However, reducing child and maternal mortality rates are part of the Millennium Development Goals (MDG) which the government is committed to. It targets a reduction of the mortality of children under the age of five by two-thirds between 2000 and 2015, that is, from 207 in 2000 to 67 by 2015. In the same vein, MDG also targets a 75 per cent decline in maternal mortality rate by 2015, that is, from 704 in 2000 to about 176 in 2015.It is therefore, obvious that unless there is a quick intervention, Nigeria will get to 2015 without a change in her health status. That is where the National Health Insurance Scheme (NHIS) comes in.The NHIS represents a very promising sustainable healthcare financing strategy. The agency can work progressively towards achieving universal health insurance coverage for all Nigerians. Historically, Emperor Otto Von Bismarch of Germany enacted a mandatory legislation on 'sickness funds' for workers in 18832. As the cost of healthcare increases, it has become increasingly important for people to obtain health insurance to maintain access to preventive and emergency health care and afford treatment. Health insurance is a social security system that guarantees the provision of needed health services to persons on the payment of token contributions at regular intervals. The National Health Insurance Scheme (NHIS) is a body corporate established under Act 35 of 1999 by the Federal Government of Nigeria to improve the health of all Nigerians at an affordable cost3. Given the general poor state of the nation's health services and the excessive dependence and pressure on Government owned health facilities, with the dwindling funding of healthcare in the face of rising cost, the Scheme is designed to facilitate fair financing of health care costs through pooling and judicious utilization of financial risk protection and cost-burden sharing for people, against high cost of health care through institution of prepaid mechanism, prior to their falling ill. This is in addition to the provision of regulatory oversight on Health Maintenance Organizations (HMOs) and Health Care Providers (HCPs). Several health insurance schemes exist around the world. In Africa we have success stories in Rwanda, Kenya, Ghana, South Africa to reduce the burden of healthcare on the populace. This write up serves to highlight the history

of NHIS, progress made so far, challenges and recommendations for the way forward towards achieving universal coverage.

2.3 Health Insurance Scheme in Nigeria

The Nigerian Health Sector is no doubt one of the cardinal sectors whose successful reform will definitely shape the direction and pace of national economic growth and development. However, the sector has witnessed several years of neglect, decay of infrastructure, poor funding and inappropriate human resources management coupled with colossal depletion of trained personnel (brain drain).

At the inception of President Olusegun Obasanjo administration in 1999, Nigeria was reported as having one of the lowest annual budgets dedicated to the health sector in Africa (less than 5 percent of total budgetary allocation). Resource allocation for the sector between the Federal, State and Local Governments was inefficient and unbalanced. The quality of health services and facilities and drugs were either very low or there was prevalence of fake, substandard and unregistered health institutions. The resultant effects of these were that at some point, our health institutions became shadow of themselves and consequently reduced to poorly managed ñconsulting clinicsò which could hardly handle serious health complications and surgeries. This ugly development took its toll on the lives of the ordinary Nigerians who could not afford to travel abroad for quality healthcare attention, and this caused an increase in mortality rates and incidences of ill-health and general poor health indices.

However, developing and implementing a sustainable healthcare financing strategic framework is a key success factor for health sector reforms in Nigeria and in improving the health status of a majority of the people, both in the immediate, intermediate and long-term perspective. Such a strategy would aim at striking a strategic, sustainable and fair balance through a cocktail of government budget; social health insurance; private health insurance/managed care funding arrangements; and to include non-governmental and development partnersô support; as well as mutual and community social health insurance funds, with limited out-of-pocket sources to finance healthcare services. Speaking recently on the National Health Insurance Scheme ï achievements and challenges, the Executive Secretary of the NHIS,. Mohammed Dogo-Muhammad, said that this could only be achieved through the NHIS, established by the Government on June 6, 2005. The NHIS represents a

very promising sustainable healthcare financing strategy. The agency has a mandate to work progressively towards achieving universal health insurance coverage for all Nigerians. Indeed, the Public Sector Social Health Insurance Programme (PSSHIP) was launched formally in June 2005 and has so far covered 2,162 million enrolees consisting of Federal civil servants and their dependants in the Ministries, Agencies and Extra- Ministerial Departments (MDAs), Armed Forces, the Police and other uniformed personnel. In a bid to extend coverage to the states, the scheme embarked on high level advocacy to the State Chief Executives and other policymakers, to solicit for their support and subsequent folding-in into the programme. The visits to the states have resulted in several activities which have taken place in many states in form of advocacy and sensitization. Some states including Cross River and Bauchi have joined the scheme. The number of enrolees that have folded into the programme have been on steady increase. Furthermore the Scheme has signed a Memorandum of Understanding (MoU) with Enugu State Government. The State Government has been requested to make the initial financial contribution, after which the accreditation of healthcare facilities and registration of the State workforce will commence. Sixteen other States are at various stages of keying-in into NHIS Public Sector Programme. The scheme has conducted a nationwide inventory of existing Civil Society Organizations, Community Based Organizations, Cooperative Societies, Existing Community Based Health Insurance Schemeôs and Occupational Based Groups. On the basis of defined criteria, NHIS is expected to select about 50 groups (from the inventory) to serve as viable entry points for piloting CBHI in the country. The selection will be one group in each state and FCT. Up-scaling shall be achieved through continuous identification and engagement of viable groups in partnership with all stakeholders. The programme was eventually flagged off at Isanlu in Yagba East Local Government Area of Kogi State on 17th December, 2011, thereby marking the commencement of the implementation of the programme. To ensure the protection of the vulnerable groups and promotion of access to good health care, NHIS engaged in series of meetings and discussion with international partners for health on NHIS/MDG-MCH project, such as the meeting with Prof. Jeffrey Sachs, the Special Adviser to the United Nations Secretary General on Millennium Development Goals. NHIS with funding from the OSSAP-MDGs has achieved 100 percent health insurance coverage in 12 states of Niger, Gombe, Oyo, Bayelsa, Imo, Sokoto, Bauchi, Yobe, Jigiwa, Katsina, Ondo and Cross River with 1,600,000 pregnant women and children under 5 covered in 86 local government areas (LGA). NHIS is also bringing in the organized private sector (OPS) into the scheme since the launch of the Formal Sector Programme in 2005. Since 2009, efforts

were intensified to achieve this goal, including a structured engagement of NECA towards covering the employees of the OPS with social health insurance. Many private companies are, however, already participating in the programme. In an effort to develop a programme for voluntary participants, the scheme launched the programme on 17th December, 2011 along with CBHI at Isanlu in Yagba East Local Government Area of Kogi State. Some HMOs are already registering enrolees under this programme. A blueprint has been developed and sensitization workshops for all stakeholders have also been organized in the six geopolitical zones. Meetings are being held with the Pension Commission and other stakeholders to finalise the development of the programme. As part of the programme to cater for retirees, NHIS has developed a position paper with a view to selecting a possible option for the development of a blueprint for the coverage of retirees. A national stakeholders meeting was held in the last quarter of 2010 in order to determine the financing option and other operational modalities. This is to enable the scheme to come up with a final blueprint for the operation of this programme. For the military retirees, arrangements are being finalized to get the approval of the Federal Executive Council to evolve a health insurance cover for them. The scheme has finalized arrangements for providing a health insurance cover for the ex-militants. This has been done in collaboration with the OSSAP-MDGs. The registration of the ex-militants under the scheme has already commenced. NHIS in collaboration with the National Agency for the Prevention of Traffic in Persons (NAPTIP) commissioned a consultant to carry out a feasibility study on how to provide a health insurance cover for the victims of human trafficking. The study has been completed and in the process of developing a framework on how they could be registered under the scheme. The scheme in collaboration with NPHCDA has also worked out modalities for providing an health insurance cover for the midwives that have been employed by NPHCDA. They have already started accessing care under the NHIS. With an Act which has been amended with all stakeholders involved and has gone through second reading at the Federal House of Representatives, the scheme has been able to accredit a total of 4,146 healthcare facilities, 61 HMOs, 24 banks, 19 insurance companies and 10 insurance brokers.

2.4 The implementation of the National Health Insurance Scheme

Participants on the scheme are expected to register with a Health Maintenance Organisation (HMO), and pay a premium to the same. The employer pays 10 per cent of the employeesô basic salary while the employee contributes five per cent of his basic salary. The HMO would then link them up with a number of service providers (clinics) in their neighbourhood

out of which they will choose their preferred clinic. The participant may decide to change the chosen clinic if at any point he is not satisfied with its services. Whenever, there is any health issue, the participant or his dependants will just report at the clinic and they are treated without having to pay any fee, apart from the initial premium paid to the HMO. A policy usually covers a couple and four children under the age of 18.

All over the world where majority of the population enjoys excellent health service delivery, the vehicle employed to achieve this has been the health insurance scheme. The scheme enables those who would not have been able to afford the cost of health service to have access to the same quality as anybody else by just paying a basic premium. More than ten years of its existence, the NHIS is yet to fully service its first category which is the public sector. According to information gathered by the Nigerian Tribune, majority of the several millions of people accessing healthcare through the scheme are Federal Government employees and members of their families and a percentage of the organised private sector, it is certain that not all the states have keyed into the programme and it is also uncertain whether any local government has enrolled for the NHIS services.

2.5 The Posers

The poser from some of the antagonists of the programme is that, if it had taken more than six years to enrol just over five million Nigerians in the scheme, how many years will it take over 165 million Nigerians population to get registered? Aside that, some of the few Nigerians who had registered under the scheme are not totally satisfied with its implementation. While some complain about the quality of the services rendered, others believe that the five per cent of oneôs basic salary varies for each subscriber and is much a premium to pay for the NHIS services which exclude special treatments.

Such special treatments include total exclusion of Occupation/Industrial injuries covered by workmen compensation act, Infertility management and family planning commodities, Drug abuse and addiction, Spectacles/contact lenses, hearing aids (except military), Organ transplants/cosmetic surgeries/congenital abnormalities/defects, Epidemics, Injuries from disasters/extreme sports riots, wars etc., Dentures/crowns, scaling & polishing etc., Terminal illnesses e.g. cancer, chronic renal failure, Meals and amenity/private wards and Partial Exclusion such as Screening e.g. pap smears, mammogram (20:80% as co-insurance by HMOs: patients).

2.6 Achievements:

In its years of existence, the scheme claimed to have recorded a number of pluses, some of which are:

Accreditation of 7850 health facilities across the country and also accreditation of more than 61 HMOs to run the scheme, Developed blueprints for implementing the informal sector programme, community ð based and Tertiary Institution Social Health Insurance programmes, Secured approval to implement MDG subsidy funding for pregnant women and children U-5, Employment generation from activities of new HMOs and expanded capacity of providers, Near completion of a robust IT platform (e-NHIS) to drive operation and regulation of the scheme, Establishment of a vibrant National Call Centre, Establishment of central data centre, Draft of new NHIS Act, Re-organisation and restructuring of the NHIS to meet future challenges, Monitoring and evaluation system in place for HMOs and providers, Enhanced funding to providers (public and private) and improvement of quality of care (http://www.businesseye.com.ng/content/national_health_insurance_scheme_achievements_and challenges)

2.7 Past and present challenges of National Health Insurance Scheme in Nigeria

There are a number of challenges facing the actualization of NHIS in Nigeria. Some of these problems include the following:

- **Funding**

  Funding remain a major problem to the scheme, the percentage of government allocation to health sector has always been about 2% to 3.5% of the national budget. In 1996 2.55 of the total national budget was spent on health, 2.99% in 1998, 1.95% in 1999, 2.5% in 2000 and a marginal increase to 3.5% in 2004 (WHO, 2007ab&c). Consequently, per capita public spending for health in the country is less than US$5; which is far below the US$34 recommended by WHO for low-income nations (WHO,2007a&c). While the Nigeria per capita health expenditure dwindles, South Africa per capita health expenditure is US$22 in 2001 (The Vanguard Editorial, 2005).NHIS is also impeded by obsolete and inadequate medical equipment.

- **Inadequate health medical equipment**

  The country suffers from perennial shortage of modern medical equipment such as X-rays, computerized testing equipment and sophisticated scanners (Johnson &

Stoskopt, 2009). And where these equipments are available repair/services are always a problem. According to Oba (2009), this situation is not unconnected with corruption.

- **Lack of adequate personnel and poor remuneration of professionals**

  Lack of adequate personnel in the health sector is another impediment to the scheme. The country for instance had 19 physicians per 100,000 people between 1990 and 1999 (The Vanguard Editorial, 2005). Migration of health personnel to USA, UK etc is jointly responsible for the personnel situation in the health sector. For instance in 2005, there were 2,393 Nigerian doctors practicing in the US and 1,529 in the UK. Attributing factor includes poor remuneration, limited postgraduate medical programmes and poor conditions of service in Nigeria (WHO, 2007a).

- **Poverty**

  Other challenge includes inequality in the distribution of healthcare facilities between urban and rural areas and policies inconsistency (Omoruan, Bamidele & Philips, 2009). Furthermore, poverty and the inability to pre-pay are significant challenge to NHIS. According to Schelleken (2009) ñpeople are not willing to pre-pay; and because people do not pre-pay there is no risk pool. And because there is no risk pool, there is no supply side.ò

- **Large population of people**

- Furthermore the scheme is confronted with a number of other challenging factors. First of all, Nigeria is faced with a huge population, over 70 percent in the informal sector, thus evolving a health Insurance programme to cover this population has posed a big challenge.

- **Multiple provider status**

  The provision of multiple provider status to a facility as primary, secondary and tertiary provider has brought distortions within the referral system and tends to limit the achievement of one of the objectives of the scheme.

- **NHIS is not made compulsory**

  Like any other programme or scheme being run in the country, sources close to the NHIS disclosed that the scheme has its own challenges. Some of the challenges,

according to the source, who craved anonymity, included the fact that the scheme, although a government policy, is not made compulsory by the FG. That is in spite of the fact that the scheme states that employers in public or private sector organisations employing ten (10) or more persons, are required by law to participate in the scheme.

Anybody participating in the scheme, whether as an individual or a group, is doing so of his own free will. ó Nobody is under compulsion to participate in the scheme.ò

- **Long period of waiting for processing applications**

  The 60 days lag (waiting period) before a subscriber could access care has been described as too long by some subscribers, to which the personnel explained that because of the size of the country and the number of people involved, it takes time for collated information to get to the headquarters office, more so that the information are processed electronically and the PHCN had been epileptic. We only put the 60 days there so that the body will not run foul of the law or deny the subscriber his right, it doesnôt take more than 30 days in actual fact.

- **Lack of proper implementation**

  In implementations, policies in Nigeria are buried in some kind of huge crater comparable to the settled caldera from the erupted volcano, whose only evidences are revealed in the after-billows and smouldering smoke. ñThe NHIS which was established to reduce our mortality rate has failed the purpose it was set up to achieve because those saddled with the responsibility of running the scheme have either lost their visions or are playing to the gallery to entertain their spectators who are beneficiaries of failed systems.

2.8 National Health Insurance Scheme; Panacea to Quality Health System in Nigeria

In order to provide equitable access to healthcare delivery in Nigeria, the Federal Government of Nigeria introduced National Health Insurance Scheme (NHIS). This essay explores the knowledge or perceptions of Nigerians and their attitude towards the scheme and how it affects the realization of Vision 2020

Nigerian National Health Insurance Scheme (NHIS) was launched with the major aim of improving accessibility and equity in healthcare delivery. The scheme suffered a long lag between conceptions and implementation due partly to the opposition by healthcare professionals, administrators and even the general public owing to misconception and

inadequate knowledge of the principle of health insurance. But with the innovations, techniques and publicity brought in by this patriotic Nigerian in person of Dr Abdulrahaman Sambo (Mni) the Acting Executive Secretary of NHIS, professional health expert per excellence.

He has been able to actualize the mandate of the Scheme through introduction and launching of Community Base Insurance Scheme to cater for those in the informal sector; who are not beneficiaries of this scheme as a result of the defect in the Act Establishing the Scheme. However this giant stride has endeared him to Nigerians who believe in his wealth of experience as the emancipator of the health sector.

A key element in assessing the level of implementation of the (NHIS) scheme in Nigeria and the achievement it will attain under the present leadership cannot be over emphasis. The Blue-Print presently caved to assess the knowledge and attitude of the healthcare professionals and Nigerians in the formal sector informal sector and how the indices will serve as a yardstick to the actualization of vision 202020 blue prints in the health sector.This is no gainsaying as all the findings from the hospitals visited by the writer indicate that all the hospitals have registered with the scheme. Most of the respondents indicated that they got the information from seminars in their respective hospitals of work. This finding tends to underscore the importance of such seminars in hospital when the target audiences are healthcare professionals.The Blue- Print also revealed that the high level of awareness of the existence of the scheme is not translated into participation as more than half of the respondents did not register with the scheme mostly those in the state who have failed to key in to this programme to bring succor to the health system of their people.But with the campaign/publicity undertaken by the present leadership Dr. Abdulrahaman Sambo (Mni) Nigerians can be rest assured that in 2018 there will be universal coverage of the health insurance in Nigeria. Sambo, in his doggedness to ensure that every Nigerian have access to qualitative health care system is proposing the 1kobo per minute billing for every call from all the GSM communication service providers. This idea will help to cater for those who are in the informal sector to access good health care system. He further enjoins all the states in the federation to part take in the scheme. This idea is yielding result as more states are now flagging up the scheme in their various states. Dr. Sambo in his Blue-Print allude that all over the world where majority of the population enjoys excellent health service delivery, the vehicle employed to achieve this has been the health insurance scheme. The scheme enables those who would not have been able to afford the cost of health service to have access to the same quality as anybody else by just paying a basic premium.

2.9 National Health Insurance Scheme: Popular name or a model for realistic change in Healthcare delivery in Nigeria

The applause given to the National Health Insurance Scheme (NHIS) initiative across political, media and labour organisation cannot be overestimated, and rightly so for the potential it has in creating easier access to healthcare services by the wider population and across all locations. The most highly envisaged significance is the removal of the heavy burden of paying upfront for such services, which has been the greatest barrier for the poor and most vulnerable people in the country. It is also important to point to the business concept in the initiative on the aspect of introducing competition between the public run and privately managed healthcare provider organisations, as well as between the private institutions and international providers. There is no doubt that it will become a driver for quality, research, efficient strategic management, better training and employee salary and remuneration with associated job satisfaction. With these being achieved, the need to seek career opportunities outside the country would decrease thereby arresting the brain drain among the highly skilled clinical and non-clinical healthcare professionals/experts, which continues to benefit the developed nations at the detriment of Nigeria and other developing countries. Adams Oshiomhole asserted that the idea was first mooted in 1962, (Okumephuna and Chukwuwike 2005) (online access from onlineNigeria.com). Some of the children born since that date are among the leaders of today and yet, healthcare remain one of the most elusive essential public services for the people of Nigerian, especially the poor, weak and vulnerable members of the population *(http://247ureports.com/national_health_insurance_scheme_nhispanacea_for_quality_health_system_in_Nigeria)*

NHIS was later enacted into military law by Decree No 35 under the regime of Alhaji Abdusalami Abubaker on 10th May 1999. The initiative was kept alive by Chief Olusegun Obasanjo the successor of Abubaker as a democratic President. Despite the eloquent speeches and show of commitment by himself, the then Minister of health, Professor Eyitayo Lambo failed to bring the idea into practical reality throughout the period of his ministerial stewardship.

There is evidence of another wasted 7 years before Nigerian National Health Conference (NHC2006) was held on 28 ï 29 November 2006, barely six months before leaving office, to again discuss the nationôs healthcare strategy for which a beautiful communiqué was

produced for a population that thank leaders for doing very little in their public duties, and gives a usual hands of applause for óall talks and no actionô syndrome that the people have grown accustomed to. In that communiqué and the televised speech of the Minister, it was obvious to deduce some of the sources of the information used even though the sources were not acknowledged. One of such sources was from the Strategic Concept for Managing Healthcare in Nigeria, which was sent to the Federal Government and Minister for Health via the Nigeria High Commission in London. NHIS has so far been treated as a myth of óbe all and end allô strategy, which has undoubtedly occluded the vision for strategic concepts that should be the foundation for a seamless health system which NHIS should shield in respect of funding and monitoring. The strategy is yet to be adequately substantiated in practical terms to account for the population of the unemployed, elderly and disabled people; pregnant women and all children who are under 16 years of age. The NHIS concept is ambitious but achievable, except that the implementation could be marred by the usual bureaucratic bottleneck.

One key issue with NHIS is that it is associated with American model of healthcare funding, which has a history of erecting health inequalities in America, and currently becoming a political battle ground for change. The challenge in effectively implementing NHIS in Nigeria, unlike the USA lies on the following parameters. First, there is a huge variation in the socio-economic empowerment and orientation for insurance security. Second, the potency of the law in USA streamlines professionals to their specific lines of specialization.

Third, there is variation in the individual, state and federal commitment to research and research income/funding. Fourth, there is little or no trust by Nigerians for the leadership and big corporations like insurance companies. The word óinsuranceô is alien to many and an ideology that would require much effort to market.

In an evolving economy like Nigeria, the USA funding model would not serve the interest of Nigeria and the only tax funding system of the UK would not be a better alternative. There would be a need to consider a mix-system that is developed to accommodate the recurring, predictable and unpredictable health challenges across every community, the populationsô social orientation in view of attitudes, values and cultural/religious beliefs, literacy and natural knowledge, employment level and the earning and spending capacity of each family.

In order to meet the objectives outlined by NHIS, and to serve as a framework for realistic change, strategic stakeholders group should be mobilised to establish and define the respective institutions for promoting good health and preventing disease occurrence, delivering health services in emergency situations, ambulance services, investigations,

diagnosis and treatment, chronic disease management, research, procurement, information technology services, laboratory services, pharmacy and drug related management, African traditional medicine delivery and research, training and continuing professional development of all healthcare workers.

Participation is optional except for workers in the public and private sectors who will contribute 5 per cent of their basic salary to the scheme while their employers pay 10 per cent for each worker, which entitles a contributor, a spouse and four children to access Medicare from any approved service provider.

Companies and employers will have to register their medical centres as health service providers, which would in turn earn money for the centres and save money in the form of medical bills for the companies.

However, those outside formal employment would appear to gain more from participation.

Under the Urban Self-Employed Social Health Insurance Programme those who choose to participate would;

- Identify and belong to a socially cohesive group of more than 500 members and which must be occupation based [taxi drivers, traders, welders etc need to bond together in units to qualify.
- Make a monthly payment of between N120-N150 for the most common of ailments like malaria, typhoid fever, diarrhoea etc.
- Only need to present an NHIS participant's card at an approved healthcare service centre to receive Medicare, no need for deposits.
- Participants requiring specialist or longer treatment would need to pay for the balance from what they are entitled from the common pool.

Participation under the Rural Community Social Health Insurance Programme requires similar modus operandi except that participants need not belong to same occupational group but must belong to same community.

The Formal Sector Social Health Insurance Programme incorporates workers in the public and organised private sectors and is mandatory for any organization having ten or more employees..

Contributors chip in five per cent of basic salary while employers pay 10 per cent to the common pool. This entitles a contributor, a spouse and four children to full health benefits.

The Urban Self-employed Social Health Insurance Programme is designed for individuals in self-employment, urban dwellers in the informal sector and other members of socially cohesive groups who will make flat rate contributions regularly to derive health benefits as

mutually determined by members based on their needs.

The Rural Community Social Health Insurance Programme on the inverse covers Nigeriaôs rural folks who constitute over 50 per cent of its 120 million populations.

The U-5 Childrenôs Programme as well as the Permanently Disabled Persons Social Health Insurance Programme will be under the direct management of the NHIS unlike the earlier mentioned three to be administered each by an independent Board of Trustees to be elected from the ranks of contributors.

The aim of detaching the infant population is for greater care. This is a pragmatic response to the provisions of the National Health Policy that spells out mandatory, free and accessible healthcare benefits covering the major causes of childhood morbidity and mortality.

The Disabled too are not left out in line with the proclamation of the National Health Policy: ôGovernment shall ensure that a minimum healthcare package is accessible, available and affordable to every Nigerian citizenô. Then there is the Prison Inmates Social Health Insurance Programme designed to cater for convicted persons in prisons and Remand Homes nationwide.

2.10 National Health Insurance Scheme (NHIS) and Employees' access to Healthcare Services n Nigeria

According to Agba A.M Ogaboh etal,(Human Development Trend in Nigeria: The Need for Concrete Implementation of the Seven Point Agenda. *Nigerian Journal of Social and Development Issues,* 4 (2), 12-24.) accessibility to healthcare and at affordable cost constitutes a high profile challenge in Nigerian. While government supported universal access to health care through social policy such as National Health Insurance Scheme (NHIS), opinion is polarized among Nigerians on the efficacy of the scheme in addressing the health situation in the country.

This study therefore set to investigate the potency of NHIS and employeesô access to quality and affordable healthcare in Nigeria. Findings revealed that federal civil servants have more access to NHIS than employees in the state and local government service as well as the self employed. The findings also revealed that inadequate personnel and equipment affects the potency of NHIS in Nigeria. The study recommended among others that government should put measures in place to ensure that all civil servants have equal opportunity to NHIS services and that adequate medical personnel and equipment should be provided to ensure effective service delivery.

Wealthy population and indeed work force are indispensable tools for rapid socio-economic and sustainable development all over the world . Despite this indisputable fact, in Nigeria like most African countries, the provision of quality, accessible and affordable healthcare remains a serious problem (WHO, 2007a; Oba, 2008; Omoruan, Bamidele and Philips, 2009). This is because the health sector is perennially faced with gross shortage of personnel (WHO, 2007a), inadequate and outdated medical equipment (Yohesor, 2004; Johnson and Stoskopf, 2009), poor funding (WHO, 2007a&b), policies inconsistence (Omoruan, Bamidele and Philips, 2009) and corruption (Oba, 2008). Evidence shows that, only 4.6 percent of both public and private Gross Domestic Product (GDP) in 2004 was committed to the sector (WHO, 2007a,b and c). Other factors that impede quality health care delivery in Nigeria include inability of the consumer to pay for healthcare services (Sanusi & Awe, 2009), gender bias due to religious or culture beliefs (NCBI, 2009) and inequality in the distribution of healthcare facilities between urban and rural areas (Omoruan, Bamidele & Philips, 2009).Sequel to the aforementioned, the country is continually ranked low in healthcare delivery by international organizations. In 2000 for instance, WHO report on healthcare delivery ranked Nigeria 187 out of 191 countries (Wikipedia, 2009); eight years later, Human Development Report 2007/2008, ranked the country 158 out of 177. In 2005 only 35-48 percents of the children within the ages of zero-to-one year old were fully immunized against tuberculosis and measles respectively. Between 1998 and 2005, 28 percent of the children within the ages of 5 years who suffered from diarrhea received adequate treatment. Between 1997 and 2005 only 35 percent of births in Nigeria were attended by skilled health personnel. Furthermore, between 2000 and 2004, only 28 percent of Nigerians in every 100,000 persons had access to physicians (UNICEF, 2006; World Bank, 2007; UNDP, 2008). While the situation in the health sector persists, Nigeria continually loses her professional to other countries. It was reported in 1986 that more than 1,500 health professionals left Nigeria to other countries. In 1996,UNDP report revealed that 21,000 medical personnel were practicing in the United States of America and UK, while there was gross shortage of these personnel in the Nigerian health sector (Akingbade, 2006). The health situation in the country shows that only 39 percent in 1990 and 44 percent of Nigerians in 2004 have access to improved sanitation. In 1990/92 and 2002/04, 13 percent and 9 percent of Nigerians were undernourished respectively (UNDP, 2008). HIV prevalence in Nigeria within the ages of 15 to 49 years was 3.9 percent in 2005 (UNAIS, 2006). In an attempt to address the precarious and dismal

situation in the health sector, and to provide universal access to quality health care service in the country, various health policies by successive administration were made including the establishment of primary health care centres, general and tertiary hospitals. The perennial health problem informed the decision of Gen. Abdulsalami Abubakar on May 10, 1999, to sign into law the National Health Insurance Scheme (NHIS) Decree Number 35 (NHIS Decree No. 35 of 1999); with the aim of providing universal access to quality healthcare to all Nigerians. NHIS became operational after it was officially launched by the Federal Government in 2005 (Kannegiesser, 2009).More than four years of NHIS existence in Nigeria, opinion is polarized among Nigerians on the efficacy of the scheme in addressing the health problem in the country, because of disheartening reports in the continual health situation. For instance, World Bank (2008) survey on the scheme shows that only one million people in Nigeria or 0.8 percent of the population are covered by NHIS, while many persons have to pay for medical care out of their pockets or do without healthcare. The report further reveals that many low-income persons would not benefit from NHIS for at least another 10 years. The purpose of this study therefore, is to empirically examine the impact of NHIS in Nigeria. Specifically, the study would investigate NHIS and workers access to the scheme in Nigeria.

2.11 Obstruction and Resuscitation of NHIS in Nigeria

NHIS was first introduced in Nigeria in 1962, during the First Republic (Johnson & Stoskopt, 2009). The scheme then was compulsory for public service workers. The operation of NHIS was obstructed following the Nigerian civil war. In 1984, the Nigerian Health Council resuscitated

the scheme and a Committee was set up to look at the National Health Insurance. And in 1988, the then Minister of Health Professor Olikoye Ransome Kuti commissioned Emma-Eronmi led Committee that submitted her report which was approved by the Federal Executive Council in 1989. Consultants from International Labour Organization (ILO), and United Nations Development Programme (UNDP) carried out feasibility studies and come up with the cost implication, draft legislature and guide lines for the scheme. In 1993, the Federal Government directed the Federal Ministry of Health to start the scheme in the country (Adesina, 2009).In 1999, the scheme was modified to cover more people via Decree No.35 of May 10, 1999 which was promulgated by the then head of state, Gen. Abdulsalami Abubakar (Adesina, 2009; NHIS Decree No. 35 of 1999).

The decree became operational in 2004 following several flagged off; first by the wife of the then president, Mrs Stella Obasanjo on the 18th of February 2003 in Ijah a rural community in Niger State, North Central Nigeria. Since the Rural Community Social Health Insurance and the Under-5 children Health Programmes of the NHIS scheme were flagged up by the First Lady, other flagged offs were carried out in Aba, Abia State South East Zone among others (Office of Public Communications, 2006). As in September 2009, 25 states of the Federation agreed to partner with NHIS. These include- Akwa Ibom, Rivers, Edo, Taraba, Adamawa, Kaduna, Zamfara, Kebbi, Sokoto, Katsina, Nassarawa, Anambra, Jigawa, Imo and Kogi States. Others include Bauchi, Ogun and Cross River States; these states are at various stages of implementation of the scheme (NHIS, 2009).

2.12 Stake Holders of National Health Insurance Scheme:

Some of the Stakeholders in the National Health Insurance Scheme include the following

- **Government**

Government, through the National Health Insurance Scheme, sets standards and guidelines, while protecting the rights and enforcing the obligations of all stakeholders.

- **Employees**

These are the contributors in the Formal Sector Social Health Insurance Programme. Their contributions (5% of basic salary), paid regularly in advance will guarantee them and their dependants good quality healthcare whenever they fall ill.

- **Employers**

These are public or private sector organizations employing ten (10) or more persons, for whom they are required to pay contributions (i.e., 10% of an employeeôs basic salary).

- **Health Maintenance Organisations**

These are limited liability companies which may be formed by private or public establishments or individuals for the sole purpose of participating in the Scheme. They are registered by the Scheme to facilitate the provision of health care benefits to contributors in the Formal Sector Social Health Insurance Programme.

Their functions include the following:-

- Receive/collect contributions from eligible employers and employees.
- Collection of contributions from voluntary contributors.
- Payment of Health Care Providers for services rendered.

- Maintenance of quality assurance in the delivery of healthcare benefits in the Formal Sector Social Health Insurance Programme.

- **Board of Trustees (BOTs)**

Participants in the Urban Self-employed and the Rural Community Social Health Insurance Programmes, through their elected Boards of Trustees, plan, run and manage their own health care, thereby engendering a sense of ownership and true community participation.

- **Healthcare Providers**

A Health Care Provider as provided for in the NHIS Act, is a licensed government or private health care practitioner or facility, registered by the Scheme for the provision of prescribed health benefits to contributors and their dependants. Health Care Providers can either be Primary, Secondary, or Tertiary.

i. Primary Health Care Providers

Primary Health Care Providers will serve as the first contact within the health care system, and they include:

- Private clinics/hospitals;
- Primary Health Care Centres;
- Nursing and Maternity homes; and

Out-patient departments of General Hospitals, Out-patient departments of the Armed Forces, the Police and other uniformed services, University Medical Centres and Federal Staff Clinics

ii **Secondary and Tertiary Health Care Providers (Fee-for-service providers)**

These include:

- General hospitals (Out-patient and in-patient care for medical, surgical, paediatric, obstetric gynaecological patients, etc)
- Specialist hospitals
- Pharmacies
- Laboratories
- Dental Clinics
- Physiotherapy clinics
- Radiography, etc

- **BANKS**

Banks' responsibilities under the Scheme include:

a) Ensure the safety of all funds for the operation of the programme;

b) Provide on request, by the NHIS, information on the accounts of an HMO with the knowledge of the HMO

c) Forward monthly statement of accounts of the HMOs on authorization by the HMOs to the NHIS.

INSURANCE COMPANIES

vi. Insurance Companies: Insurance companies are to provide cover (malpractice and indemnity insurance) for Health Maintenance Organizations (HMOs) in the Scheme.

vii. Insurance Brokers: To coordinate and ensure that HMOs and healthcare providers take up indemnity insurance cover. NHIS accredited Insurance Brokers will monitor and ensure compliance by accredited HMOs, healthcare providers and the insurance companies.

2. 13 Health Care in Some developed Countries

To discuss healthcare issues in some developed countries we present the details using the following major indices. They include ;

- Infant Mortality per thousand live births
- Total health expenditure per capital, US$ PPP
- Health care spending as a percentage of GDP

The figures shown below are used to explain details of our discussions. We shall also briefly do some comparisons amongst some of the advanced nations of the world

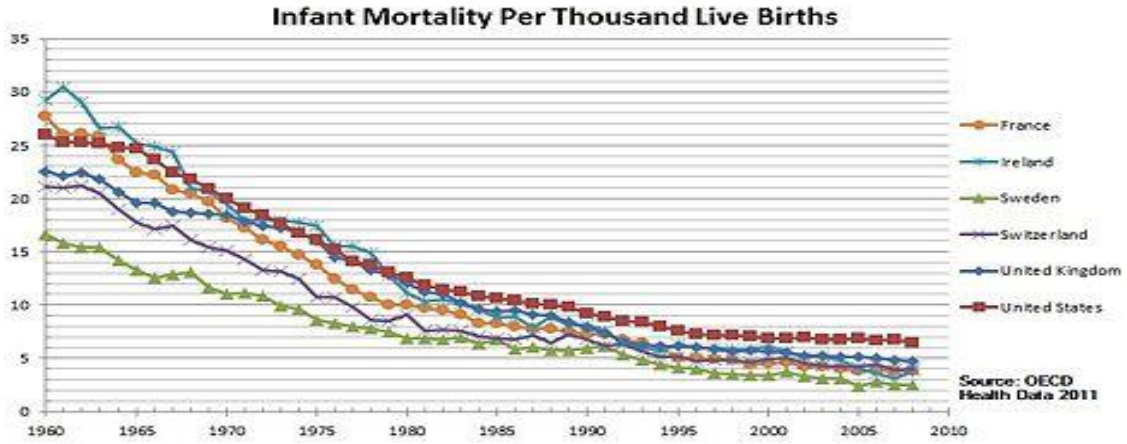

Figure. 2.1 Infant Mortality per thousand live births

The figure 2.1 is used to showcase the infant mortality per thousand in six advanced nations namely France, Ireland, Sweden, Switzerland, United Kingdom and United states according to the OECD Health Data report in 2011.This represents how children born in the above named countries die as each year passes by. From the figure there has been a gradual reduction in the number of deaths recorded for each of the nations. This reduction in death rates may be attributed to improved Medicare facilities and qualified personnel. Although there has been noticeable small rise and fall in the case of countries like Sweden, Switzerland and united states.

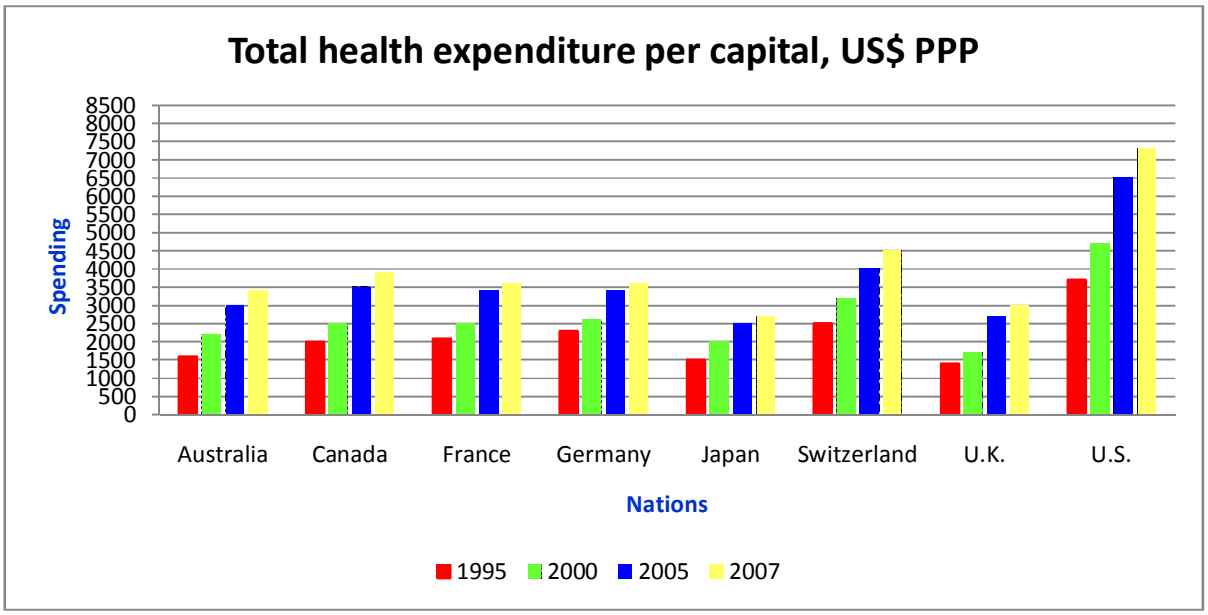

Figure 2.2 Total health expenditure per capita, US$ PPP OECO Health Data 2010

Figure 2.2 above shows the expenditure pattern per capita in US$ in Australia, Canada, France, Germany and Japan. Other countries include Switzerland, U.K. and United States in 1995, 2000, 2005 and 2007. From the figure it is observed that in 1995 that U.K was the least whereas the United States ranked the highest. All through other years the US and UK ranked highest and lowest respectively. The implication of this is that UK may not be spending much on the health of her citizens. This is not to say that she is not caring much about the health of the citizens

2.13.1 Spending

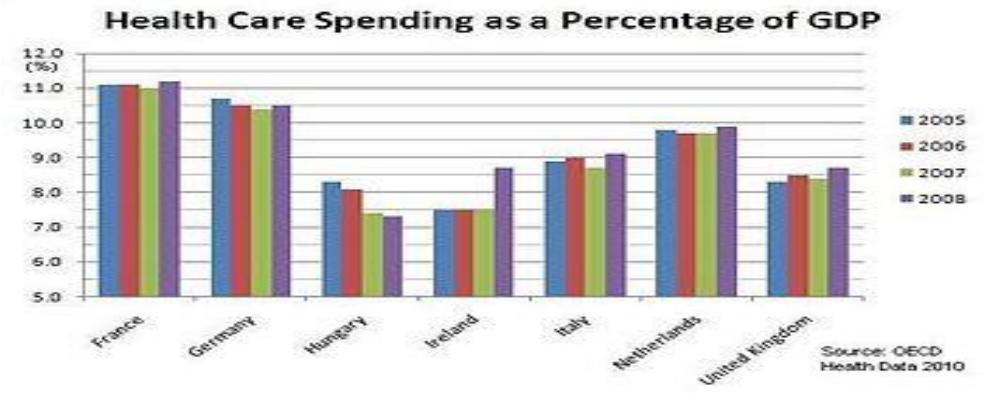

Figure 2.3 Healthcare spending as a percentage of GDP

Total health spending as a percentage of GDP for France compared amongst various other first world nations from 2005 to 2008.Figure 2.3 shows the healthcare spending as a percentage of GDP from 2005 to 2008 in countries such as France, Germany, Hungary and Ireland. Others include Italy, Netherlands, and United Kingdom as indicated by OECD 2010 Data report . From the figure it is obvious that France is spending not less than 11% of her annual GDP in health care related matters. Countries like Ireland and Hungary spent less 9% of their GDP except in the year 2008 when Ireland spent about 9.1% of their GDP. Therefore it is obvious from the figure that France is playing a leading role in terms of health care spending across Europe. Furthermore, Japan, Sweden, and the Netherlands have health care systems with comparable performance to that of France's, yet spend no more than 8% of their GDP (against France's spending of more than 10% of its GDP).

2.13.2 International Comparisons of Health Care Systems

Health systems can vary substantially from country to country, and in the last few years, comparisons have been made on an international basis. The World Health Organization, in its *World Health Report 2000*, provided a ranking of health systems around the world according to criteria of the overall level and distribution of health in the populations, and the responsiveness and fair financing of health care services. The goals for health systems, according to the WHO's *World Health Report 2000 - Health systems: improving performance* (WHO, 2000), are good health, responsiveness to the expectations of the population, and fair financial contribution. There have been several debates around the results of this WHO exercise and especially based on the country ranking linked to it, insofar as it appeared to depend mostly on the choice of the retained indicators. Direct comparisons of health statistics across nations are complex. The Commonwealth Fund, in its annual survey, "Mirror, Mirror

on the Wall", compares the performance of the health systems in Australia, New Zealand, the United Kingdom, Germany, Canada and the U.S. Its 2007 study found that, although the U.S. system is the most expensive, it consistently underperforms compared to the other countries. A major difference between the U.S. and the other countries in the study is that the U.S. is the only country without universal health care. The OECD also collects comparative statistics, and has published brief country profiles.

Physicians and hospital beds per 1000 inhabitants vs Health Care Spending in 2008 for OECD Countries. The data source is *http://www.oecd.org*.

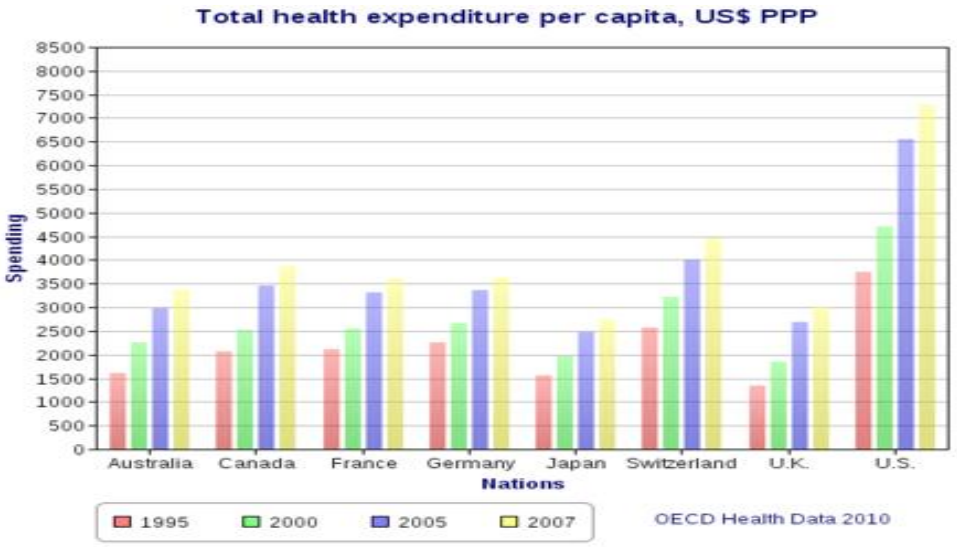

***Figure 2.4 Health spending per capita, in $US** PPP-adjusted**, with the US and Canada compared amongst other first world nations**.*

Comparison of the health care systems in Canada and the United States are often made by government, public health and public policy analysts. The two countries had similar health care systems before Canada reformed its system in the 1960s and 1970s. The United States spends much more money on health care than Canada, on both a per-capita basis and as a percentage of GDP. In 2006, per-capita spending for health care in Canada was US$3,678; in the U.S., US$6,714. The U.S. spent 15.3% of GDP on health care in that year; Canada spent 10.0%. In 2006, 70% of health care spending in Canada was financed by government, versus 46% in the United States. Total government spending per capita in the U.S. on health care was 23% higher than Canadian government spending, and U.S. government expenditure on health care was just under 83% of total Canadian spending (public and private) though these

statistics don't take into account population differences. Studies have come to different conclusions about the result of this disparity in spending. A 2007 review of all studies comparing health outcomes in Canada and the US in a Canadian peer-reviewed medical journal found that "health outcomes may be superior in patients cared for in Canada versus the United States, but differences are not consistent." Life expectancy is longer in Canada, and its infant mortality rate is lower than that of the U.S., but there is debate about the underlying causes of these differences. One commonly cited comparison, the 2000 World Health Organization's ratings of "overall health service performance", which used a "composite measure of achievement in the level of health, the distribution of health, the level of responsiveness and fairness of financial contribution", ranked Canada 30th and the US 37th among 191 member nations. This study rated the US "responsivenessò or quality of service for individuals receiving treatment, as 1st, compared with 7th for Canada. While the average life expectancy for Canadians was 80.34 years compared with 78.6 years for residents of the US, simply comparing the life expectancy of two groups with different racial makeup and different obesity rates is likely not an effective way of determining which healthcare system is superior. The WHO's study methods were criticized by some analyses. Although there is a measure of consensus that life-expectancy and infant mortality mark the most reliable ways to compare nation-wide health care, assuming the population makeup is similar, a recent report by the Congressional Research Service carefully summarizes some recent data and notes the "difficult research issues" facing international comparisons.

2.13.3 Government involvement

In 2004, government funding of health care in Canada was equivalent to $US1,893 per person. In the US, government spending per person was $2,728.The Canadian healthcare system is composed of at least 10 mostly autonomous provincial healthcare systems, and a federal system which covers veterans. This causes a significant degree of variation in funding and coverage within the country.

2.13.4 History

Canada and the US had similar health care systems in the early 1960s, but now have a different mix of funding mechanisms. Canada's universal single-payer health care system covers about 70% of expenditures, and the Canada Health Act requires that all insured persons be fully insured, without co-payments or user fees, for all medically necessary hospital and physician care. About 91% of hospital expenditures and 99% of total physician services are financed by the public sector. Ophthalmology and dental services account for a lot of the private expenditures in Canada. In the United States, with its mixed public-private

system, 16% or 45 million American residents are uninsured at any one time. The U.S. is one of two OECD countries not to have some form of universal health coverage, the other being Turkey. Mexico established a universal healthcare program by November 2008.

2.13.5 Health Insurance

The governments of both nations are closely involved in health care. The central structural difference between the two is in health insurance. In Canada, the federal government is committed to providing funding support to its provincial governments for health care expenditures as long as the province in question abides by accessibility guarantees as set out in the Canada Health Act, which explicitly prohibits billing end users for procedures that are covered by Medicare. While some label Canada's system as "socialized medicine," the term is inaccurate. Unlike systems with public delivery, such as the UK, the Canadian system provides public coverage for private delivery. As Princeton University health economist Uwe E. Reinhardt notes, single-payer systems are not "socialized medicine" but "social insurance" systems, because doctors are in the private sector Similarly, Canadian hospitals are controlled by private boards and/or regional health authorities, rather than being part of government.

In the US, direct government funding of health care is limited to Medicare, Medicaid, and the State Children's Health Insurance Program (SCHIP), which cover eligible senior citizens, the very poor, disabled persons, and children. The federal government also runs the Veterans Administration, which provides care to retired or disabled veterans, their families, and survivors through medical centers and clinics. The U.S. government also runs the military health system. In Fiscal Year 2007, the MHS had total budget authority of $39.4 billion and served approximately 9.1 million beneficiaries, including Active Duty personnel and their families and retirees and their families. The MHS includes 133,000 personnel, 86,000 military and 47,000 civilian, working at more than 1,000 locations worldwide, including 70 inpatient facilities and 1,085 medical, dental, and veterinary clinics.

2.14 Funding of Healthcare

There are generally five primary methods of funding health systems:

1. general taxation to the state, county or municipality
2. social health insurance
3. voluntary or private health insurance
4. out-of-pocket payments
5. donations to charities

Most countries' systems feature a mix of all five models. One study based on data from the OECD concluded that all types of health care finance "are compatible with" an efficient health system. The study also found no relationship between financing and cost control.

The term health insurance is generally used to describe a form of insurance that pays for medical expenses. It is sometimes used more broadly to include insurance covering disability or long-term nursing or custodial care needs. It may be provided through a social insurance program, or from private insurance companies. It may be obtained on a group basis (e.g., by a firm to cover its employees) or purchased by individual consumers. In each case premiums or taxes protect the insured from high or unexpected health care expenses. By estimating the overall cost of health care expenses, a routine finance structure (such as a monthly premium or annual tax) can be developed, ensuring that money is available to pay for the health care benefits specified in the insurance agreement. The benefit is typically administered by a government agency, a non-profit health fund or a corporation operating seeking to make a profit. Many forms of commercial health insurance control their costs by restricting the benefits that are paid by through deductibles, co-payments, coinsurance, policy exclusions, and total coverage limits and will severely restrict or refuse coverage of pre-existing conditions. Many government schemes also have co-payment schemes but exclusions are rare because of political pressure. The larger insurance schemes may also negotiate fees with providers. Many forms of social insurance schemes control their costs by using the bargaining power of their community they represent to control costs in the health care delivery system. For example by negotiating drug prices directly with pharmaceutical companies, or negotiating standard fees with the medical profession. Social schemes sometimes feature contributions related to earnings as part of a scheme to deliver universal health care, which may or may not also involve the use of commercial and non-commercial insurers. Essentially the more wealthy pay proportionately more into the scheme to cover the needs of the relatively poor who therefore contribute proportionately less. There are usually caps on the contributions of the wealthy and minimum payments that must be made by the insured (often in the form of a minimum contribution, similar to a deductible in commercial insurance models). In addition to these traditional health care financing methods, some lower income countries and development partners are also implementing non-traditional or innovative financing mechanisms for scaling up delivery and sustainability of health care, such as micro-contributions, public-private partnerships, and market-based financial transaction taxes. For example, as of June 2011, UNITAID had collected more than one

billion dollars from 29 member countries, including several from Africa, through an air ticket solidarity levy to expand access to care and treatment for HIV/AIDS, tuberculosis and malaria in 94 countries.

2.16 Accreditation of Mutual Health Associations (MHA)

2.16.1 Introduction

Mutual Health Associations (MHAs)/organizations are voluntary membership organizations providing health insurance services to their members. They are a privately or publicly incorporated body registered by the Scheme solely to access health care services through Health Care Facilities accredited by the Scheme. The association shall be run by a Board of Trustee (BoT) elected by members.

MHAs aim at increasing access to health care by reducing out-of-pocket payment faced by households. Mutual health organizations, also called Community Based Health Financing Scheme, provide a viable option for those in need of financial assistance for health care. The MHAs include CBOs, FBOs, NGOs, CSOs etc

2.16.2 Membership

Membership shall be voluntary and open to all residents (families) of the participating communities or occupation based groups (including retirees).

2.16.3 Contribution/Premium

Contribution shall be actuarially determined in relation to their health needs and benefit package. This shall be a flat rate fee per individual household member or member of an occupation based group and paid in cash annually or quarterly in advance as may be agreed by the members, BoT and NHIS.

2.17 National Health Insurance Scheme Programs

In order to ensure that every Nigerian has access to good health care services, the National Health Insurance Scheme has developed various programmes to cover different segments of the society, and they include the following;

- Formal Sector Social Health Insurance Programme
- Urban Self-employed Social Health Insurance Programme
- Rural Community Social Health Insurance Programme
- Children Under-Five Social Health Insurance Programme
- Permanently Disabled Persons Social Health Insurance Programme
- Prison Inmates Social Health Insurance Programme
- Tertiary Institutions and Voluntary Participants Social Health Insurance Programme
- Armed Forces, Police and other Uniformed Services.

2.18 General requirements for Health Care Providers (HCPs)

- Possession of the relevant academic qualifications in the field of endeavour;
- Registration with the relevant professional body;
- Possession of the current licence to practice;
- Appropriate facility for service delivery;
- Registration by state authorities (where necessary); and
- Possession of malpractice insurance cover.

2.19 Guidelines for the Armed Forces, Police and allied Services

The Armed Forces, Police and Allied Services Social Health Insurance Programme is a social security system where the health care of members is paid for by the Federal Government.

All members of the Armed Forces, the Nigeria Police Force, Nigerian Customs Service, Nigerian Immigration Service, Nigerian Prisons Service and other Federal uniformed services.

Contributions to be paid are earnings related. This currently equates to 15% of the basic salary of the participants. The Federal Government shall be responsible for payment of the contributions.

The contributions paid on behalf of a participant under this Programme covers provision of health benefits for the participant, five dependants consisting a spouse, four children below the age of 18 years.

Rural Community Social Health Insurance Programme

This is a non-profit health insurance programme for a cohesive group of households or individuals (i.e. a community) which is run by its members.

Membership comprises individuals in the community.

Members of the community, based on their health needs, will choose the health care benefits. This will be in cash, paid as a flat monthly rate or instalmentally by participants. This contribution rate will depend on the health package chosen by members of the User Group.

A seven-member Board of Trustees, elected from among the members, i.e., Chairman, Secretary, Treasurer and four others, will manage the funds and run the User Group formed.

A prospective participant must be a member of a community. The individuals of the community come together to form a User Group. There must be a membership of at least 500 participants for each User Group to ensure adequate pooling of resources.

The User Group will elect its Board of Trustees which will administer it, and set up Quality Assurance and Health Education Committees.

Each contributor will be given an identity card with which he/she will obtain health care from the chosen Health Care Provider (public or private), after a specified waiting period.

2.20 Federal Ministry of Health (Nigeria)

The Federal Ministry of Health is a Nigerian ministry whose mission is to develop and implement policies and programs and undertake other actions to deliver effective, efficient, quality and affordable health services. It is headed by a Minister appointed by the President, assisted by a Permanent Secretary, who is a career civil servant. The current Minister of Health is Prof. C.O Onyebuchi Chukwu and the Minister of State for Health is Dr. Mohammad Ali Pate.

Departments

The Ministry has several departments specializing in different aspects of health care. The Family Health department is concerned with creating awareness on Reproductive, Maternal Neonatal and Child Health, ensuring sound nutrition including infant and young child feeding, and care of the elderly and adolescents. The department of Public Health coordinates formulation, implementation and evaluation of public health policies and guidelines. It undertakes health promotion, surveillance, prevention and control of diseases. Functions of the department of Planning Research And Statistics include developing plans and budgets and monitoring their implementation, serving as Secretariat to the National Council on Health, conducting research in collaboration with other departments and agencies, institutions and parastatals, conducting operational research and data collection, and performing various coordination functions. The department of Hospital Services supervises 53 Federal Tertiary Hospitals ï Nigeriaôs Teaching hospitals, Federal Medical Centres and National Eye Centers. The department processes appointment of Chief Medical Directors and Medical Directors, supervises oral health research, develops policies on nursing, coordinates training programmes for nurses and monitors the midwifery service scheme in collaboration with NPHCDA. The department of Food and Drugs Services formulates national policies, guidelines and strategies on food and drugs, and ensures ethical delivery of pharmaceutical services nationwide. The department sponsors the National Institute for Pharmaceutical Research and Development and the National Agency for Food and Drug Administration and Control, and acts as regulator through the Pharmacist Council of Nigeria, the Institute of Chartered Chemist of Nigeria and the Institute of Public Analyst of Nigeria.

CHAPTER THREE

RESEARCH METHODOLOGY, SYSTEM ANALYSIS AND DESIGN

3.1 Research Methodology

In this chapter, the research methodology, system analysis and design of the project are discussed The project work is based on the investigations through personal interviews with the domain experts, review and analysis of data gathered from primary and secondary sources respectively, design and implementation as well as testing and integration of various program modules developed to execute various aspects of the NHIS related activities.

Research methodology is defined in this context as the various and necessary steps and standard acceptable procedures, tools and conventions adopted in order to carry out this project.

3.2 Methods of data Collection

The source of data gathered for this project is categorised into two major subheadings namely, Primary and Secondary sources respectively.

3.2.1 Primary source

This source of data gathering involves the use of oral interviews with the domain experts who are the users of the existing system. Other sources of primary data collection for this work include text books, journals, magazines, manuals and articles related to NHIS activities.

3.2.2 Secondary source

The secondary source of data collection in this work is the electronic media. Related articles were browsed and downloaded from the internet. Relevant information was gathered from NTA programs every Tuesday evening..

3.3 Analysis of the System

The data/information gathered from the above mentioned sources were analysed according to the major activities associated with National Health Insurance Scheme. The activities include Registration of the stakeholders with NHIS such as Health Management Organizations, Health Care Providers, Employers and Employees, Enrolees , tertiary Institutions, Armed Forces, Federal ministries, agencies and parastatals. The NHIS activities are further analysed into Processing of identity cards for the individuals participating in the programme, referral cases, pharmacists operations as well as details showing attendance of enrolees recorded by health care providers. Operating guidelines as well as requirements for the participating stakeholders were also taken into consideration in this work. Other stakeholders of the NHIS

include Banks and Insurance companies. Detailed analysis of all these and more were and used as the building blocks in our design of the graphical user interface (GUI) windows, use case diagrams and database tables in this work.

3.4 Limitations of the existing System

The existing system is still fraught with a number of inhibiting factors. It does not provide for efficient and fast processing of data due the manual methods of carrying out the earlier mentioned major activities of NHIS. It does not provide for adequate computerization and real time processing of data. Stand alone personal computers are still being used for data capturing and storage. This means that the relevant data of the stakeholders are kept in separate personal computers instead of a centralised database which will make it possible for faster and easy access to data at every location of computer connected to the server or host system where the database is maintained. In order words a major disadvantage of the present system is the dearth of designed online graphical User interface windows through which the administrators of the Scheme will use to interact and capture or display data in real time. Another major factor that is causing a lot of delays in the NHIS administrative functions is that all management decisions and approvals are taken at their corporate headquarters at Abuja. There is need for decentralization or delegation of authorities to different Zones of NHIS in Nigeria

3.4.1 Proposed Solutions to the above limitations

The new system is designed to provide faster and efficient centralised database access to relevant data in real time. It will also provide NHIS with the advantages of having large volumes of data covering many aspects of NHIS activities. Information availability is a huge advantage for organizations because having vast volumes of data from every location streamlines storage, access and prompt delivery of information which will eventually lead to increase productivity.

3.5 Choice Of Software Development Process

Software processes make a critical contribution to successful software projects. A great challenge is to choose an appropriate process for a project. However, since process specifications vary widely in their quality and level of detail, selecting the most appropriate process could be very confusing and misleading. Therefore, a systematic study of process models is needed**.** Software Process Analysis Method (SAM) is created to assist developers in comparing and analyzing software process models.

A software development process, also known as a software development life-cycle (SDLC), is a structure imposed on the development of a software product. Similar terms include *software life cycle* and *software process*. It is often considered a subset of systems development life cycle. There are several models for such processes, each describing approaches to a variety of tasks or activities that take place during the process. Some people consider a life-cycle model a more general term and a software development process a more specific term. For example, there are many specific software development processes that 'fit' the spiral life-cycle model. Some of these models are explained and compared below.

3.5.1. Software Process Models

Software products can be developed by the application of one or combinations of the features of some of the following software process models.

- Waterfall model: Separate and distinct phases of specification and development.
- Prototype model.
- Rapid application development model (RAD).
- Evolutionary development: Specification, development and validation are interleaved.
- Incremental model.
- Iterative model.
- Spiral model.
- Component-based software engineering : The system is assembled from existing components.

There are many variants of these models e.g. formal development where a waterfall-like process is used, but the specification is formal that is refined through several stages to an implementable design.

3. 5.2 Comparison of five Process Models

In this research we re viewed the following five models before making a choice of features of the models that will particularly be suitable for our work.

A Programming process model is an abstract representation to describe the process from a particular perspective. The models considered are explained below. Their advantages and disadvantages were also discussed.

- Waterfall model.
- Iteration model.
- V-shaped model.
- Spiral model.

- Extreme model.

3.5.2.1 The Waterfall Model

The waterfall model (figure 3.1) is the classical model of software engineering. This model is one of the oldest models and is widely used in government projects and in many major companies. As this model emphasizes planning in early stages, it ensures design flaws before they develop. In addition, its intensive document and planning make it work well for projects in which quality control is a major concern. The pure waterfall lifecycle consists of several non overlapping stages, as shown in the following figure. The model begins with establishing system requirements and software requirements and continues with architectural design, detailed design, coding, testing, and maintenance. The waterfall model serves as a baseline for many other lifecycle models.

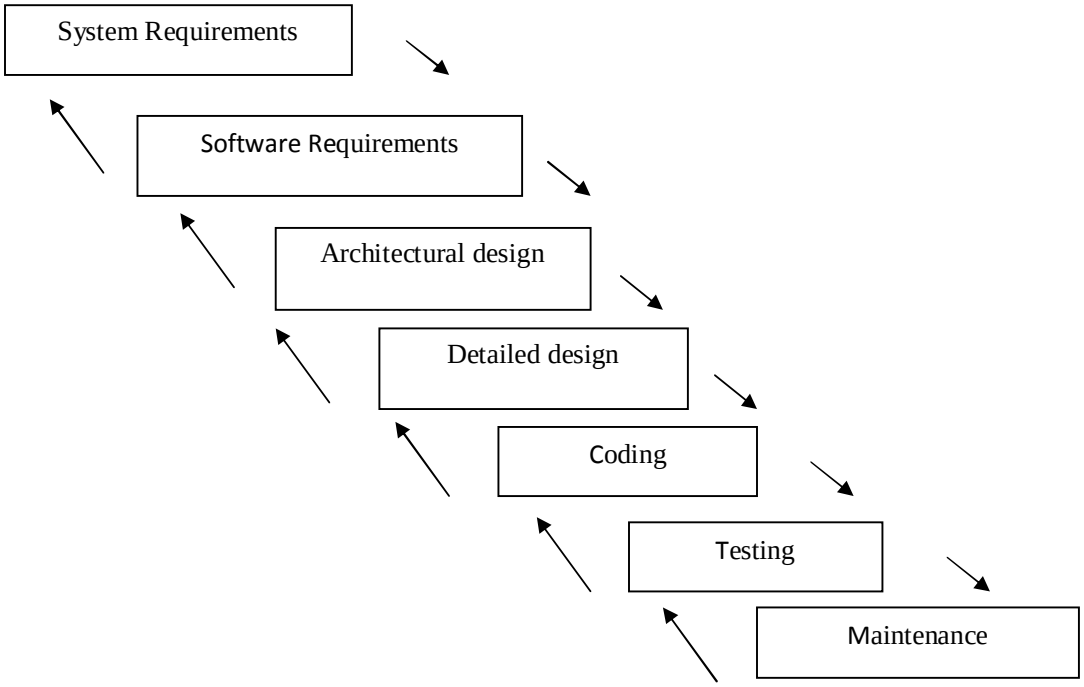

Figure 3.1 Waterfall Model.

The following list details the steps for using the water fall model

- **System requirements**:

Establishes the components for building the system, including the hardware requirements, software tools, and other necessary components. Examples include decisions on hardware, such as plug-in boards (number of channels, acquisition speed, and so on), and decisions on external pieces of software, such as databases or libraries.

- **Software requirements**:

Establishes the expectations for software functionality and identifies which system requirements the software affects. Requirements analysis includes determining interaction needed with other applications and databases, performance requirements, user interface requirements, and so on.

- **Architectural design**:

Determines the software framework of a system to meet the specific requirements. This design defines the major components and the interaction of those components, but it does not define the structure of each component. The external interfaces and tools used in the project can be determined by the designer.

- **Detailed design**:

Examines the software components defined in the architectural design stage and produces a specification for how each component is implemented.

- **Coding**:

Implements the detailed design specification.

- **Testing**:

Determines whether the software meets the specified requirements and finds any errors present in the code.

- **Maintenance:**

Addresses problems and enhancement requests after the software releases. In some organizations, a change control board maintains the quality of the product by reviewing each change made in the maintenance stage. Consider applying the full waterfall development cycle model when correcting problems or implementing these enhancement requests. In each stage, documents that explain the objectives and describe the requirements for that phase are created. At the end of each stage, a review to determine whether the project can proceed to the next stage is held. Your prototyping can also be incorporated into any stage from the architectural design and after. Many people believe that this model cannot be applied to all situations. For example, with the pure waterfall model, the requirements must be stated before beginning the design, and the complete design must be stated before starting coding. There is no overlap between stages. In real-world development, however, one can discover issues during the design or coding stages that point out errors or gaps in the requirements. The waterfall method does not prohibit returning to an earlier phase, for example, returning from the design phase to the requirements phase. However, this involves costly rework. Each

completed phase requires formal review and extensive documentation development. Thus, oversights made in the requirements phase are expensive to correct later. Because the actual development comes late in the process, one does not see results for a long time. This delay can be disconcerting to management and customers. Many people also think that the amount of documentation is excessive and inflexible. Although the waterfall model has its weaknesses, it is instructive because it emphasizes important stages of project development. Even if one does not apply this model, he must consider each of these stages and its relationship to his own project.

Advantages :

- Easy to understand and implement.
- Widely used and known (in theory!).
- Reinforces good habits: define-before- design, design-before-code.
- Identifies deliverables and milestones.
- Document driven, URD, SRD, é etc. Published documentation standards, e.g. PSS-05.
- Works well on mature products and weak teams.

Disadvantages :

- Idealized, doesnôt match reality well.
- Doesnôt reflect iterative nature of exploratory development.
- Unrealistic to expect accurate requirements so early in project.
- Software is delivered late in project, delays discovery of serious errors.
- Difficult to integrate risk management.
- Difficult and expensive to make changes to documents, òswimming upstreamò.
- Significant administrative overhead, costly for small teams and projects [6].

3.5.2.1.1 Pure Waterfall

This is the classical system development model. It consists of discontinuous phases:

- Concept.
- Requirements.
- Architectural design.
- . Detailed design.
- Coding and development.
- . Testing and implementation.

Table 3. 1: Strengths & Weaknesses of Pure Waterfall

Strength	Weakness
Minimizes planning overhead since it can be done up front	• Inflexible • Only the final phase produces a non documentation deliverable.
Structure minimizes wasted effort, so it works well for technically weak or inexperienced staff	Backing up to address mistakes is difficult.

Pure Waterfall Summary

The pure waterfall model performs well for products with clearly understood requirements or when working with well understood technical tools, architectures and infrastructures. Its weaknesses frequently make it inadvisable when rapid development is needed. In those cases, modified models may be more effective.

3.5.2.1.2 Modified Waterfall

The modified waterfall uses the same phases as the pure waterfall, but is not based on a discontinuous basis. This enables the phases to overlap when needed. The pure waterfall can also split into subprojects at an appropriate phase (such as after the architectural design or detailed design).

Table 3. 2: Strengths & Weaknesses of Modified Waterfall

Strengths	Weaknesses
More flexible than the pure waterfall model	Milestones are more ambiguous than the pure waterfall.
If there is personnel continuity between the phases, documentation can be substantially reduced.	Activities performed in parallel are subject to miscommunication and mistaken assumptions.
Implementation of easy areas does not need to wait for the hard ones.	Unforeseen interdependencies can create problems.

Risk reduction spirals can be added to the top of the waterfall to reduce risks prior to the waterfall phases. The waterfall can be further modified using options such as prototyping, JADs or CRC sessions or other methods of requirements gathering done in overlapping phases .

3.5.2.2 Iterative Development

The problems with the Waterfall Model created a demand for a new method of developing systems which could provide faster results, require less up-front information, and offer greater flexibility. With Iterative Development (figure 3.2), the project is divided into small parts. This allows the

development team to demonstrate results earlier on in the process and obtain valuable feedback from system users. Often, each iteration is actually a mini-Waterfall process with the feedback from one phase providing vital information for the design of the next phase. In a variation

of this model, the software products, which are produced at the end of each step (or series of steps), can go into production immediately as incremental releases.

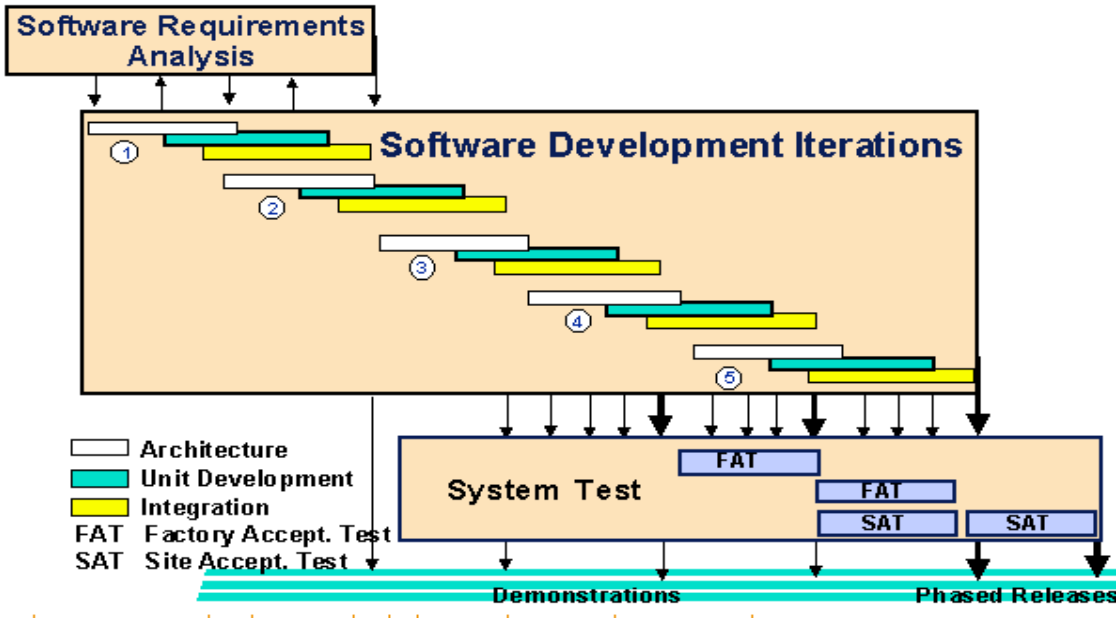

Figure. 3.2 Iterative Development

3.5.2.3 V-Shaped Model

Just like the waterfall model, the V-Shaped life cycle is a sequential path of execution of processes. Each phase must be completed before the next phase begins. Testing is emphasized in this model more than the waterfall model. The testing procedures are developed early in the

life cycle before any coding is done, during each of the phases preceding implementation. Requirements begin the life cycle model just like the waterfall model.

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Before development is started, a system test plan is created. The test plan focuses on meeting the functionality specified in requirements gathering. The high-level design phase focuses on system architecture and design. An integration test plan is created in this phase in order to test the pieces of the software systems ability to work together. However, the low-level design phase lies where the actual software components are designed, and unit tests are created in this phase as

well. The implementation phase is, again, where all coding takes place. Once coding is complete, the path of execution continues up the right side of the V where the test plans developed earlier are now put to use.

Advantages

- Simple and easy to use.
- Each phase has specific deliverables.
- Higher chance of success over the waterfall model due to the early development of test plans during the life cycle.
- Works well for small projects where requirements are easily understood.

Disadvantages

- Very rigid like the waterfall model.
- Little flexibility and adjusting scope is difficult and expensive.
- Software is developed during the implementation phase, so no early prototypes of the software are produced.
- This Model does not provide a clear path for problems found during testing phases .

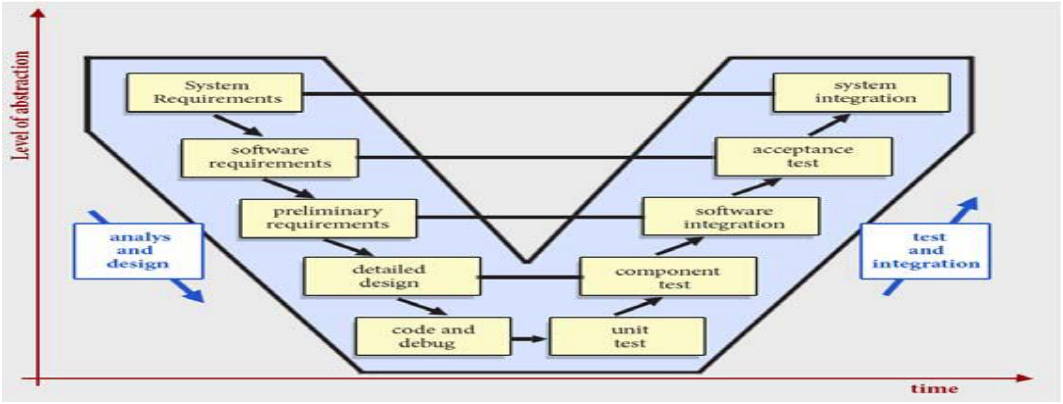

Figure 3.3 V-Model

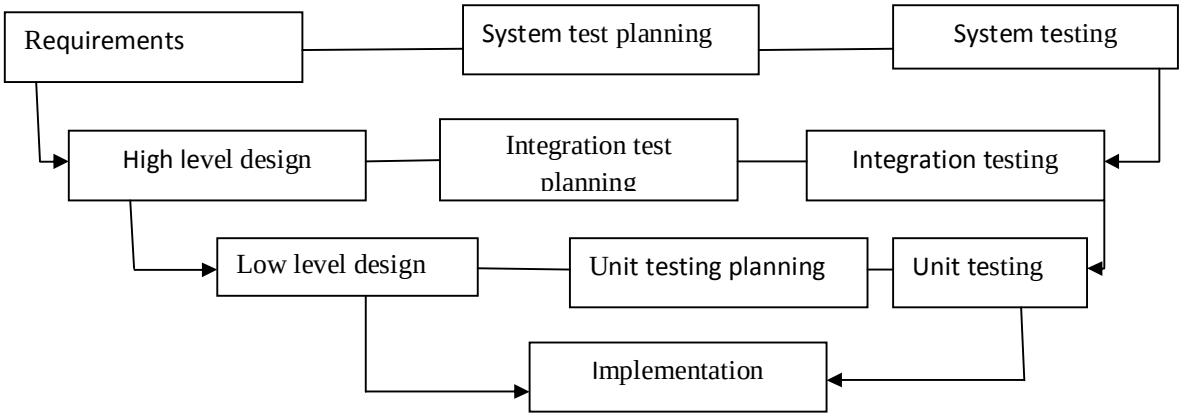

Figure. 3.4 V-Shaped Life Cycle Model.

3.5.2.4 Spiral Model

The spiral model is similar to the incremental model, with more emphases placed on risk analysis. The spiral model has four phases: Planning, Risk Analysis, Engineering and Evaluation. A software project repeatedly passes through these phases in iterations (called Spirals in this model). The baseline spiral, starting in the planning phase, requirements are gathered and risk is assessed. Each subsequent spiral builds on the baseline spiral. Requirements are gathered during the planning phase. In the risk analysis phase, a process is undertaken to identify risk and alternate solutions. A prototype is produced at the end of the risk analysis phase. Software is produced in the engineering phase, along with testing at the end of the phase. The evaluation phase allows the customer to evaluate the output of the project to date before the project continues to the next spiral. In the spiral model, the angular component represents progress, and the radius of the spiral represents cost.

Advantages

- High amount of risk analysis.
- Good for large and mission-critical projects.

- Software is produced early in the software life cycle.

Disadvantages

- Can be a costly model to use.
- Risk analysis requires highly specific expertise.
- Projectôs success is highly dependent on the risk analysis phase.
- Doesnôt work well for smaller projects .

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Spiral model sectors

- Objective setting :Specific objectives for the phase are identified.
- Risk assessment and reduction: Risks are assessed and activities are put in place to reduce the key risks.
- Development and validation: A development model for the system is chosen which can be any of the general models.
- Planning: The project is reviewed and the next phase of the spiral is planned .

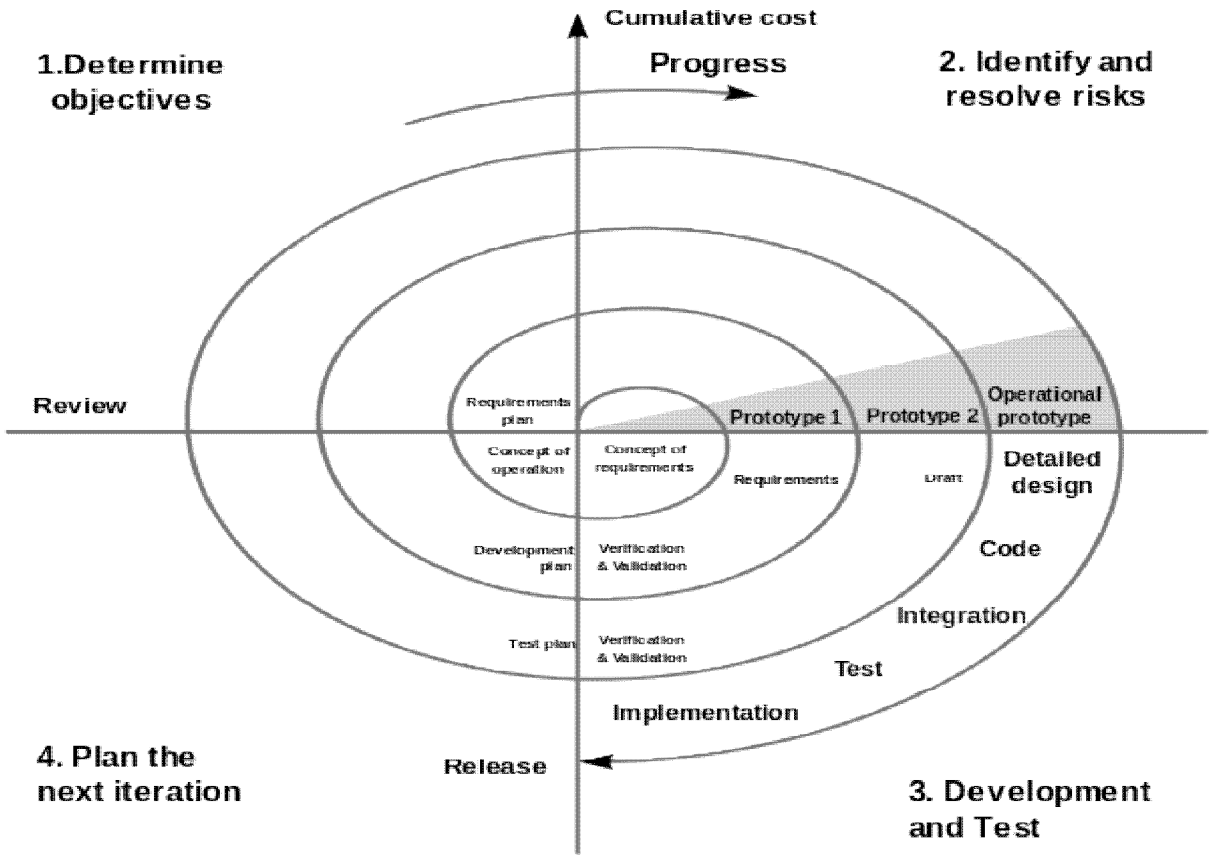

Figure 3.5 Spiral model (Boehm, 1988).

3.5.2.5 Extreme Programming

An approach to development, based on the development and delivery of very small increments of functionality. It relies on constant code improvement, user involvement in the development team and

pair wise programming . It can be difficult to keep the interest of customers who are involved in the process.

Team members may be unsuited to the intense involvement that characterizes agile methods. Prioritizing changes can be difficult where there are multiple stakeholders. Maintaining simplicity requires extra work. Contracts may be a problem as with other approaches to iterative development.

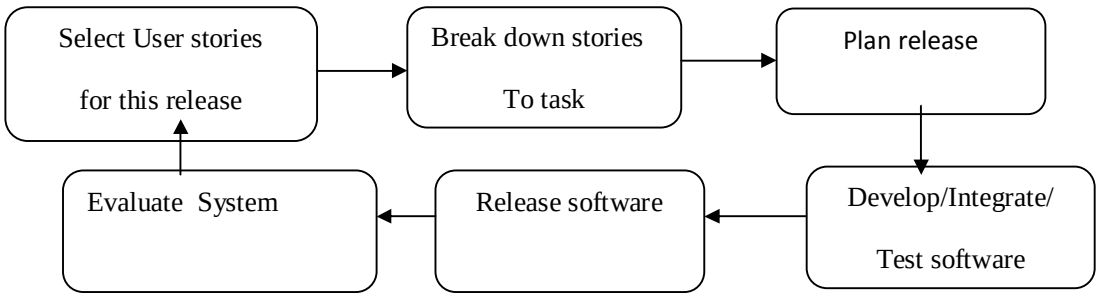

Figure. 3.6 XP Release Cycle

Extreme Programming Practices

Incremental planning:

Requirements are recorded on Story Cards and the Stories to be included in a release are determined by the time available and their relative priority. The developers break these stories into development "Tasks".

Small Releases:

The minimal useful set of functionality that provides business value is developed first. Releases of the system are frequent and incrementally add functionality to the first release.

Simple Design:

Enough design is carried out to meet the current requirements and no more.

Test first development:

An automated unit test framework is used to write tests for a new piece of functionality before functionality itself is implemented.

Refactoring:

All developers are expected to re-factor the code continuously as soon as possible code improvements are found. This keeps the code simple and maintainable.

Pair Programming:

Developers work in pairs, checking each otherôs work and providing support to do a good job.

Collective Ownership:

The pairs of developers work on all areas of the system, so that no islands of expertise develop and all the developers own all the code. Anyone can change anything.

Continuous Integration:

As soon as work on a task is complete, it is integrated into the whole system. After any such integration, all the unit tests in the system must pass.

Sustainable pace:

Large amounts of over-time are not considered acceptable as the net effect is often to reduce code quality and medium term productivity.

On-site Customer:

A representative of the end-user of the system (the Customer) should be available full time for the use of the XP team. In an extreme programming process, the customer is a member of the development team and is responsible for bringing system requirements to the team for implementation.

Advantages

- Lightweight methods suit small-medium size projects.
- Produces good team cohesion.
- Emphasizes final product.
- Iterative.
- Test based approach to requirements and quality assurance.

Disadvantages

- Difficult to scale up to large projects where documentation is essential.
- Needs experience and skill if not to degenerate into code-and-fix.
- Programming pairs is costly.
- Test case construction is a difficult and specialized skill

Conclusion and Future Work

After completing this comparison, it is concluded that :

- There are many existing models for developing systems for different sizes of projects and requirements.
- These models were established between 1970 and 1999.
- Different features of software process models for instance Waterfall model and spiral model are used commonly in developing systems as is the case for this work.
- Each model has advantages and disadvantages for the development of systems , so each model tries to eliminate the disadvantages of the previous model

3.5.3 System Specifications

The System Specifications Show What Will Be Expected Of The System To Perform When It Is eventually developed.

Therefore at the end of this work it is expected that the users or administrators of the scheme should be able to perform the following tasks with the new developed product.

- Online registration of all categories of the stakeholders such as Management Health Organizations, Health Care providers and professionals, federal, state and local government establishments and workers that have keyed into the programme ,armed forces ,tertiary institutions, agencies and parastatals.
- Online processing of identity cards for the participants
- Online search for registered enrollees, employers and employees, HMOs, and Health Care Providers/professionals, tertiary institutions , armed forces, Ministries as well as other agencies and parastatals .
- Online reference of cases from one health facility to another.
- Online access to relevant information for quick decision making process.
- Eliminate the delays or long periods usually experienced before a newly registered enrollee begins to access and enjoy health care delivery from the scheme.

3.6 System Design

The various program and sub program modules resulting to different graphical user interface windows implemented in this project followed a systematic approach in their designs. The GUIs are used to capture and display data to the administrator or the users of the system. Various input and output formats were designed to assist the users to get relevant data into and also retrieve required data from the database.

The design of this work is carried out using different tools. Some of the tools include the following;

- UML Case diagrams
- System flow chart
- Database tables
- Database forms

3.6.1 UML Basics An Introduction to the Unified Modeling Language

Way back in the late twentieth century 1997 the Object Management Group (OMG) released the Unified Modeling Language (UML). One of the purposes of UML was to provide the development community with a stable and common design language that could be used to develop and build computer applications. UML brought forth a unified standard modeling

notation that IT professionals had been wanting for years. Using UML, IT professionals could now read and disseminate system structure and design plans just as construction

workers have been doing for years with blueprints of buildings. It is now the twenty-first century 2003 UML has gained traction in our profession. The primary authors were Jim Rumbaugh, Ivar Jacobson, and Grady Booch, who originally had their own competing methods (OMT, OOSE, and Booch). Eventually, they joined forces and brought about an open standard. (Sound familiar? A similar phenomenon spawned J2EE, SOAP, and Linux.) One reason UML has become a *standard* modeling language is that it is programming-language independent. (UML modeling tools from IBM Rational are used extensively in J2EE shops as well in .Net shops.) Also, the UML notation set is a language and not a methodology. This is important, because a language, as opposed to a methodology, can easily fit into any company's way of conducting business without requiring change. Since UML is not a methodology, it does not require any formal work products (i.e., "artifacts" in IBM Rational Unified Process® lingo). Yet it does provide several types of diagrams that, when used within a given methodology, increase the ease of understanding an application under development. There is more to UML than these diagrams, but for this work the diagrams offer a good introduction to the language and the principles behind its use. By placing standard UML diagrams in your methodology's work products, you make it easier for UML-proficient people to join your project and quickly become productive. The most useful, standard UML diagrams are: use case diagram, class diagram, sequence diagram, statechart diagram, activity diagram, component diagram, and deployment diagram. It is beyond the scope of this project to go into great detail about each type of diagram. Instead use case diagrams were employed to aid our designs.

3.6.1.1 Unified Modeling Language Use Case Diagrams

3.6.1.1.1 Use-Case Diagram

A use case illustrates a unit of functionality provided by the system. The main purpose of the use-case diagram is to help development teams visualize the functional requirements of a system, including the relationship of "actors" (human beings who will interact with the system) to essential processes, as well as the relationships among different use cases. Use-case diagrams generally show groups of use cases either all use cases for the complete system, or a breakout of a particular group of use cases with related functionality (e.g., all security administration related use cases).

UML Use Case Diagrams can be used to describe the functionality of a system in a horizontal way. That is, rather than merely representing the details of individual features of your system,

UCDs can be used to show all of its available functionality. It is important to note, though, that UCDs are fundamentally different from sequence diagrams or flow charts because they

do not make any attempt to represent the order or number of times that the systems actions and sub-actions should be executed. UCDs have only 4 major elements: The **actors** that the system you are describing interacts with, the **system** itself, the **use cases**, or services, that the system knows how to perform, and the lines that represent **relationships** between these elements. UCDs are used in this work to represent the functionality of the system from a top-down perspective (that is, at a glance the system's functionality is obvious, but all descriptions are at a very high level. Further detail can later be added to the diagram to elucidate interesting points in the system's behavior.)

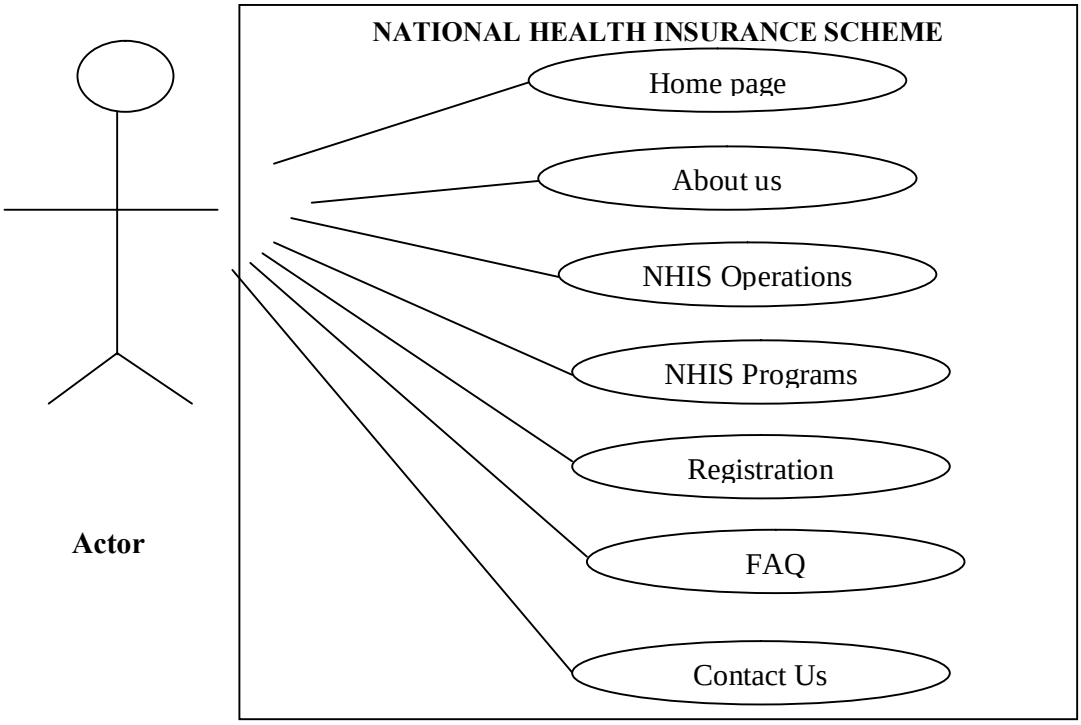

Figure 3.7 Initial use case diagram

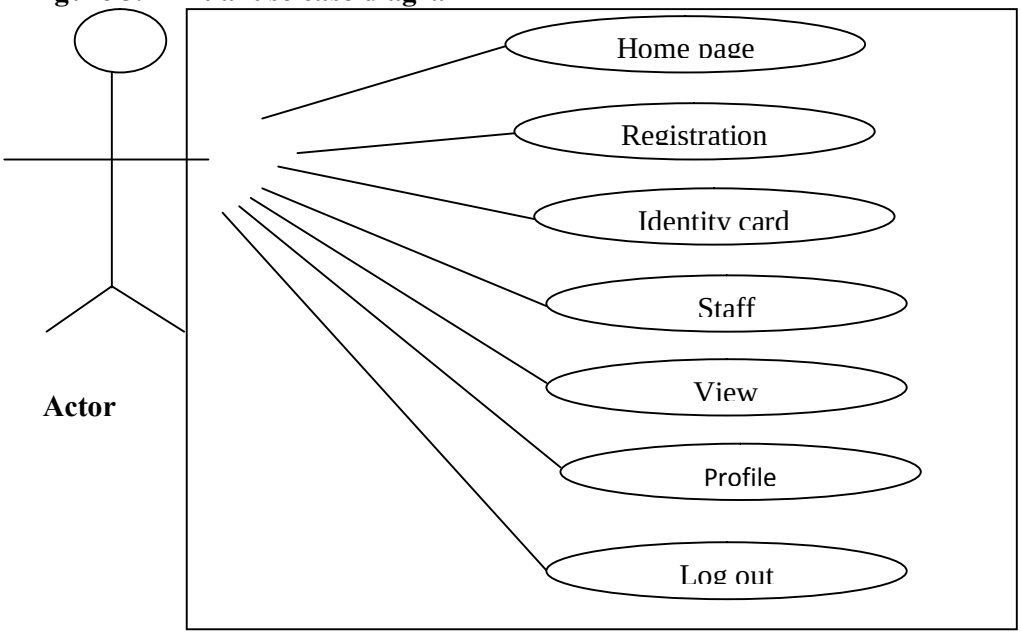

Figure 3.8 Second Design use case diagram

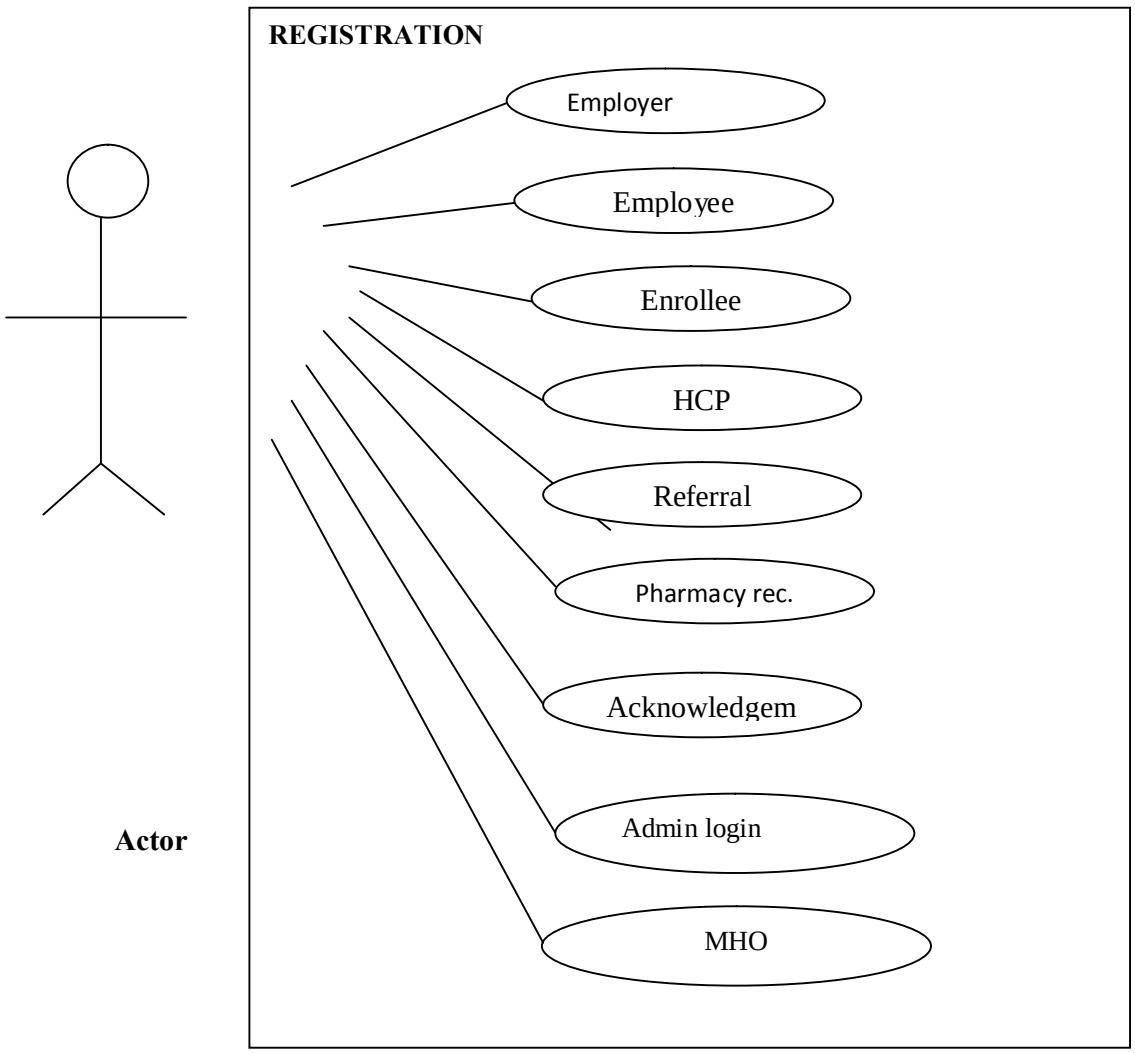

Figure 3.9 Use Case diagram For registration

Adding Details

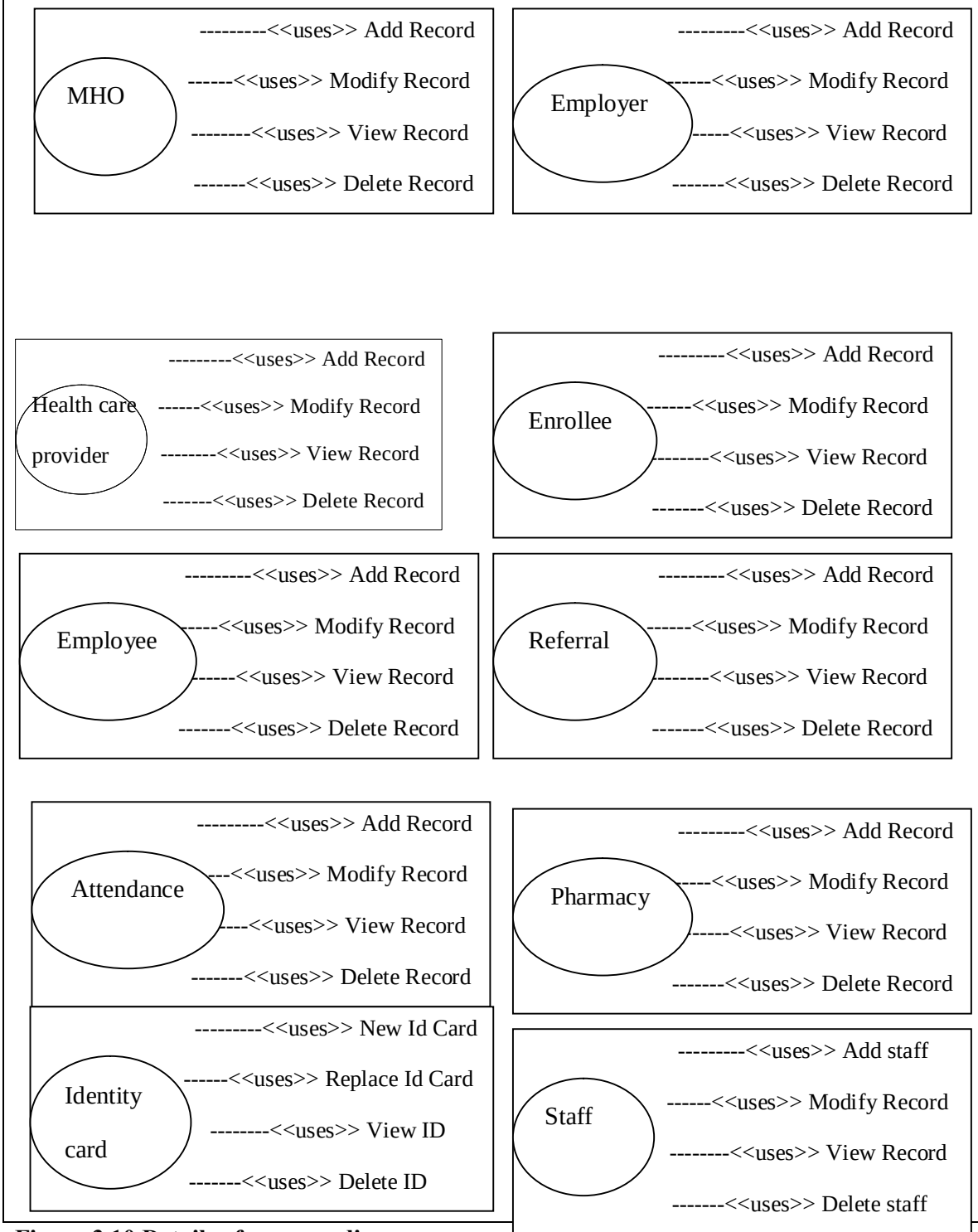

Figure 3.10 Details of use case diagrams

3.6.1.1.2 Class Diagram

The class diagram shows how the different entities (people, things, and data) relate to each other; in other words, it shows the static structures of the system. A class diagram can be used to display logical classes, which are typically the kinds of things the business people in an organization talk about. A class is depicted on the class diagram as a rectangle with three horizontal sections, as shown in Figure3.10 . The upper section shows the class's name; the middle section contains the class's attributes; and the lower section contains the class's operations (or "methods").

Class Name
Class Attributes
Class operations

Figure 3.11 : Sample class object in a class diagram

3.6.1.1.3 Sequence Diagram

Sequence diagrams show a detailed flow for a specific use case or even just part of a specific use case. They are almost self explanatory; they show the calls between the different objects in their sequence and can show, at a detailed level, different calls to different objects. A sequence diagram has two dimensions: The vertical dimension shows the sequence of messages/calls in the time order that they occur; the horizontal dimension shows the object instances to which the messages are sent.

3.6.1.1.4 State Chart Diagram

The state chart diagram models the different states that a class can be in and how that class transitions from state to state. It can be argued that every class has a state, but that every class shouldn't have a state chart diagram. Only classes with "interesting" states that is, classes with three or more potential states during system activity should be modeled.

3.6.1.1.5 Activity Diagram

Activity diagrams not shown here show the procedural flow of control between two or more class objects while processing an activity. Activity diagrams can be used to model higher-level business process at the business unit level, or to model low-level internal class actions.

3.6.1.1.6 Component Diagram

A component diagram not shown here provides a physical view of the system. Its purpose is to show the dependencies that the software has on the other software components (e.g., software libraries) in the system.

3.6.1.1.7 Deployment Diagram

The deployment diagram shows how a system will be physically deployed in the hardware environment. Its purpose is to show where the different components of the system will physically run and how they will communicate with each other.

3.7 DATABASE ANALYSIS AND TABLE DESIGN

DATABASE

Database is defined as a collection of data. In carrying out the project, mySQL was the choice of the database management system. This is because of its ability to handle both small and large volumes of data as well as its reliability and usability.

3.7.1 Database Objects

Overview of MySQL Structure and Syntax

MySQL is a relational database system, which basically means that it can store bits of information in separate areas and link those areas together. You can store virtually anything in a database: the contents of an address book, a product catalog, or even a wish list of things you want for your birthday.

MySQL Structure

Because MySQL is a relational database management system, it allows you to separate information into *tables* or areas of pertinent information. In non relational database systems, all the information is stored in one big area, which makes it much more difficult and cumbersome to sort and extract only the data you want. In MySQL, each table consists of separate *fields*, which represent each bit of information. For example, one field could contain a customerôs first name, and another field could contain his last name. Fields can hold different types of data, such as text, numbers, dates, and so on.

You create database tables based on what type of information you want to store in them. The separate tables of MySQL are then linked together with some common denominator, where the values of the common field are the same.

For an example of this structure, imagine a table that includes a customerôs name, address, and ID number, and another table that includes the customerôs ID number and past orders he has placed. The common field is the customerôs ID number, and the information stored in the two separate tables would be linked together via fields where the ID number is equal. This enables you to see all the information related to this customer at one time. Database tables

can be tailored to fit specific needs in the following ways: We use primary key fields to represent such fieldnames. In our work, nhisregnos are used for that purpose and also in some cases for querying the database.

MySQL

Another open source favorite, MySQL is the database construct that enables PHP and Apache or Wampserver to work together to access and display data in a readable format to a browser. It is a Structured Query Language server designed for heavy loads and processing of complex queries. As a relational database system, MySQL allows many different tables to be joined together for maximum efficiency and speed.

MySQL is the perfect choice for providing data via the Internet because of its ability to handle heavy loads and its advanced security measures.

Using PHP MyAdmin

PHPMyAdmin is another wonderful open source project that enables you to access your MySQL databases through a GUI. Itôs easy to set up and manage, and it makes administering your databases, tables, and data a breeze. It does have some limitations, but for the most part, it will make you a lot more efficient.

With this software, you can easily do the following:

- Drop and create databases
- Create , edit and delete tables
- Enter any MySQL statements
- View and print table structure
- Generate PHP code
- View data in table format

You can download the software by visiting the source Web site at www.phpmyadmin.net. This software works whether your MySQL server is on your local machine or hosted by a third party. MySQL is one of the examples a database management system which is used in storage and retrieval of data as at when necessary. The data in MySQL is stored in database objects called tables. A table is a collection of related data entries and it consists of columns and rows. Other examples of database objects used in this project are forms and queries.

Database Manipulation Commands

Use the following commands to create and make changes to your database and tables.

Command functions

CREATE *databasename* Creates the database.

CREATE *tablename* (*field1*, *field2,* Creates a new table.

field3, and so on PRIMARY KEY(*field*))

ALTER TABLE *tablename* WHERE *condition* Modifies a table in the database.

RENAME TABLE *oldtablename* TO Renames a table in the database.

newtablename

INSERT INTO *tablename* (*field1,* Inserts information into the table.

field2, . . .) VALUES (ñv*alue1*ò,ñv*alue2*ò . . .)

UPDATE *tablename* SET *field1=value1,* Changes information already stored in

field2=value2 . . . WHERE *condition* the table.

DELETE FROM *tablename* WHERE *condition* Deletes a record from the specified table.

DROP *tablename* Deletes the table.

DROP *database* Deletes the database.

LOAD DATA INFILE ñ*filename*ò INTO Loads a large quantity of data into the TABLE

tablename database.

The design of the database is achieved by employing the use of tables and forms for data input and output operations. The system consists of the following;

Database File: nhis.db

The database file used in this work is nhis.db

3.7.2 Database Tables

In the database different database tables were created for the various graphical user interface windows. These tables are as follows:

3.7.2.1 Employer Registration Table.

This is used to input details of employers that are registered with the NHIS. The table structure is shown in table 3.1 below

Table 3.3 Employer Reg.

Field	Type	Null	Default
Id	int(11)	No	
Name of org	varchar(50)	No	
Reg. no	varchar(50)	No	
Category	varchar(50)	No	
Name of hmo	varchar(100)	No	
Name of healthcare provider	varchar(50)	No	
Date of reg.	varchar(100)	No	
Category of hmo	Varchar(6)	No	
Category of healthcare provider	Varchar(6)	No	

3.7.2.2 Employee Table

This table which is shown in table 3.2 below is for the input and output of details of the employees of different organizations who are registered with the NHIS

Table 3.4 Employee Table

Field	Type	Null	Default
Name of employee	varchar(40)	No	
Health care provider	varchar(40)	No	
Employer	varchar(40)	No	
Location	varchar(20)	No	
Staffid	varchar(20)	No	
Nhis reg. no	Varchar(20)	No	
Category of employer	varchar(12)	No	
Next of kin	varchar(40)	No	
Contact information	varchar(40)	No	
Date of reg.	date	No	
Phone no	varchar(20)	No	
Exit from the scheme	varchar(12)	No	
Marital status	Varchar(6)	No	
Sex	Varchar(6)	No	

3.7.2.3 Enrollee Table

The structure of this table is shown in table 3.3 below. It is used to input or display names of other people who are registered with NHIS as dependants of employees of various employers.

Table 3.5 Enrollee Table

Field	Type	Null	Default
Id	int(11)	No	
Nhis reg.	varchar(10)	No	
Surname	varchar(30)	No	

First name	Varchar(25)	No	
Last name	Varchar(25)	No	
Address	varchar(50)	No	
State origin	Varchar(13)	No	
Email	varchar(12)	No	
Gender	varchar(5)	No	
Phone No	varchar(15)	No	
Next of kin	varchar(25)	No	
Kin address	varchar(40)	No	
Kin phone	varchar(15)	No	
Nhis acp	varchar(40)	No	
Id card no.	varchar(15)	No	
Blood group	varchar(5)	No	
Enn	varchar(100)	No	
Reg. date	date)	No	
prname	varchar(30)	No	
Spouse	varchar(30)	No	
Children	varchar(30)	No	
exdepend	varchar(30)	No	
Date of birth	date	No	
Genotype	varchar(5)	No	
Blood group	Varchar(6)	No	
Remarks	Text(30)	No	

3.7.2.4 Health Care Provider Table:

This is used to input details of health care providers who want to register with NHIS.

Table 3.6 Health care provider

Field	Type	Null
Name of health care provider	varchar(40)	No
Reg. no	Varchar(7)	No
Head office address	varchar(40)	No
State	varchar(10)	No
Telephone no	Varchar(15)	No
Fax no	Varchar(15)	No
Date of incorporation	date	No
NHIS reg no	Varchar(12)	No
Category	varchar(12)	No
Name of chief medical Director	varchar(20)	No
Chief executives name	varchar(20)	No
Address of Director	varchar(25)	No
Phone no	Varchar(15)	No
Insurance company	varchar(25)	No
Bankers	varchar(25)	No
Address of branch office	varchar(25)	No
Telephone	text	No
Email address	Varchar(15)	No
Authenticating officer	varchar(20)	No
Sign	text	No

3.7.2.5 HMO Table:

Health Management Organization plays major roles in the daily operations of NHIS. The table structure is shown in table 3.5 below. It is used to input and output details of Health Management Organizations participating in the NHIS programme

Table 3.7 Health Management Organizations

Field	Type	Null	Default
name of health management organization	varchar(40)	No	
Reg. no	char(10)	No	
Head office address	varchar(40)	No	
State	varchar(10)	No	
Telephone no	char(11)	No	
Fax no	char(11)	No	
Date of incorporation	Date	No	
NHIS reg no	char(11)	No	
Category	varchar(12)	No	
Chief executives name	varchar(20)	No	
Address of Director	varchar(25)	No	
Phone no	char(11)	No	
Insurance company	varchar(25)	No	
Bankers	varchar(25)	No	
Address of branch office	varchar(25)	No	
Telephone	char(11)	No	
Email address	char(15)	No	
Authenticating officer	varchar(20)	No	
Sign	char(11)	No	

3.7.2.6 Pharmacy Table

Pharmaceutical companies are also stakeholders in the NHIS programme. The pharmacy table is used to input and output relevant information about any registered pharmaceutical organization or intending ones that want to register with the NHIS. The table structure shown is below in table 3.6

Table 3.8 Pharmacy

Field	Type	Null	Default
Id	int(11)	No	
Name	varchar(100)	No	
NHIS reg.	varchar(50)	No	

Preg	varchar(50)	No	
Tel. no	varchar(50)	No	
Category	varchar(50)	No	
Date	varchar(100)	No	
Comment	varchar(500)	No	
Recom	varchar(300)	No	

3.7.2.7 Id Card Table

Used to capture details of NHIS registered individuals with which to prepare identity cards for members. Table 3.7 is used to illustrate the structure.

Table 3.9 ID Card Table

Field	Type	Null	Default
Surname	varchar(20)	No	
First name	varchar(20)	No	
Last name	varchar(20)	No	
Address	varchar(50)	No	
State	varchar(15)	No	
Country	varchar(20)	No	
Nhis reg. no	varchar(13)	No	
Phone	varchar(15)	No	
Date of reg.	date	No	
Staffed	varchar(10)	No	
Name of organization	varchar(25)	No	
Category	varchar(10)	No	
Name of next of kin	varchar(30)	No	
Address of next of kin	varchar(50)	No	
Phone no of next of kin	Varchar(15)	No	

Blood Group	Varchar(5)	No	
Genotype	Varchar(2)	No	
Name of health care provider	Varchar(30)	No	
Category	Varchar(10)	No	
Name of hmo	Varchar(30)	No	
Category	Varchar(30)	No	
Authenticated by	Varchar(20)	No	
Passport	text	No	
Sign	text		

3.7.2.8 Registration Table.

The table below is used for registration of prospective individuals or the beneficiaries in the NHIS programme

Table 3.10 Registration Table

Field	**Type**	**Null**	**Default**
Surname	varchar(20)	No	
First name	varchar(20)	No	
Last name	varchar(20)	No	
Address	varchar(50)	No	
State	varchar(15)	No	
Country	varchar(20)	No	
Nhis reg. no	varchar(13)	No	
Phone	varchar(15)	No	
Date of reg.	date	No	
Amount paid	tinyint(15)	No	
Staffed	varchar(10)	No	
Department	varchar(25)	No	
Organization	varchar(30)	No	
Bankers	varchar(30)	No	
Insurance	varchar(30)	No	

3.7.2.9 Referral

This is used to input details of cases required to be transferred from one health facility to another. The table structure is shown in table 3.9 below

Table 3.11 Referral

Field	Type	Null	Default
health institution	varchar(30)	No	
nhis reg. no	varchar(10)	No	
refered to	varchar(20)	No	
nhis id	text	No	
patients name	varchar(20)	No	
patients hmo	varchar(30)	No	
hmo regno	text	No	
clinical findings	varchar(35)	No	
investigation	varchar(35)	No	
provisional diagnosis	varchar(35)	No	
reason for referral	varchar(20)	No	
name of refering doctor	varchar(20)	No	
mdcn no	text	No	

3.7.2.10 Attendance Table:

The attendance table is used to keep record of attendance of enrollees to different health care providers. The record is usually presented to the MHOs on regular basis.

Table 3.12 Attendance table

Field	Type	Null	Default
Id	int(11)	No	
Pname	varchar(100)	No	
Nhis reg. no	varchar(100)	No	
Category	varchar(50)	No	
Address	varchar(100)	No	
Phone No	varchar(50)	No	

Email	varchar(50)	No	
Date of attendance	varchar(100)	No	

3.7.2.11 Health Care Providers

Health care providers render services to the enrolees. This table is provided to enable the health care providers have records of when the enrolees visited their facility for treatment. These records are submitted to the Health Management organizations. The table structure is shown below in table 3.11

Table 3.13 Health care providers

Field	Type	Null	Default
Id	int(11)	No	
Pname	varchar(100)	No	
Reg. no	varchar(100)	No	
Category	varchar(50)	No	
Address	varchar(100)	No	
Phone No	varchar(50)	No	
Email	varchar(50)	No	
Date of reg.	varchar(100)	No	

3.7.2.12 Acknowledgement Table:

Used to acknowledge a referral case made by one health facility to another. When a case is referred from one health facility to another, an acknowledgement for that case can be achieved with this table. The structure is shown in table 3.12

Table 3.14 Ack Copy

Field	Type	Null	Default
Id	int(11)	No	
Recipient	varchar(100)	No	
Pname	varchar(100)	No	
Nhis ID	varchar(50)	No	
Action	varchar(100)	No	
Doctor name	varchar(50)	No	
Mdcn reg.	varchar(50)	No	

Date	varchar(100)	No	
Signature	varchar(50)	No	
Category	varchar(50)	No	

3.7.2.13 Change Of Health Care Provider:

Change of Health Care provider is provided for the purpose of changing from one health care provider to another. This situation may arise if the enrolee is getting unsatisfactory services from the health facility centre or that he or she is transferred from one state to another or from one ministry to another.

Table 3.15 Change of health care provider

Field	Type	Null	Default
Name of health care provider	varchar(40)	No	
Name of new health care provider	varchar(40)	No	
Reason for change	text	No	
Reg. no	text	No	
Head office address	varchar(40)	No	
State	varchar(10)	No	
Telephone no	text	No	
Fax no	text	No	
Date of incorporation	date	No	0000-00-00
NHIS reg. no	varchar(12)	No	
Category	varchar(12)	No	
Name of chief mediacal Director	varchar(20)	No	
Chief executives name	varchar(20)	No	
Address of Director	varchar(25)	No	
Phone no	text	No	
Insurance company	varchar(25)	No	
Bankers	varchar(25)	No	
Address of branch office	varchar(25)	No	
Telephone	text	No	
Email address	text	No	

Authenticating officer	varchar(20)	No	
Sign	text	No	

Enrolees for one reason or the other may decide to change their health care provider. This table is used to effect such a change. The table structure is shown in table 3.13

Change of Health Management Organization:

Different stake holders in the NHIS programme may at one time or the other decides to change their HMO for one reason. This table can be used to effect such a change. The table structure is shown in table 3.13

3.7.2.14 Admin Login Table:

The above table is provided to enable authorised users or administrators to log onto the NHIS website to enable them perform their administrative duties. Table structure for this is shown in table 3.14

3.16 Admin Login table

Field	**Type**	**Null**	**Default**
Users name	int(11)	No	
Password	varchar(100)	No	

3.7.3 Database Forms

3.7.3.1 Registration Of Accredited NHIS Health Care Provider

Name of Health care provider:

RC NO:

Head Office/Address

State:

State ABIA

Telephone No: Fax No:

Date of Incorporation: -Day- - Month - - Year -

Email Address:

Date of Registration with NHIS: -Day- - Month - - Year -

NHIS Reg NO:

Category:

CATEGORY PRIMARY

Chief Executives' Name:

Name of Chief medical Director:

Address of Director:

Phone Number: Bankers:

Insurance Company:

Address of Branch Office:

Telephone No:

Clear Register

Figure 3.12 Registration form for accredited Health care providers

3.7.3.2 Acknowledgement Slip

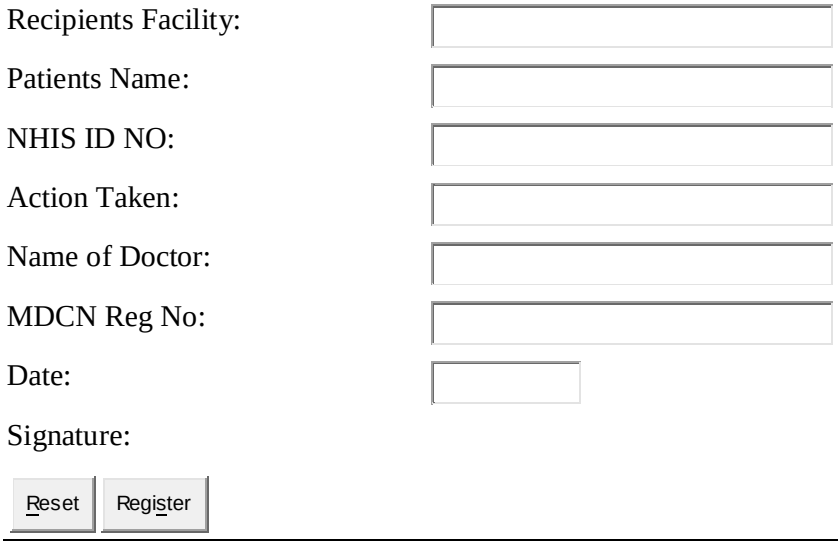

Figure 3.13 Acknowledgement form for referral cases from one Health facility to another

3.7.3.3 Add Staff

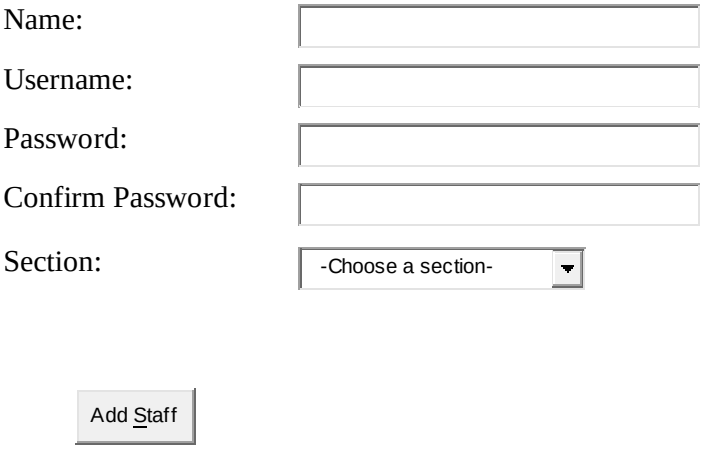

Figure 3.14 Form used to add new staff

3.7.3.4 Login Form For Users

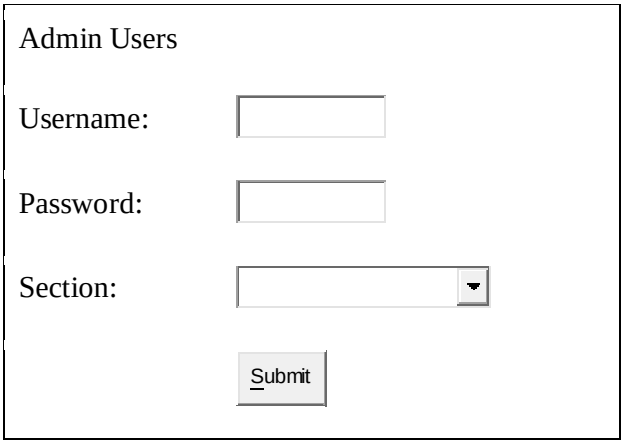

Figure 3.15 logon form for users

3.7.3.5 Attendance Form

Name of HMO: Address of HMO:

Phone No: Email:

State Code: Facility:

S/n	Name	Age	Sex	ID Card No	Diagonsis	Investigation
1						
2						
3						

Reset Register

Figure 3.16 Attendance form for enrollees

3.7.3.6 Adverse drug reaction reporting form

Name of Patient:

Patient NHIS No:

Name of Facility:

Name of Drug Manufacture:

Date of Manufacture:

Batch No:

Date of Manufacture:

Expiry Date:

Indication for Use:

Duration of Use:

Route of Admin:

Type of Adverse Reaction:

Date of Reaction:

Date Drug Taken:

Outcome of Reaction:

☐ Recovered Fully

☐ Recovered with Disability

☐ Hospitalized

☐ Life Threatening

☐ Death

☐ Other (Specify)

Reset Submit

Figure 3.17 Adverse drug reaction complaint form

3.7.3.7 Registration of Accredited NHIS Health Management Organization

Name of Health mgt org :

RC NO:

Head Office/Addresses:

State: State ABIA

Telephone No:

Fax No:

Date of Incorporation: -Day- - Month - - Year -

Email Address:

Date of Registration With NHIS: -Day- - Month - - Year -

NHIS Reg No:

Category: CATEGORY PRIMARY

Chief Executives' Name:

Name of Chief medical Director:

Address of Director:

Phone Number:

Bankers:

Insurance Company:

Address of Branch Office:

Telephone No:

Clear Register

Figure 3.18 Registration form for Health management organizations

3.7.3.8 Tertiary Institution Registration Form

NAME OF UNIVERSTY	
FEDERAL UNIVERSITY university of Nigeria Nsukka	Date of Reg. With NHIS: -Day- - Month - - Year -
NHIS REG NO: **STATE LOCATED**	
ADDRESS	**STATE**
HMO CODE	**RCNO**
HMO	**CATEGORY**
NAME OF CHIEF EXECUTIVE	**GSM PHONE NOS:**
REGISTER Submit **RESET** reset	Date of Incorporation: -Day- - Month - - Year -

Figure 3.19 Tertiary Institution Registration Form

3.7.3.9 TOP DOWN ARCHITECTURAL DESIGN OF THE SYSTEM

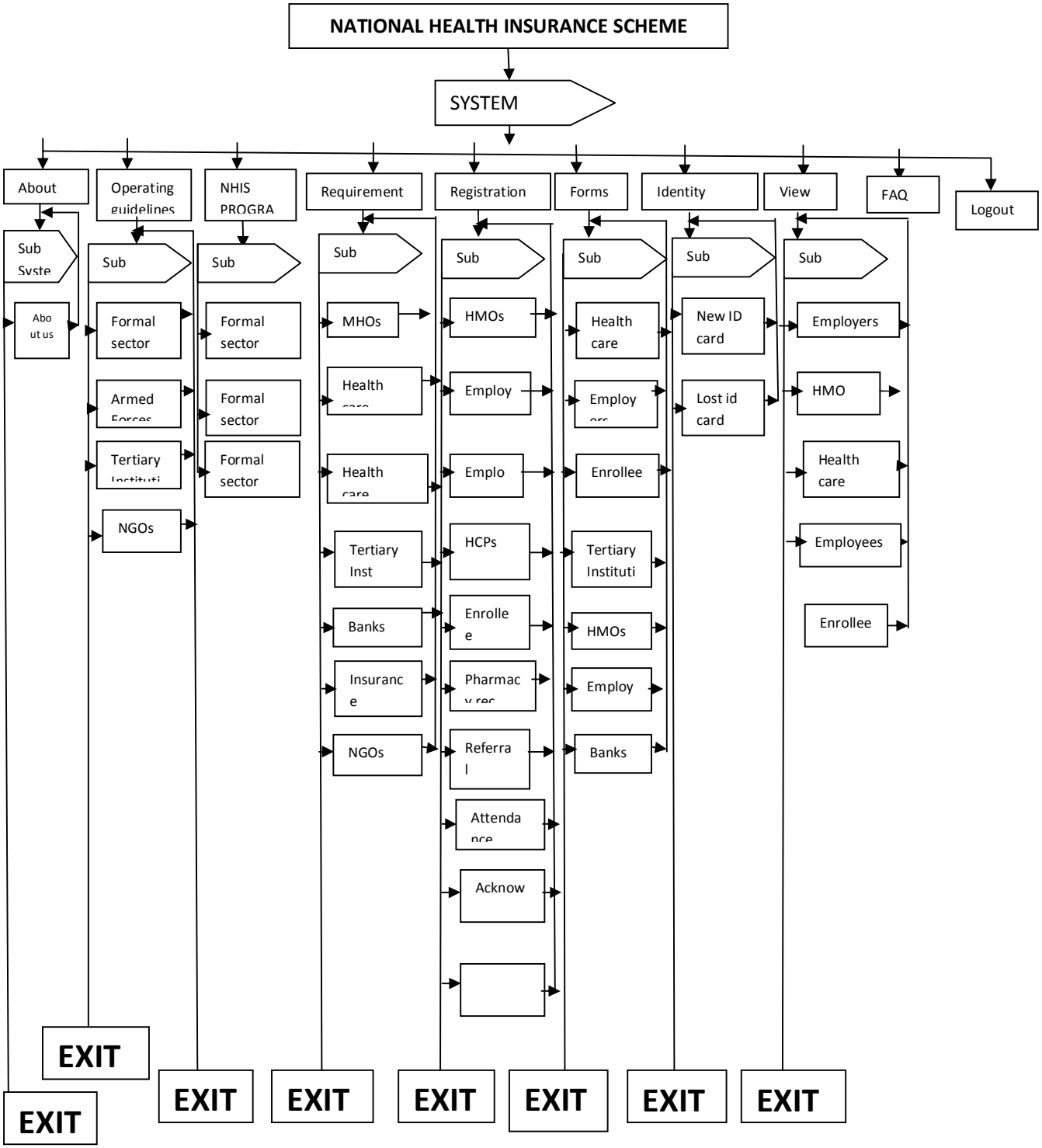

Figure 3.20 Top down Architectural Design

The top down architectural design frame work of the new system shown in figure 3.20 is composed of different program modules. It represents the entire architectural design of the project. However it was not possible for all program modules to be implemented in this work. The aspects of the design that were implemented in this work are as shown in figure 3.21a below. From figure 3.20 , each of the program module is also comprised of other program **s**ub modules. The ñAbout Usò is used to display brief information about NHIS. The Operating guidelines on the other hand explain how the various sectors are expected to operate. It consists of formal sector, armed forces, Tertiary Institutions and NGOs. The NHIS Programs explain briefly the NHIS programs various sectors . The Requirement module is used to discuss the various requirements for the stake holders of the NHIS such as HMOs, Health Care Providers, etc The Registration Program module is mainly used in this project. It contains various aspects that were developed in this project. More details on this can be seen in chapter four. Some of the sub modules in the form program modules are embedded in this registration module.

3.7.3.10 System Flow Chart

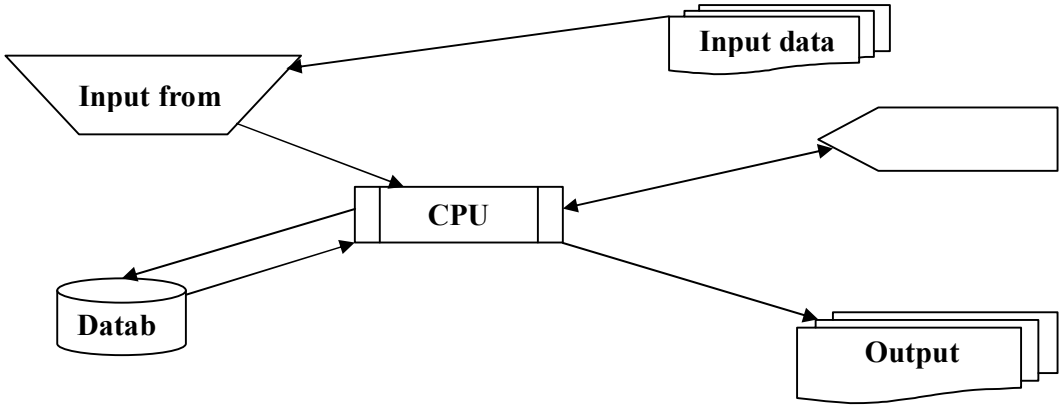

Figure 3 21. System flow chart

The system flow chart in figure 3.21 illustrates that the input data from either administrators or other visitors to website will be accepted through the keyboard. This data in its raw form is then processed by the Central Processing Unit (CPU), which is then subsequently stored in the database. This data stored in the database can also be retrieved for further processing as shown by the two arrows pointing in different directions. Then, the data can be requested and viewed by displaying this on the screen , as well as any other output device. Also reports can be generated from the data stored in the database

Figures 3.22 and 3.23 are used to show how the program design was implemented. Figure 3.22 is what the user sees when he/she logs onto the website while figure 3.22b is displayed when the user logs into the administrative section of the portal by clicking on ñAdmin click here to login ñ Access to this section is only limited to authorised users or administrators/desk officers.

ARCHITECURAL VIEW OF THE IMPLEMENTED SYSTEM

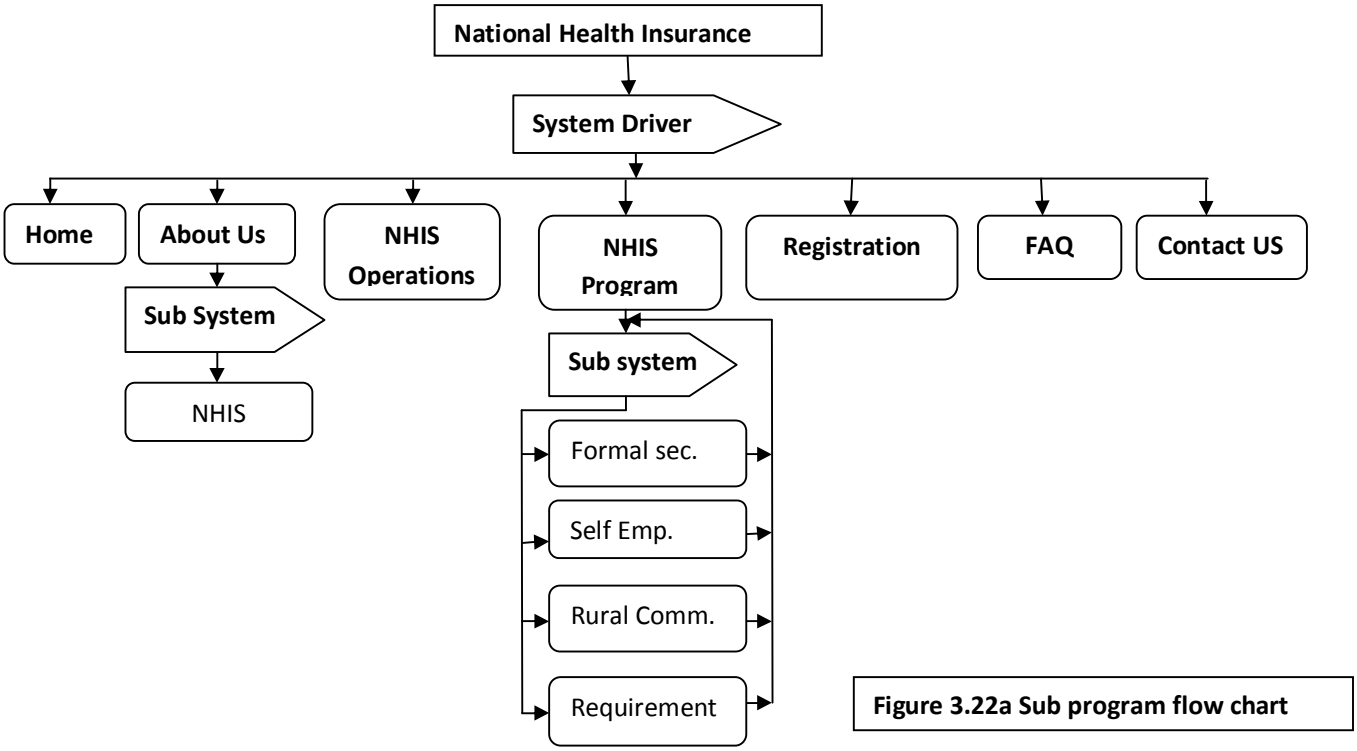

Figure 3.22a Sub program flow chart

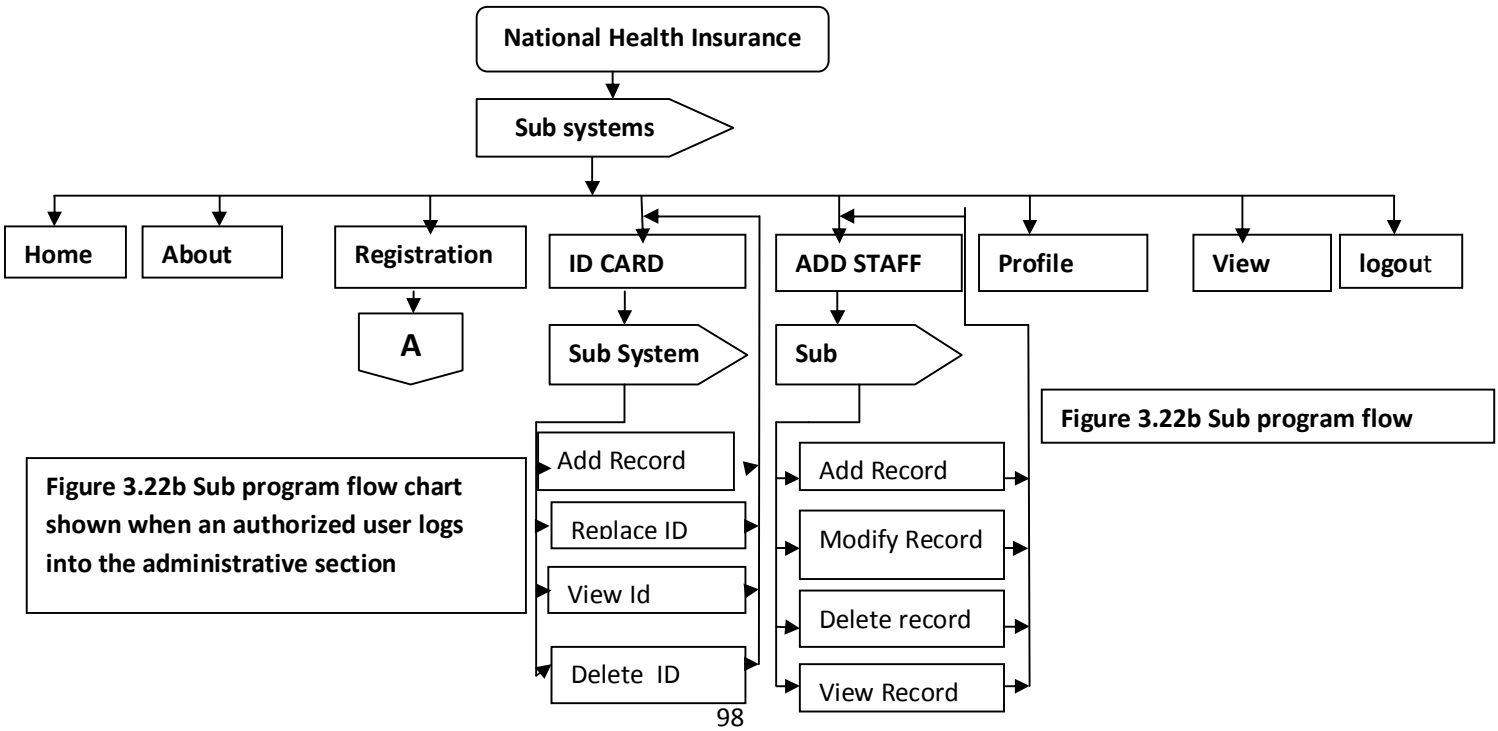

Figure 3.22b Sub program flow

Figure 3.22b Sub program flow chart shown when an authorized user logs into the administrative section

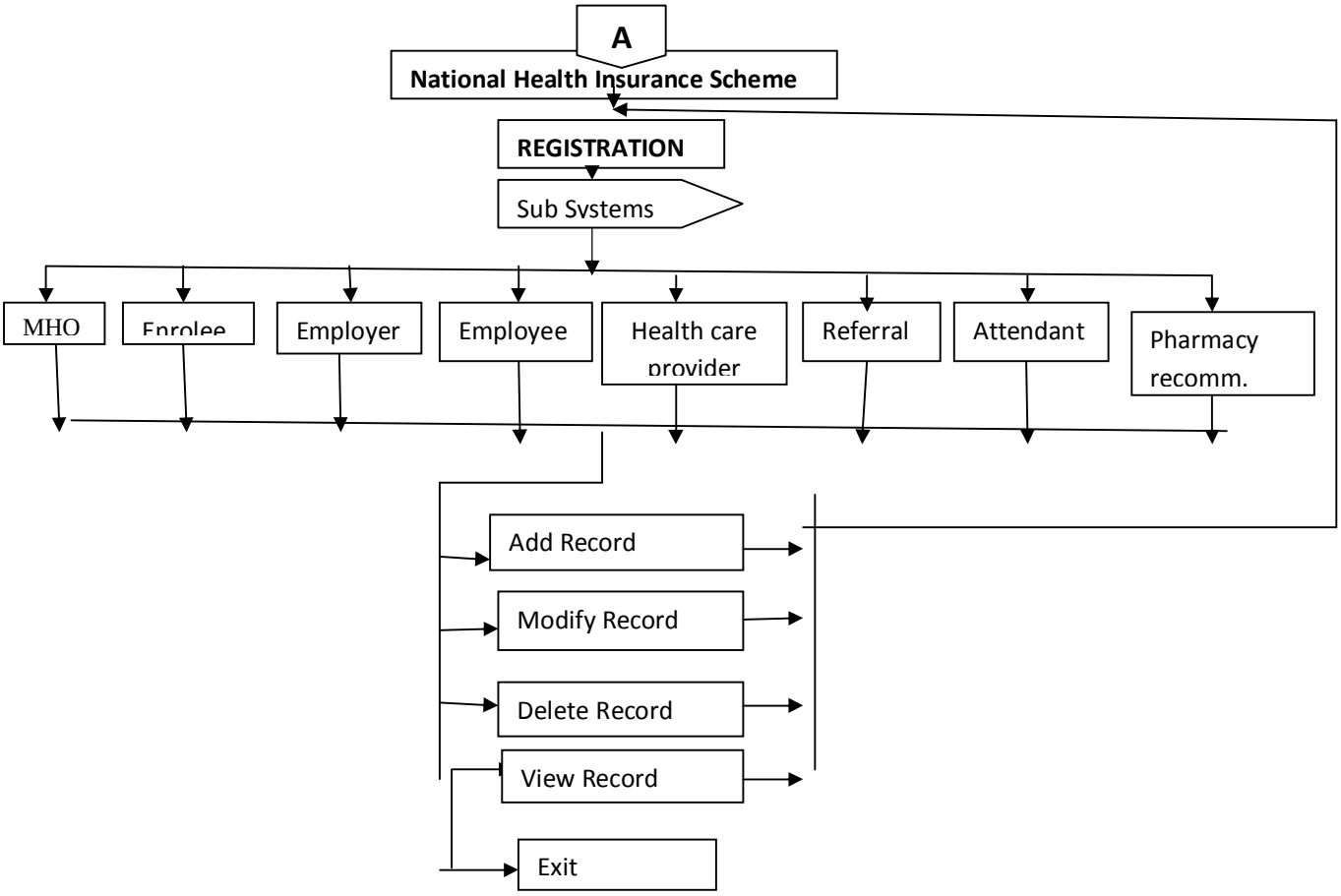

Figure 3.22c Sub program flow chart showing various activities in administrative

CHAPTER FOUR

SYSTEM IMPLEMENTATION AND TESTING

4.1a System Implementation:

Implementation is the realization of an application , execution of a plan, idea, model, design, specification , standard, algorithm or policy. It is also the realization of a technical specification or algorithm as a program, software component or other computer system through programming and deployment. The purpose of system implementation is to make the new system available to a prepared set of users and also positioning an on-going support and maintenance within NHIS. This entails that all steps would be taken to educate both the users and other staff of NHIS on the use of the new system.

4.1b System Requirements

The implementation of this project could not have been possible without the necessary software and hardware tools.

Choice of Development Tools

The development tools are the important software and hardware tools that were used for the implementation of this project research. Different software and computer hardware tools that were used in this work are discussed below.

The software tools refer to the different software or programmes that were used during the development of this work. On the other hand the hardware tools include the computer components that were also used for the implantation of the research work.

4.2 Software Tools

The software tools that were used during the development of this work can be discussed under different subheadings or categories. They are categorized into system software or operating system, applications software and programming languages as well database. Database have already been discussed in chapter three above.

4.2.1 System Software Or Operating System

The project was implemented on a computer running Windows 7 operating system. However the project can also run on computers that run in other versions of operating system such as Windows XP and above.

4.2.2 Applications Software

The applications software that were employed during the development of this work include the following;

Word Processing software package such as Microsoft word used in typing the work.

Database Management System such as mySQL which was used in creating the database file where several database tables and forms were created.

Programming Languages

Scripting Language: (Hypertext PreProcessor) PHP and Java scrip was used for the work. Hypertext Markup Language was also used in coding the various modules of the project. PHP is a widely used open source general purpose scripting language

4.2.2.1 Adobe Dream Weaver CS 5

After compiling the PHP , Dream Weaver CS5 was used to design the layout of the web site. After Dream Weaver CS5 was released, Content Management System (CMS) was supported and PHP received better support. Designers using Dream Weaver CS5 could use not only the code hints to facilitate their search for a custom function but could also use this feature to design better CMS templates. Additionally Dream Weaver CS5 has some other new features such as integrated Browser lab network service that allows the developer to link to web browser in the laboratory and to use different browser to check the layout at the same time. In order to test the compatibility of PHP website with different browsers , the computer needed to be installed with several browsers . CS5 had in-built webkit engine included so that it could simulate Safari and Chrome and preview the layout thus reducing the amount of resources that would have been necessary for testing the layout.

4.2.2.2 Fireworks CS5

Fireworks CS5 is a bitmap and vector graphics editor formerly developed by Macromedia but now by Adobe since 2006. The main purpose of Adobe Fireworks is for creating expressive highly optimized graphics for websites. With Fireworks you can make websites , user interfaces and rich internet application (RIA) interfaces which are editable in both vector and bitmap modes. Fireworks has page/Master pages , layers, states and symbols. These are features that considerably speedup development of web designs. Fireworks allows you the designer to import layered *.psd* **files (**including live text) and native vector files from

illustrator. You can then use those assets to flush out an entire website, not only just a page . It enables you to create animations, rollovers, buttons and links for navigation and more with very easy ï to- understand menus and tools

4.3 Hardware Requirements

The hardware components of a computer system refer to the physical parts of the computer system which we can see and touch for example the keyboard, mouse, hard disk etc.

For this project to work efficiently in any computer system the table below shows minimum specifications or configurations of such a computer.

Table 4.1 Hardware Requirements

Processor	Computer with at least PentiumIII processor,600mhz
	Recommended :1 giga hertz;
RAM	At least 256 MB RAM
Hard disk	Minimum of 20 gigabyte hard disk size
Video	Minimum of 800x600, 256 colors
	Recommeded:1024x768, High color 32 Bit
Monitor	Color super visual graphics Adapter (SVGA) monitor
Keyboard	Any compatible PS/2, Serial or USB keyboard
Mouse	Any compatible PS/2, Serial or USB mouse
Printer	Laser jet printer

Increasing the processor speed and RAM size will improve the performance of the system significantly especially when the user is running multiple programs at the same time.

4.4 Portal form implementation:

This involves the implementation of the forms that will be used in the portal. These are designed keeping in mind the need for ease of usage and accessibility. This is important so as to enable the users interact with system with little or no difficulty. The major forms implemented in the portal are as follows;

4.4.1 Home Page Implementation:

Figure 4.1 below represents the home page that the visitors to the website see whenever they log onto the National Health Insurance Scheme internet portal. The URL for logging onto the portal is http://www.nhisng.org Visitors can access limited information from the About us, NHIS programs and Contact us menus. The Admin Click Here to login is specifically for the staff or administrators of the Scheme. When the button is clicked , the windows shown in figure 4.2 is opened for the authorized user to log on to the administrative menus that will enable the administrator to carry out the operations that he/she work with.

Home page implementation

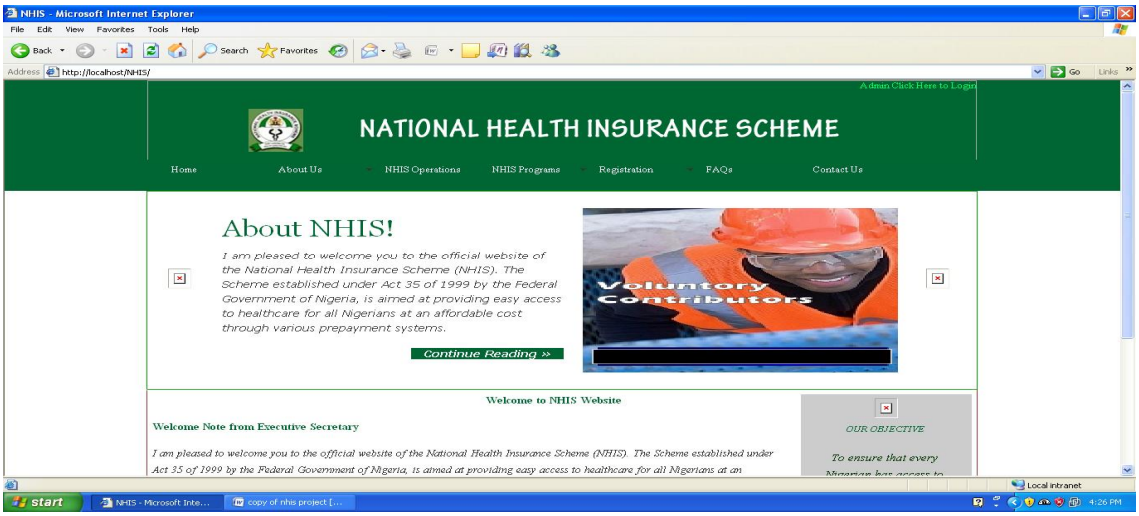

Figure 4.1 Home page implementation

4.4.2 Users Login Page:

Only authorized users or administrators of the scheme are allowed access beyond this window. As pointed out earlier when the user clicks the ñAdmin click Here to loginò in the home page , the page shown in figure 4.2a below is displayed for the user to log in by typing the users name and the corresponding password.

Users Login Page

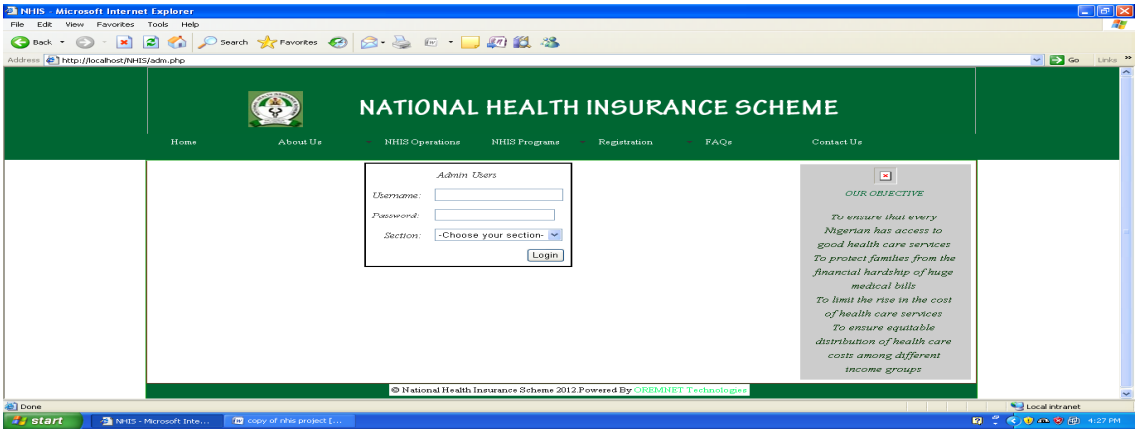

Figure 4.2 a : Users Login page without any entry from the user.

The user is also required to select whether he/she is either an admin staff or secretary as the case may be. The entries made by the user are then checked to ensure that the user is a true and authentic user of the system. If the entries are confirmed to be okay then the next page or window is displayed to the user.

The next page below is displayed when an admin or secretary enters his or her user name and password. The choose your section box arrow pointing downward is also clicked for the user to select his appropriate option.

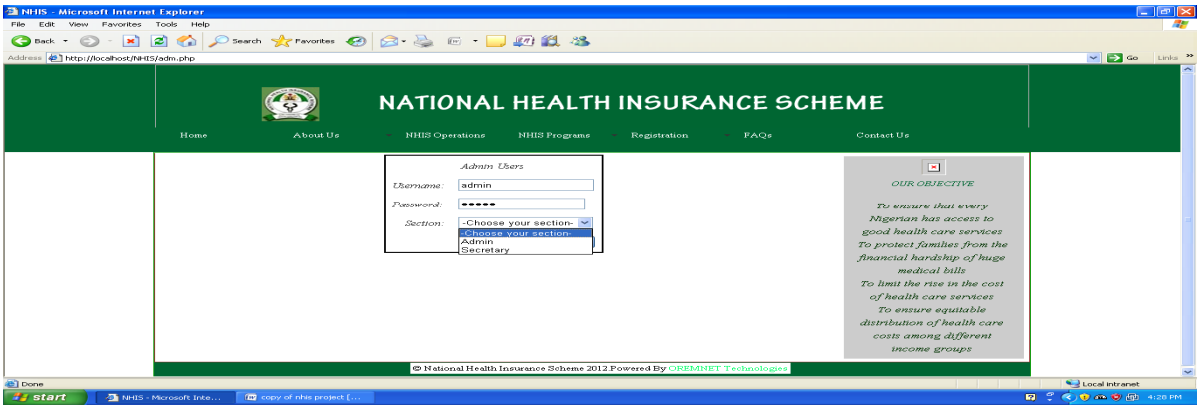

Figure 4.2b. Users login page with users entries

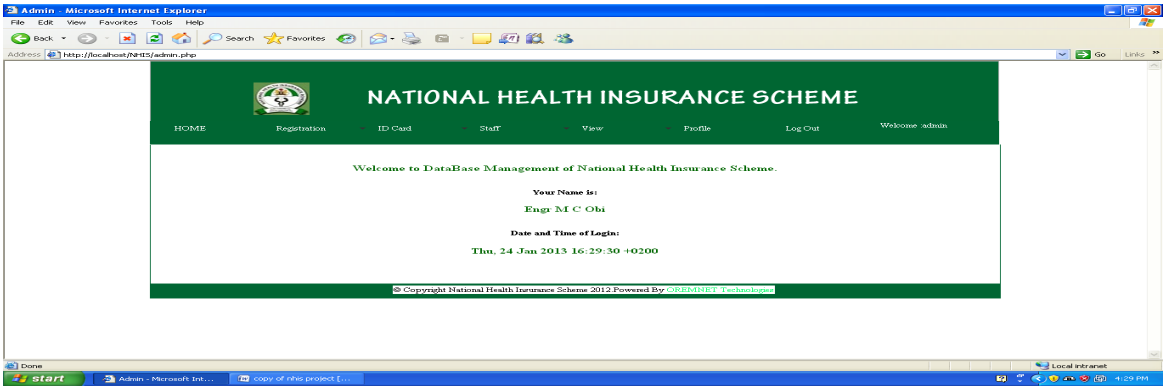

Figure 4.3 Page after the user has logged onto the administrative section of the website

4.5 Working With The Menu Items

When the user is allowed access he/she has can chose to work with any of the listed menu items as shown in figure4.4 below.

Assuming that the user chooses to click on the Registration menu option, a list of other pull down menu items are displayed. From the listed options, the user can place his mouse on any of the listed items to see other actions that are associated with each pull down menu item.

4.5.1 Page showing a pull down menu when the user clicks Registration menu item

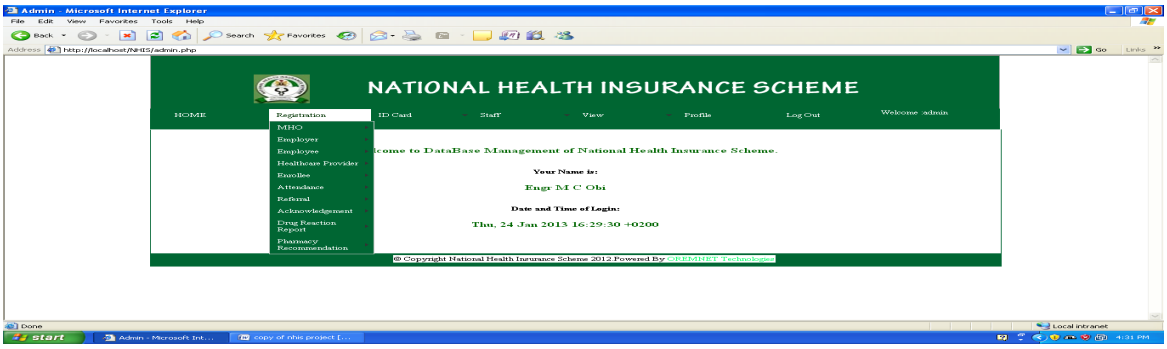

Figure 4.4 Page showing a pull down menu when the user clicks Registration menu item.

4.5.2 Page displaying list of actions that is associated with the MHO menu item

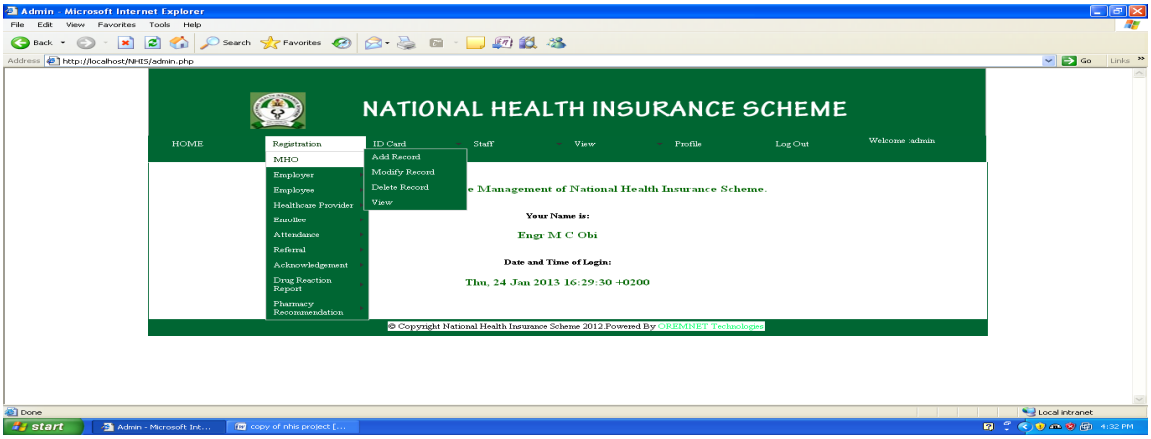

Figure 4.5 Page displaying list of actions that is associated with the MHO menu item

From the listed menu items, it is possible for the user to add, modify, delete or view records as the case may. The next Page shown in figure 4.6 is used to see how this is achieved. If the ñmodify record ñ option is chosen

The window that opens will enable the user to modify Health Management Organization. The next page that displays is opened and the user can modify or change the entire entries in the form in order to register a new HMO. When the user completes the form he/she has the option of clicking the update button so that the name of the HMO will be updated or stored in the central database or to click the clear button to enable the user discard the entries already made.

4.5.3 Page for selecting the category and the corresponding existing HMO for modification

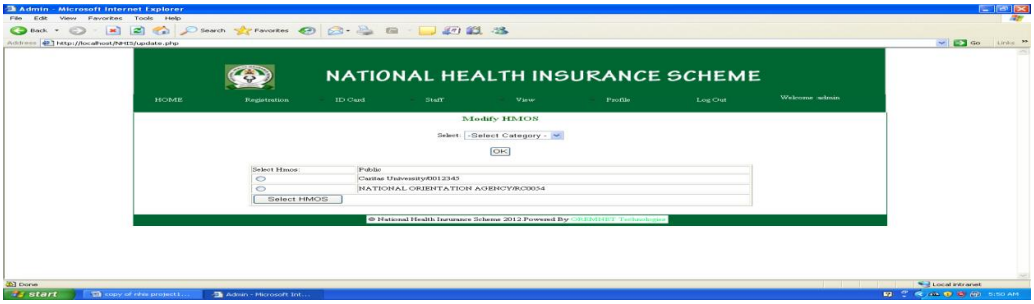

Figure 4.6 Page for selecting the category and the corresponding existing HMO for modification

The modify button is chosen when the administrator wants to update or make changes in the already stored record. When the action is chosen the page in figure4.6 is opened to enable the user to select the category and the corresponding HMO .

4.5.4 Page for selecting the category of HMO to modify

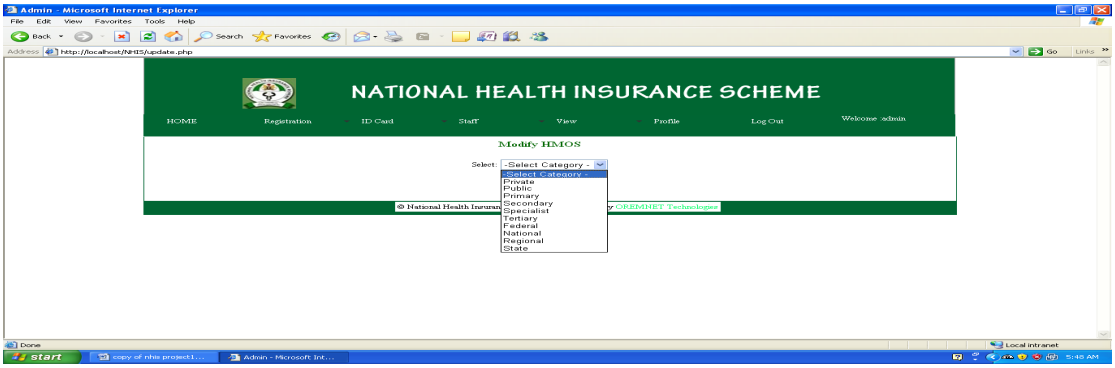

Figure 4.7 Page for selecting the category of HMO to modify

4.5. 5 Page that selected the category and the corresponding HMO for modification

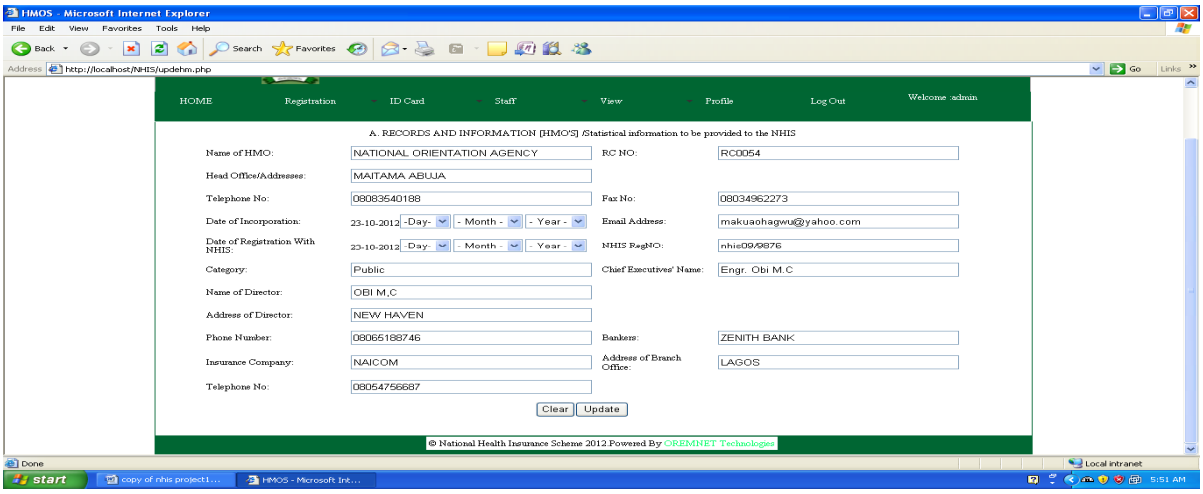

Figure 4.8 Page that selected the category and the corresponding HMO for modification

The user can effect the necessary modifications that are required in this page

4.5.6 Page that is used to add or register new HMO menu item

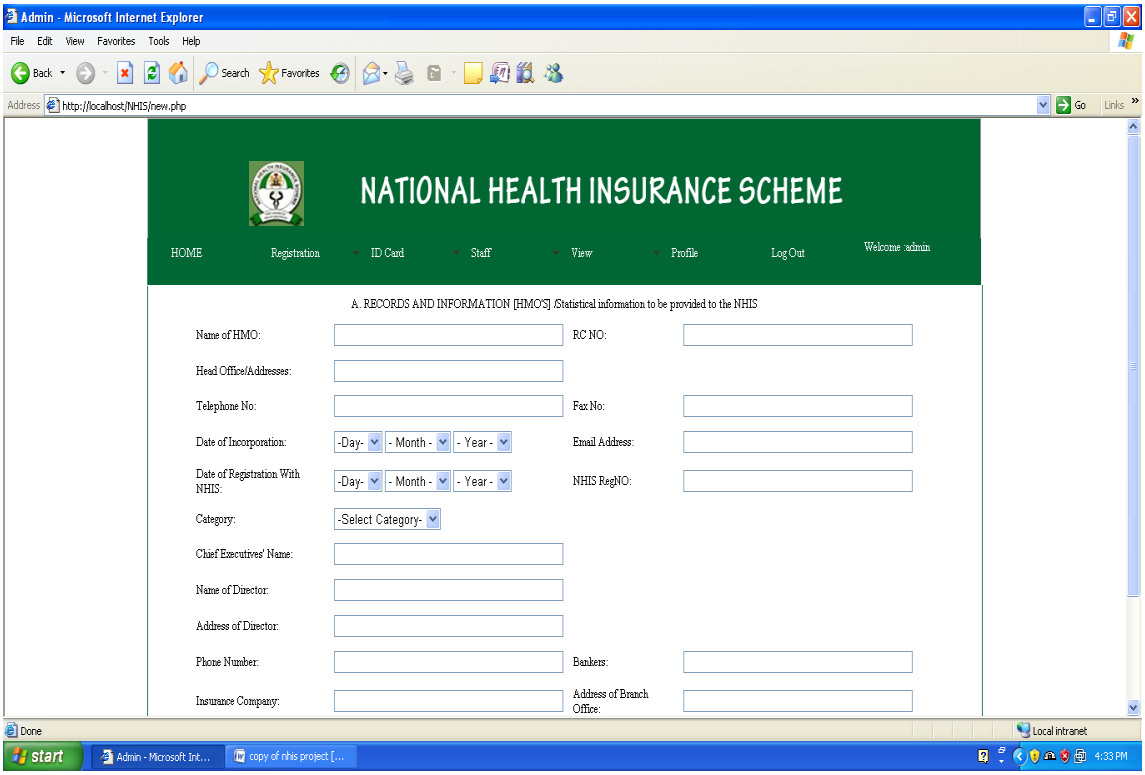

Figure 4.9 Page that is used to add or register new HMO menu item

From the listed menu items, it is also possible for the user to add new records as the case may. The next Page shown in figure 4.9 above is used to see how this is achieved. If the ñAdd record ñ option is chosen

The window that opens will enable the user to register new Health Management Organization. The next page shown above is opened and the user can fill or complete form to register a new HMO. When the user completes the form he/she has the option of clicking the register button so that the name of the HMO will be updated or stored in the central database or to click the reset button to enable the user discard the entries already made.

To view a list of registered HMOS , the view option is chosen. This is illustrated in figure 4.10 shown below

4.5.7 Page used to view list of registered HMOS

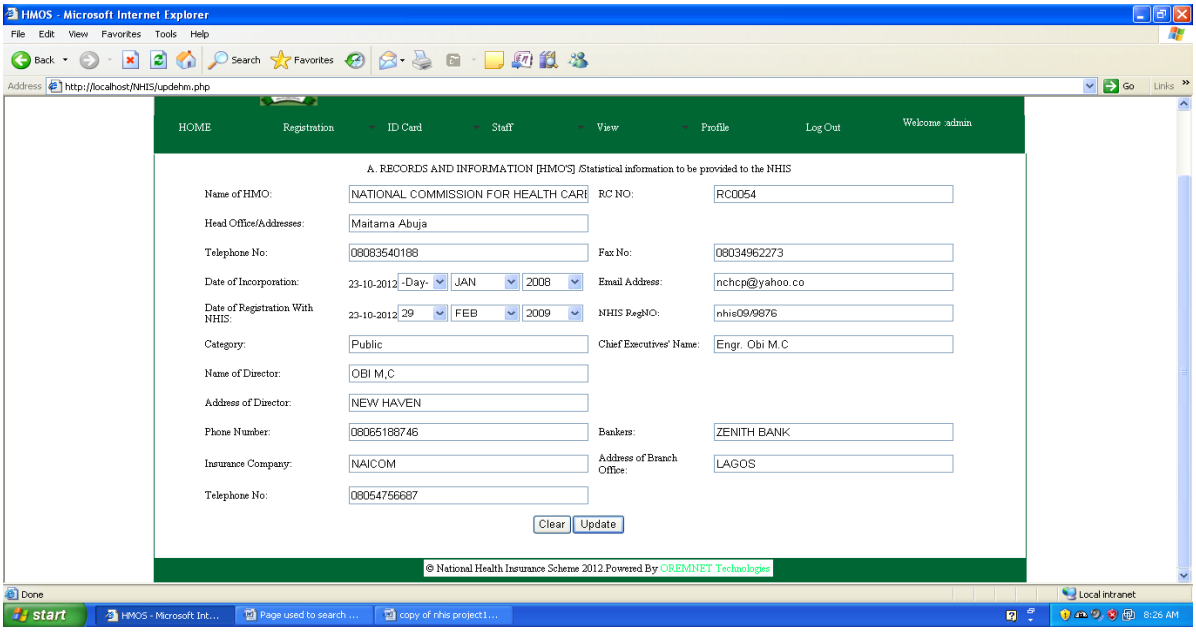

Figure 4.10 Page used to view list of registered HMOS

The above page is used to view list of already registered Health Management Organization. Presently only two HMOs namely Caritas University and National Commission for Healthcare providers are used to demonstrate the possibility of the process.

4.5.8 Page used for registration of new Employers

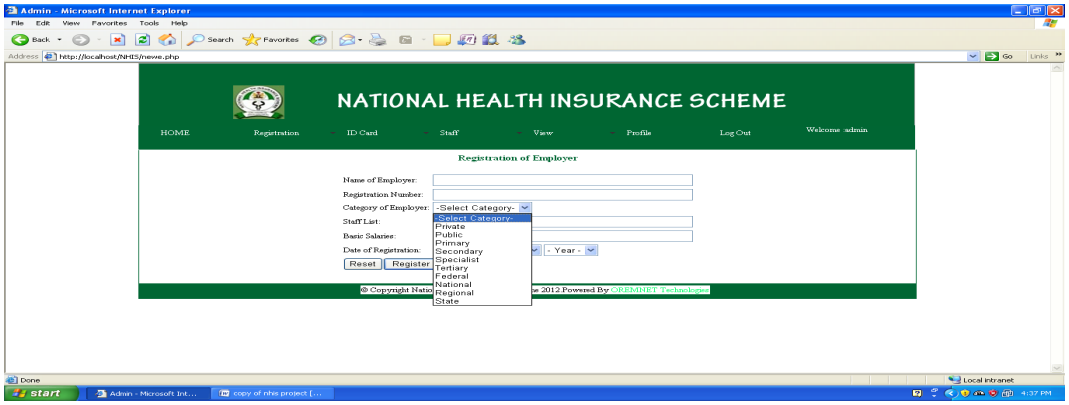

Figure 4.11 Page used for registration of new Employers

Employers who want to participate in the NHIS programme are expected to register with NHIS. The above designed page can be used to achieve this purpose. Here the user is required to complete the form or page. After the completion of the form, the register button is clicked to complete the registration process.

4.5.9 Page for viewing list of registered Employers

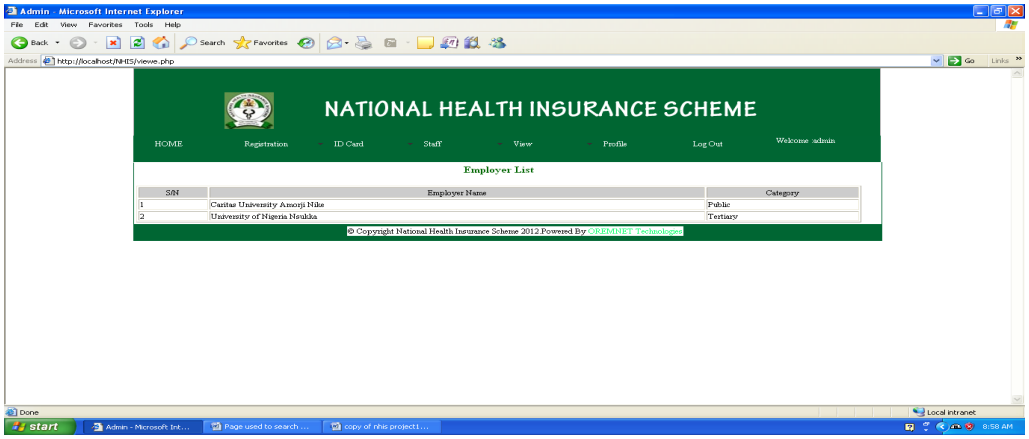

Figure 4.12 Page for viewing list of registered Employers

The user can view the list of employers that are registered with NHIS. As shown in the page only two employers are used to demonstrate the possibility of this process.

4.5.10 Page for viewing registered Health Care Providers

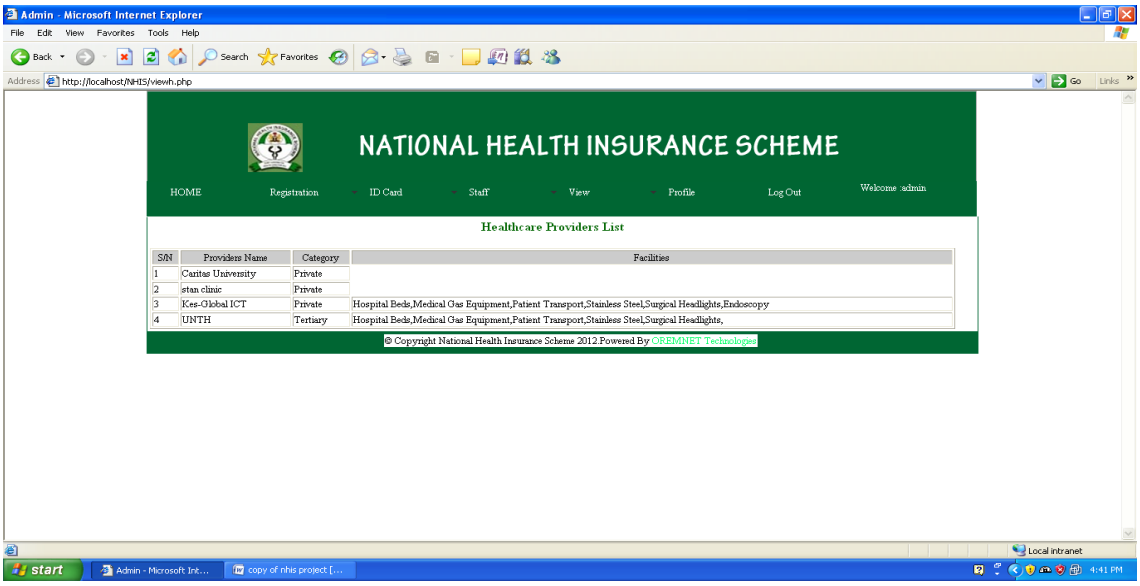

Figure 4.14 Page for viewing registered Health Care Providers

The above page is used by the administrator or NHIS staff to register new Health Care Providers. In this page the user can click on the register button after completing the form in order to finish the registration process.

4.5.11 Page for registering new Health Care Providers

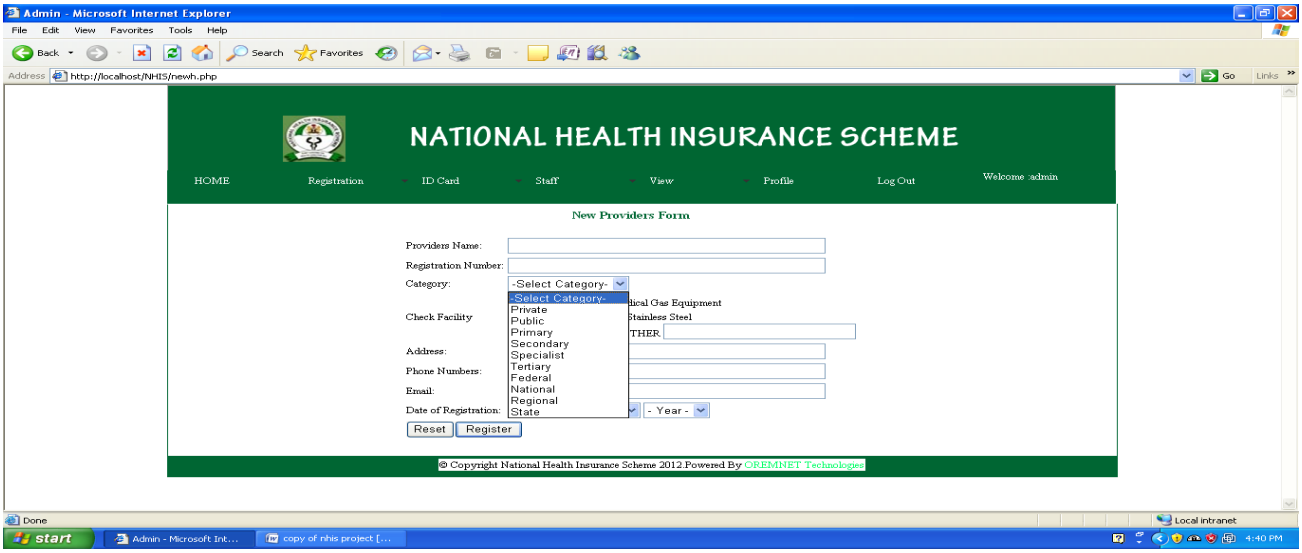

Figure 4.14 Page for registering new Health Care Providers

The above page is used by the administrator or NHIS staff to register new Health Care Providers. In this page the user can click on the register button after completing the form in order to finish the registration process.

4.5.12 Page used for quarterly registered enrollees

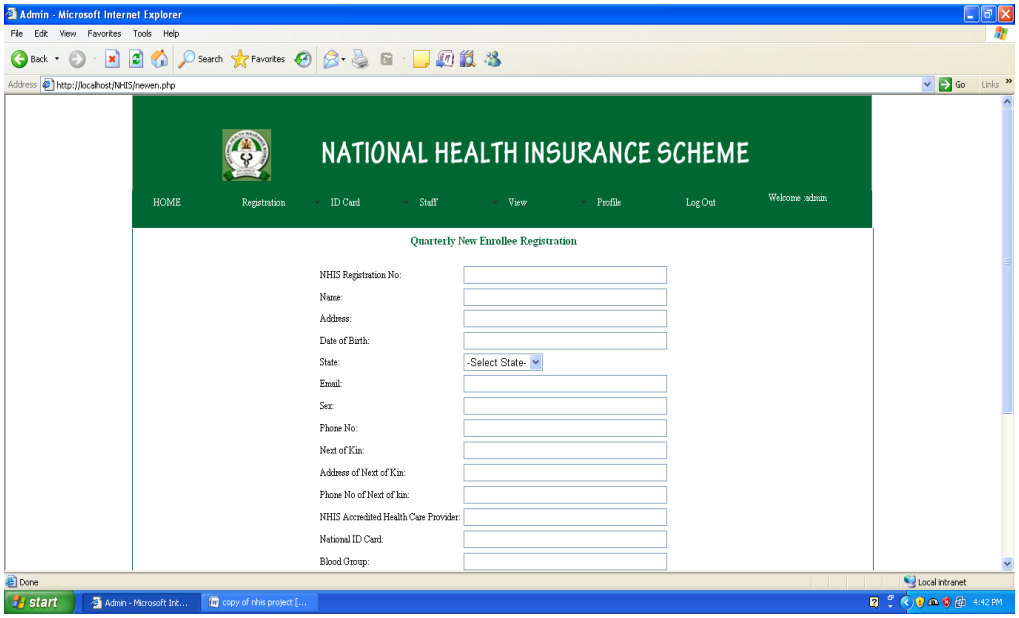

Figure 4.15 Page used for quarterly registered enrolees

The above page is used by the administrator or NHIS staff to register new enrollees. In this page the user can click on the register button after completing the form in order to finish the registration process.

4.5.13 Page used for registering new enrollees

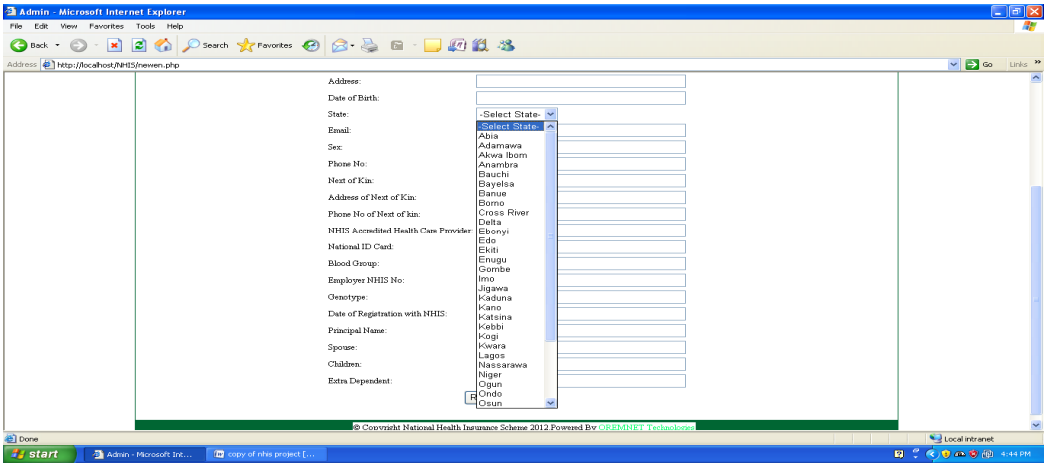

Figure 4.16 Page used for registering new enrollees

The above page is used by the administrator or NHIS staff to register new enrollees. In this page the user can click on the register button after completing the form in order to finish the registration process. A register button not shown in this page is clicked by users when the necessary entries have been made.

4.5.14 Attendance Page

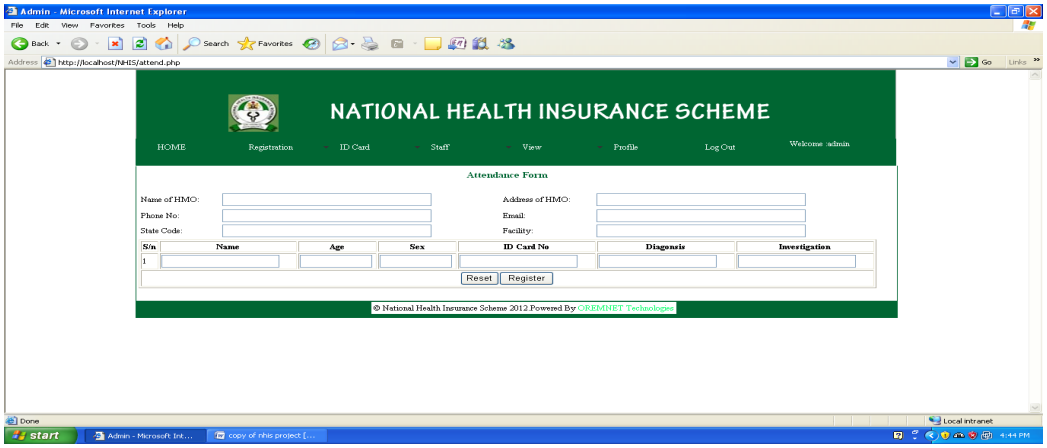

Figure 4.17 Attendance Page

The above page can be used by the NHIS accredited health care providers to record names of enrolees that received medical treatment for some time. The list is usually sent to the appropriate Health Management Organization for further processing.

4.5.15 Referral Page

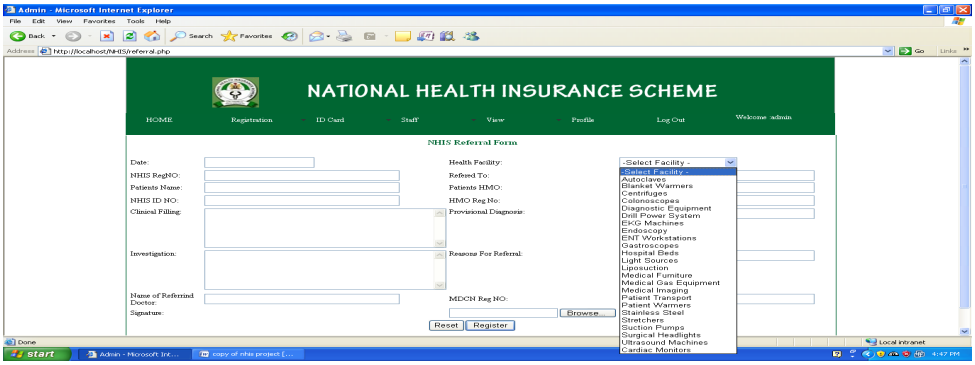

Figure 4.17 Referral Page

Referral Page is used by the Health care Professionals to refer cases from one health facility centre to another. The page has provision for sending patient details to the health facility that the patient is being referred to. An email box is provided for these details to be forwarded to facility where the case is referred to for further investigations.

4.5.16 Acknowledgement page

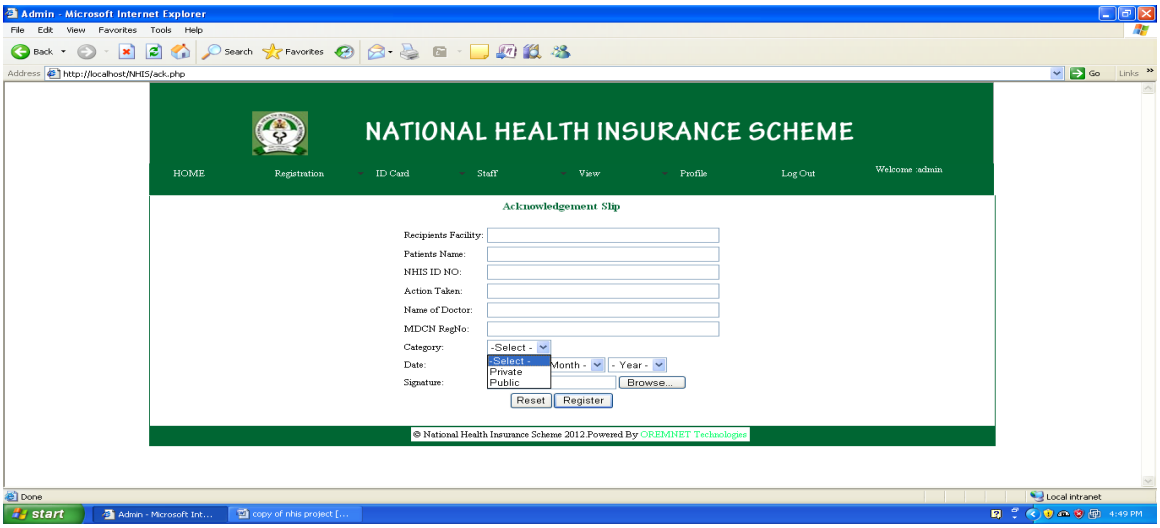

Figure 4.18 Acknowledgement Page.

The health facility where a case is referred to uses this page to acknowledge receipt of such a case and also to indicate the necessary actions taken after receiving the case.

4.5.17Adverse drug reaction page

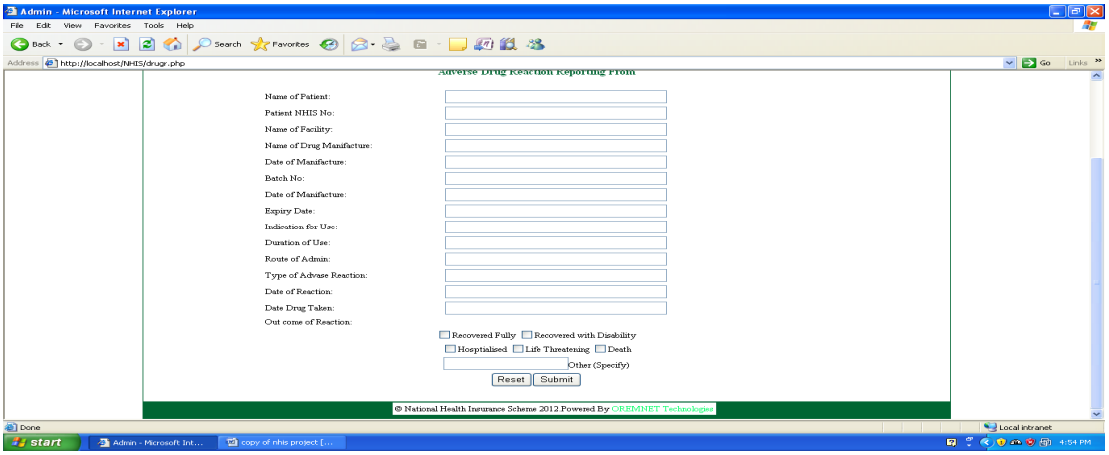

Figure 4.19 Adverse drug reaction page

The adverse reaction page is used to report a case of the harmful effects a patient encountered after certain types of drugs are administered to him/her in order to prevent further application of such drugs and also to ensure that necessary remedial measures are taken t safe the patient.

4.5.18 Page used to search or check for whether a health care or HMO is registered with NHIS

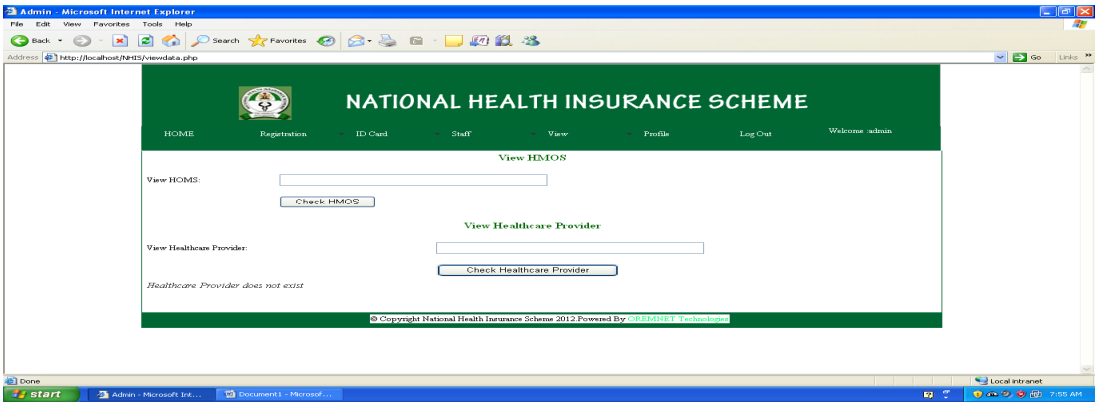

Figure 4.20 Page used to search or check for whether a health care or HMO is registered with NHIS

Figure 4.20 above is used when a user wants to find out if an organization or healthcare provider is actually registered with NHIS programme. The user enters the name and the NHIS registration number in the space provided for it. The appropriate check button is therefore clicked by the user to page and if the search is successful, a message to that effect is displayed accordingly.

4.5.19 Page for preparing identity card for registered enrollees

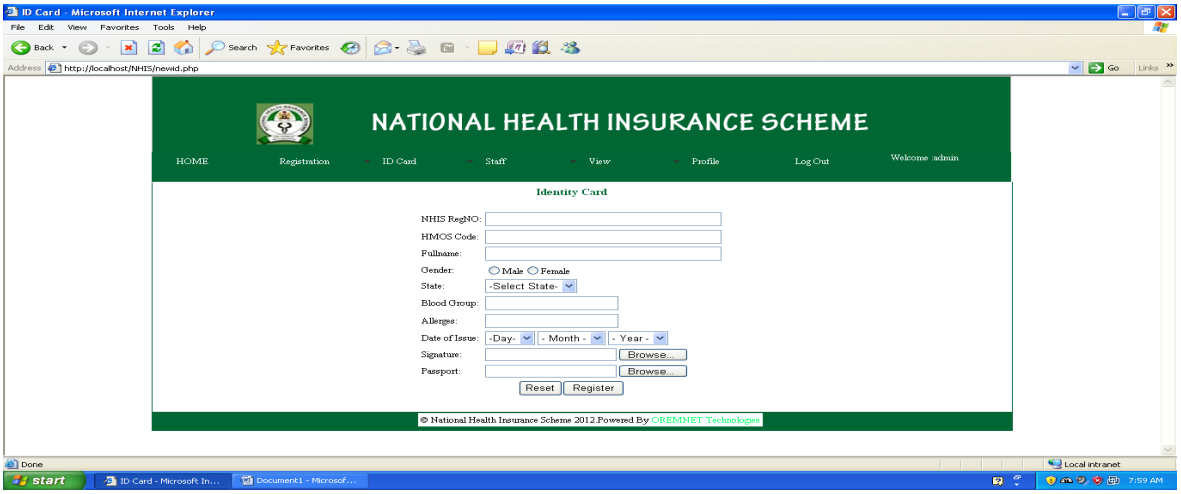

Figure 4.21 Page for preparing identity card for registered enrollees

The above page is used to prepare an identity card for an enrollee. In the page, a browsing box is provided for accessing both the enrollees passport and signature which are stored on a file in either scanned image format or by any other storage media

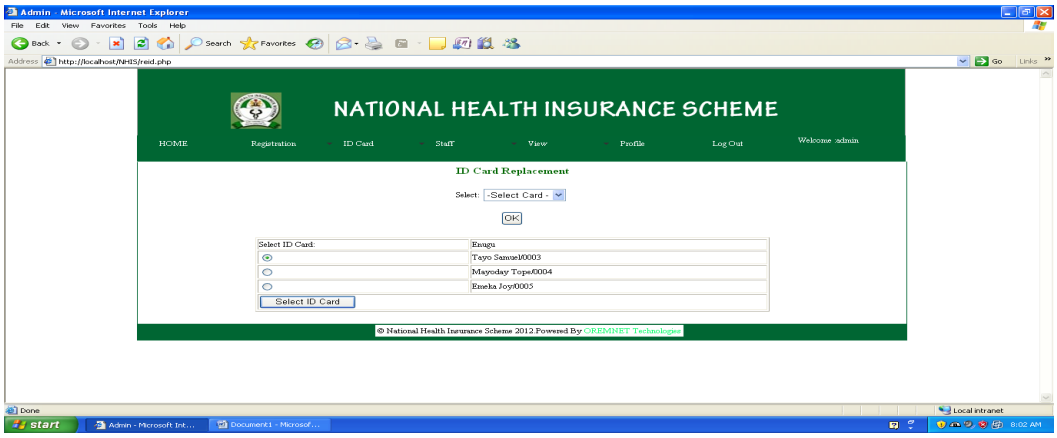

Figure 4.22 Page used to select names whose identity card will be replaced

The above page is used when a user wants to replace or modify an existing passport. T o carry out this task the administrator is required to select the persons state where his record is stored. When this is done a list showing names of people whose identity cards are stored is displayed for the admin staff to select the appropriate name. Thereafter the record of the enrollee is displayed for the necessary modifications to be effected.

4.5.20 Page displaying an enrollee whose identity card is to replaced

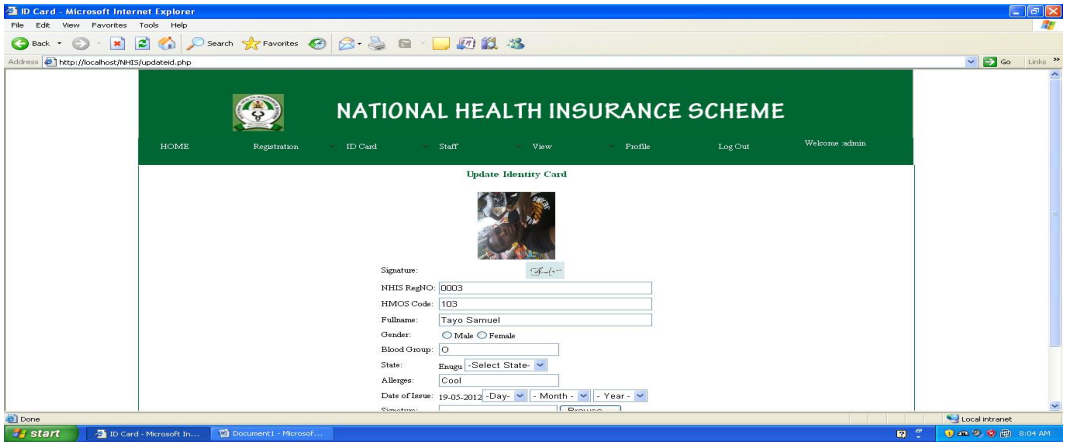

Figure 4.23 Page displaying an enrollee whose identity card is to replaced

4.5.21 Page for adding new staff

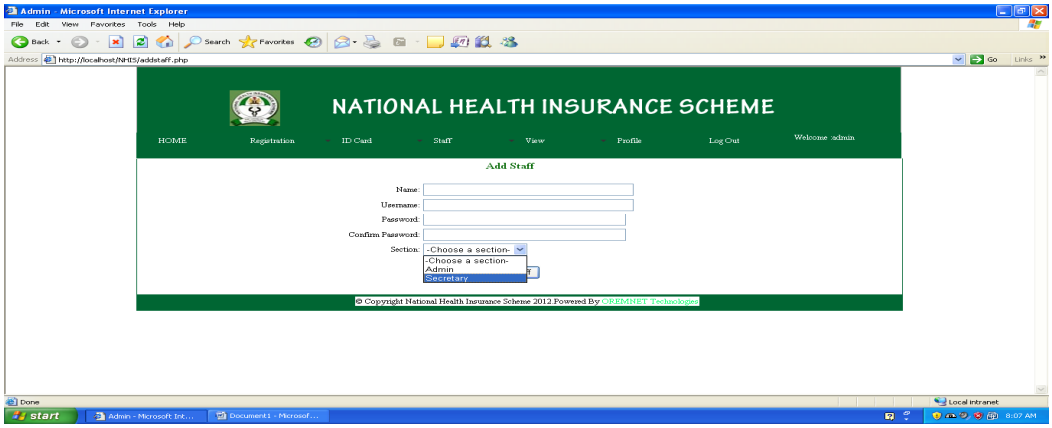

Figure 4.24 Page for adding new staff

When a new staff is employed, there is need to a the names of the staff to the database. The above page is used to achieved this purpose. The page is accessed from the home page menu items.

4.5.22 Pharmacy recommendation page for handling the adverse drug reaction case

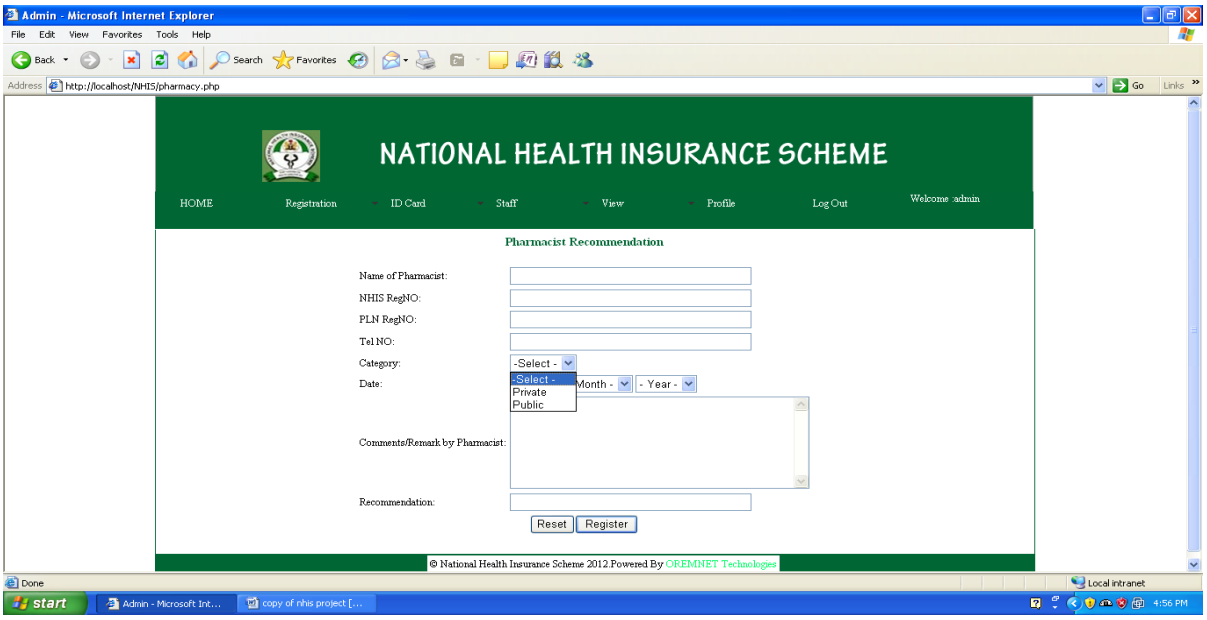

Figure 4.25 Pharmacy recommendation page for handling the adverse drug reaction case

Figure 4.26 is used by a registered Pharmaceutical company to make recommendations on how to deal with a case of adverse drug reaction observed when a patient body chemistry does not react favourably to a particular drug.

4.5.23 Page for processing new identity card

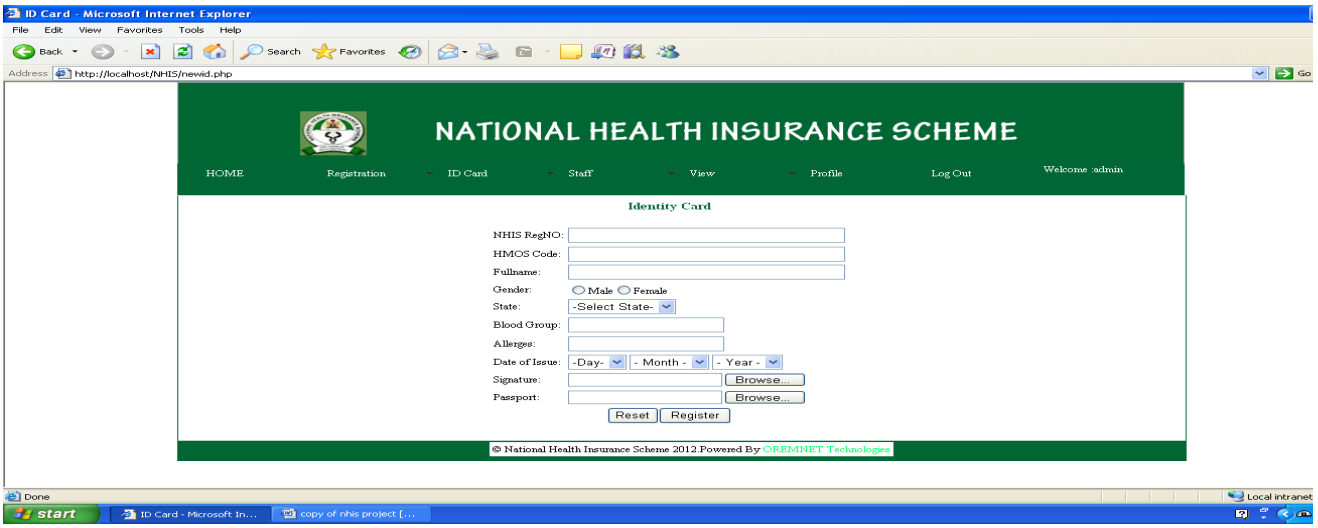

Figure 4.26 page for processing new identity card

The above page is used to prepare an identity card for an enrollee. In the page, a browsing box is provided for accessing both the enrollees passport and signature which are stored on a file in either scanned image format or by any other storage media .

4.6 System Testing:

System testing is all about the tests conducted on this work to confirm whether it works as expected. Black box testing method is used in testing this work. This means that the user may not know the inner or internal design of the software code or logic.

In this case , software testing is any activity aimed at evaluating the performances or the capabilities of the system and determining whether it meets the required results. It is also the process of executing a program or system with a view to finding out whether there are errors that are needed to be corrected. Developing a good and logically sound test plan is vital to developing a bug free software system. Table 4.2 below depicts a few tests carried out, results obtained and conclusions which were based on the results.

Table 4.2 Unit Test Plan

UNIT TEST PLAN	EXPECTED RESULT	ACTUAL RESULT AND CONCLUSION
TESTED DATA Login onto the home using Mozilla fire work and the intended website address http://www.nhisng.org or local host	Expected to open the Home page	The NHIS home page actually opened .This confirms the entry point into the portal to be functional
About us menu	Expected to display a little information about NHIS	The page also displayed the required information. This is a further confirmation of the working conditions of the work
Clicking the ñAdmin click here to logonò	Expected to open the page where the user will logon onto the administrative pages	The page required was opened. Therefore the program is working well
Placing your mouse pointer on one of the menu bar items	Expected to display pull down menu items associated with that menu option	Registration menu was used to confirm how this is working and from the pages already displayed we can confirm this on figure 4.4 above
Adding a record using MHO Clicking the add record option on the MHO option	A new page to enable the user to complete details of the MHO is expected to open	When the user completed the required information and clicked the register button, a message indicating a successful update was displayed, an indication of functional system
Processing identity card: Clicking the identity card menu item	Page that will enable the user to process identity card will open for this process to be carried out	Various identity cards were processed by the system as exemplified by the above

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.1 Summary

The NHIS is a social security system put in place by the federal government to provide universal access to health care service in Nigeria. The scheme covers civil servants, the armed forces, the police, the organized private sector, students in tertiary institutions, self employed, vulnerable persons, the unemployed among others. More than twenty years after the scheme became operational in Nigeria, inadequate and outdated medical equipment, perennial shortage of medical personnel, lack of awareness and poor funding are jointly affecting the potency of NHIS in Nigeria. The provision of quality, accessible and affordable health care to all Nigerians would remain a mirage if these problems that weaken the potency of the scheme are not properly addressed. We therefore suggest that the recommendations made herein be strictly followed.

National Health Insurance Scheme being an initiative of the Federal Government of Nigeria designed to make health care delivery affordable to the beneficiaries of the programme at relatively cheaper rates through the Federal Ministry of Health. The programme is no doubt an encompassing one where many of the Federal Government ministries and other agencies of government have keyed into. The web based health management system for National Health Insurance Scheme is an Internet based system designed to facilitate the activities associated with the programme to be carried out online. The major thrust of designing such a system is to reduce some of the major problems that the operators of the scheme as well as other stake holders do encounter. Some of these problems have already been discussed in the earlier chapters of this work. In order to carryout and accomplish this project the activities and other important aspects of the work are grouped into various tasks and menus. The home page of this work is used to showcase some of these activities. In the home we have the following menus which form the major bulk of the works in this project. They include Home, About us, NHIS operations, NHIS programs, Registration, FAQs, and Contact us. Each of the menu items is used to achieve specific objectives. When an authorised user of the project logs onto the administrative parts of the portal, more menu options are opened . At this juncture the user can carry out different operations based on what he/she wants to do. For instance the user can perform so many activities from the registration menu. The user is also privileged to prepare an identity card for an enrolee, add new staff, view the database to

check for Health Management Organizations and Health care providers that have registered with the scheme. The registration menu is used to carryout different tasks such as registration of new Health Management Organizations, Health Care providers, Pharmaceutical companies, Employers, Enrolees and as well as other important stake holders such as tertiary Institutions, armed force personnel and the non government organizations. A lot of program modules were developed using different programming languages as explained earlier in the previous chapters. The aspect of this project that is worth mentioning is the issue of referral cases. The programme was designed to enable details of the patients history which are still being investigated to be mailed to the health facility centre where the case is being referred to thereby making it unnecessary for the case to be started afresh. This is a complete departure from what used to be the case before where a case that has been referred from one facility to another to always start the case afresh due to lack of previous information from the referring health facility. It is also possible with the new system for one to change from one health care provider to another arising usually from transfer of staff from one place to another. All these and more are some of the important features of this work.

The researcher reviewed and compared how this kind of program is carried or implemented from one country to another. Some of the countries include France, United states of America, Germany and Japan. However it was not possible for the researcher to find how the scheme is being implemented on the internet. So the basis for comparison is hinged on the literature review of how the various governments has been supporting the programme both financially and otherwise.

5.2 Limitations of this Project:

Many of the intended activities have been achieved . However there are some limitations that are still posing very big challenges to the full implementation of the website. This work has not been able to address such problems. The major aspect of this problem in the area of biometric data capturing the enrolees in the scheme. Biometrics data capturing machine for capturing thumb prints of the enrolee is required to enable the administrator capture relevant data of the enrolees so as to help check problems arising from duplication of registration of prospective enrolees. This is a major problem posing very great challenge to the NHIS project.

Another major task that is not currently addressed in this project is the generation of hardcopy reports or completed forms such as printing of identity cards from the page where it was prepared.

5.3 Suggestions for further Studies:

Every system no matter how well designed or built must always have one or more limitations. Therefore it is very difficult to put in all that is required to satisfy 100% of the needs of the operators of this scheme. This means that this system does not in any way cover all the grounds that may be necessary to satisfy all the stakeholders that may be accessing this system.

As a result of the above mentioned limitations it is expected that this project can be enhanced further by extending the scope of program development to accommodate the following;

Development and integration of a Biometric Data Capturing System

Development and integration of Biometric data capturing system or machine to scan or capture the thumb prints of enrolees for further identification purposes. This is required to assist in tracking down or reducing incidences of fraudulent double registration by the enrolees.

Integrating This system with other existing systems at various Health Care Facility Centres.

With more understanding of the workings of this system and also the operations at major tertiary NHIS accredited hospitals in Nigeria, the integrating this system with their existing health care information system will no doubt be a further stepping stone in enhancing the health care delivery services in most our tertiary health institutions and the National Health Insurance Scheme.

Integration of an Online Banking System

Another important area that will enhance the operations of the scheme is the integration of appropriate online banking system for the automation of banking practices of all the stake holders such that remittances and other financial transactions by the stakeholders can be faster and enhanced.

5.4 Recommendations:

On the strength of this study finding, the following recommendations were made:

- Government and other stakeholders should gear up the awareness campaign in all the senatorial districts in every State. The print media, television and radio stations should be mobilized to air NHIS programmes in the state. Village heads, chiefs and religious leaders

- should also help in the propagation of programme in all States and the nation in general.
- Hospitals, clinics and health care centres providing health service for NHIS beneficiaries should be properly equipped. Since private clinics and labs are involved in the scheme, government should also provide counterpart funding to ensure that these establishments are properly equipped.
- Adequate and well trained medical personnelôs should be employed to manned the various hospitals, clinics, labs and health care centres where NHIS is providing health services to its beneficiaries. In-service training should be organized to boost the knowledge of the
- existing staff in the health sector. Private hospitals/clinics participating in the scheme should be
- mandated by government to ensure that proper and adequate personnelôs are employed and trained.
- Government should increase funding to NHIS in particular and the health sector in general.
- Government agencies responsible for fighting corruption should peruse the activities of NHIS to ensure that corruption do not limit and weaken the scheme like other programmes in the country.

The benefits of using a computerised health management Information system such as this new system in carrying out the day to day operations of National Health Insurance Scheme cannot be overemphasized. This is because the system will help not only in enhancing speed of data processing and retrieval , accuracy of data/report, prompt information delivery as at when and where required but will also assist tremendously in reducing delays, redundancy of data , missing of important data records and elimination inefficiency and ineffectiveness. Considering the importance and great assistance this system is expected to render, the researcher considers it necessary to make the following further recommendations;

Training of the Users

In order to appreciate the full benefits and potentials of this system, it is recommended that the operators of the system undergo training in order to understand and use the system to their full advantage.

Maintenance of the system

Necessary measures should be put in place to ensure regular and easy maintenance of the system when the need arises. The program is developed in such a way as to allow for integration with other program modules without much difficulty.

Testing and deployment of this system to the operations of NHIS

The management and staff of NHIS no doubt will find this system useful in their daily operations. Therefore the system is being recommended for testing and deployment in their present efforts in re-engineering their ICT department.

5.5 Bill of Engineering Measurement and Evaluation

Table 5.1 Bill of Engineering Measurement and Evaluation

Item	Cost
HP Compaq system	150,000.00
Wamp server (PHP-mysql)	9000.00
Airtel 3.5G HSDPA modem	5000.00
PHP Script	8000.00
Project printing	5800.00
Project Hosting	20,000.00
Project binding	1500.00
GRAND TOTAL	**N203,800.00**

5.6 Conclusion

Experts and industry watchers have agreed that the coming into operation of the National Health Insurance Scheme will usher in a new era of improved healthcare service delivery in the country. Therefore efforts towards the development and integration of a web or an internet based health management information system such as this system are no doubt worthwhile efforts. At present this system is capable of assisting NHIS and other stake holders in carrying most of their fundamental basic operations. The system has been tested and found to be working according to specifications. This means that if it fully integrated and deployed most of the already present shortcomings of the system such as waiting period of sixty days before an enrollee begins to enjoy the NHIS benefits will be eliminated. This is because the delays are caused by the manual processing of information and also lack of central database for the daily routine activities of NHIS and other stake holders. The system is user friendly and interactive. This means that a little training is required for a user of the

system to work with it independently. Different Graphical user interface windows were developed to guide the user while working with system. Finally there is the need for the National Assembly to enact an act to upgrade the scheme to a Commission so that it will expand its scope when it becomes National Health Insurance Commission

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APPENDIX A

DEFINITION OF HEALTH CARE TERMS

Health care provider

A **health care provider** is an individual or an institution that provides preventive, curative, promotional, or rehabilitative health care services in a systematic way to individuals, families or communities.

Desk Officer Desk Officer is the staff that is responsible for coordinating major activities of the NHIS such as registration of enrollees .

Medical Facility

A **medical facility** is, in general, any location at which medicine is practiced regularly. Medical facilities range from small clinics and doctor's offices to urgent care centers and large hospitals with elaborate emergency rooms and trauma centers.

Practitioners and Professionals

Health care practitioners include physicians, dentists, pharmacists (including clinical pharmacists), physician assistants, nurses (including advanced practice registered nurses), midwives, etc. **Mental health practitioners** A mental health practitioner is a health worker who offers services for the purpose of improving an individual's mental health or treating mental illness. These include psychiatrists, clinical psychologists, clinical social workers, mental health nurse practitioners, marriage and family therapists, as well as other health professionals and allied health professions.

Maternal and Newborn Health Practitioners A maternal and newborn health practitioner is a health worker who deals with the care of women and their children before, during and after pregnancy and childbirth. These include obstetricians, obstetrical nurses, midwives (including nurse midwives), nurse practitioners, and others**.**

Geriatric Care Practitioners A geriatric care practitioner plans and coordinates the care of the elderly and/or disabled to promote their health, improve their quality of life, and maintain their independence for as long as possible.

Surgical Practitioners A surgical practitioner is a health worker who specializes in the planning and delivery of a patient's preoperative care, including during the anesthetic, surgical and recovery stages. They may include general and specialist surgeons, anesthesiologists, nurse anesthetists, surgical nurses, clinical officers, operating department practitioners, anesthetic technicians, surgical technologists, and others.

Rehabilitation Care Practitioners A rehabilitation care practitioner is a health worker who provides care and treatment which aims to enhance and restore functional ability and quality of life to those with physical impairments or disabilities.

Dental Care Practitioners A dental care practitioner is a health worker who provides care and treatment to promote and restore oral health. These include dentists and dental surgeons, dental assistants, dental auxiliaries, dental hygienists, dental nurses, dental technicians, dental therapists, and related professional titles.

Foot Care Practitioners Care and treatment for the foot, ankle, and lower leg may be delivered by podiatrists, foot health practitioners, podiatric medical assistants, podiatric nurse and others.

Public Health Practitioners A public health practitioner focuses on improving health care among individuals, families and communities through the prevention and treatment of diseases and injuries, surveillance of cases, and promotion of healthy behaviors. This category includes community and preventive medicine specialists, public health nurses, dietitians, environmental health officers, paramedics, epidemiologists, health inspectors, and others.

Traditional and Complementary Medicine Practitioners In many societies, practitioners of traditional medicine or alternative medicine are an important primary health care provider, either as integrated within or remaining outside of the formal health care system. These include practitioners in acupuncture, Ayurveda, herbalism, homeopathy, naturopathy, Siddha medicine, traditional Chinese medicine, traditional Korean medicine, and Unani.

Appendix B

HMO ACCREDITATION GUIDELINES

A Health Maintenance Organization (HMO) is a private or public incorporated company registered by the Scheme solely to manage the provision of health care services through Health Care Facilities accredited by the Scheme.

Eligibility

Any group of persons or organization of proven and impeccable character may be eligible to form a company (private or public) and apply for registration as an HMO under the Scheme.

No HMO shall appoint or have in its employment a Director, Chief Executive, Manager or Secretary if he/she:

- Is or becomes of unsound mind , or as a result of ill health, is incapable of carrying out his duties;
- Is convicted of any offence involving dishonesty or fraud;
- Is not a fit and proper person for the position;
- Is guilty of serious misconduct in relation to his duties;
- In the case of a person with professional qualification; has been disqualified or suspended from practising his profession in Nigeria by the order of any competent authority made in respect of him personally.

Conditions for Accreditation

Any company applying for accreditation under the Scheme shall meet the following requirements:

- Register with the Corporate Affairs Commission.
- Shall provide necessary documents such as Original Certificate of Incorporation, Articles and Memorandum of Association would be sighted and verified, statement of audited account for the past three years, organisational structure of the establishment, and insurance cover with NHIS
- A minimum paid-up share capital requirement of HMOs shall be as follows:

  A **National HMO** shall be required to have a fully paid up share capital of **N400 million** naira Zonal **N200Million** and state **N100 Million** and subject to review by the NHIS .

A National HMO shall have:

- A National Head Office
- An office in every geopolitical zone
- An office in every state where the HMO has 5000 or more enrolees
- At least 3 official vehicles in the national head office

- At least 2 official vehicles in each state office
- Each office shall be fully furnished and well equipped and headed by a bureau
- Chief (HMO shall be at liberty to adopt its own nomenclature)
- Each zonal/state office shall have a minimum of four departments whose mandates
- Will be Human resources and administrations, Health services and quality
- Assurance, ICT and Finance
- The staff of the HMO zonal/state offices shall be authorized to fully represent and
- Carry out the functions of an HMO as specified in NHIS Operational Guidelines.

A Zonal HMO shall have:

- A Zonal Head Office
- An office in every state in the geopolitical zone.
- An office in senatorial district where the HMO has 5000 or more enrollees within that geo-political zone
- At least an official car in each office.
- Each office shall be fully furnished and well equipped and headed by a bureau chief (HMO shall be at liberty to adopt its own nomenclature)
- Each Zonal HMOôs office shall have a minimum of four departments whose mandates will be Human resources and administrations, Health services and quality assurance, ICT and Finance
- The staff of the HMO state offices shall be authorized to fully represent and carry out the functions of an HMO as specified in NHIS Operational Guidelines

A State HMO shall have:

- A State Head Office
- An office in every senatorial district within the State.
- An office in every Local Government Area where the HMO has 5000 or more enrollees within the State
- At least an official car in each senatorial/LGA office.
- Each office shall be fully furnished and well equipped and headed by a bureau chief (HMO shall be at liberty to adopt its own nomenclature)
- Each Zonal HMOôs office shall have a minimum of four departments/units whose mandates will be Human resources and administrations, Health services and quality assurance, ICT and Finance
- The staff of the HMO offices shall be authorized to fully represent and carry out the functions of an HMO as specified in NHIS Operational Guidelines

Functions Of Health Maintenance Organisations (HMOs)

The functions of HMOs shall include the following:

- The collection of contributions from voluntary contributors as well as registered employers and employees under the private health insurance/where applicable
- Effect timely payment of capitation to Primary Facilities and fee-for- service to Secondary and Tertiary Facilities
- Ensure effective processing of claims (Secondary Services)
- Rendering to the Scheme monthly returns on capitation and fee-for service payment within 30 days of the following month
- Collection and submission of encounter data forms from HCFs to NHIS
- Contracting with only Health Care Facilities accredited by the Scheme for the purpose of rendering health care services
- Ensuring that contributions are kept in the Schemeôs accredited banks
- Establishing and ensuring a quality assurance system for the provision of quality health care by Health Care Facilities.
- Quality Assurance monitoring of HCFs by HMOs shall be quarterly and the reports sent to NHIS within 1Month.
- Ensure timely approval of referrals and undertake necessary follow up to complete referrals
- Carry out continuous sensitization of enrollees
- Marketing in accordance with NHIS *Guidelines*
- Market health plans to employers/enrollees
- Collect appropriate contributions and make necessary payments to the appropriate pools in a timely manner
- Rendering accounts to the NHIS as stipulated in NHIS Operational Guidelines
- Comply with other provisions as spelt out in the Operational Guidelines
- Carrying out such functions as are contained in the NHIS Operational Guidelines.

Appendix C

NHIS OPERATIONAL GUIDELINES

Guidelines For The Operations Of The Formal Sector Social Health Insurance Programme

The Formal Sector Social Health Insurance Programme is a social health security system in which the health care of employees in the Formal Sector is paid for from funds created by pooling the contributions of employees and employers.

The Formal Sector consists of the following:

- Public Sector
- Organised Private Sector
- Armed Forces, Police and Allied Services
- Students of Tertiary Institutions and
- Voluntary Contributors

Guideline For Public Sector And Organized Private Sector

Membership

Employees of the public and organized private sector employing ten (10) or more persons shall participate in the Programme.

Waiting Period

There shall be a processing (waiting) period of sixty (60) days before a participant can access services.

Scope of Coverage

The contributions paid cover healthcare benefits for the employee, a spouse and four (4) biological children below the age of 18 years. More dependants or a child above the age of 18 would be covered on the payment of additional contributions from the principal beneficiary. However children above 18 years who are in tertiary institution will be covered under Tertiary Insurance Scheme.

Benefit Package

Healthcare providers under the Scheme shall provide the following benefit package to the contributors:

- Out-patient care, including necessary consumables;
- Prescribed drugs, pharmaceutical care and diagnostic tests as contained in the National
- Essential Drugs List and Diagnostic Test Lists;
- Maternity care for up to four (4) live births for every insured contributor/couple in the Formal Sector Programme;
- Preventive care, including immunization, as it applies in the National Programme on Immunization, health education, family planning, antenatal and post-natal care;

- Consultation with specialists, such as physicians, paediatricians, obstetricians, gynaecologists, general surgeons, orthopaedic surgeons, ENT surgeons, dental surgeons, radiologists, psychiatrists, ophthalmologists, physiotherapists, etc.;
- Hospital care in a standard ward for a stay limited to cumulative 15 days per year. Thereafter, the beneficiary and/or the employer pays. However the primary provider shall pay per diem for bed space for a total 15 days cumulative per year.
- Eye examination and care, excluding the provision of spectacles and contact lenses;
- A range of prostheses (limited to artificial limbs produced in Nigeria); and
- Preventive dental care and pain relief (including consultation, dental health education, amalgam filling, and simple extraction). All Providers are expected to provide counselling as an integral part of quality care**.**

Registration of Employers and Employees

- Every employer shall register with the NHIS, upon which a registration number shall be allotted to it by the Scheme.
- Every employer shall appoint an NHIS-registered Health Maintenance Organisation (HMO) of their choice.
- Every registered employer shall supply the following information to the Scheme and to the appointed HMO:
  - Name of employer,
  - Category of employer (public or private),
  - Management structure of the organization, and
  - Staff lists, including basic salaries.

  The employee shall register self, a spouse and four (4) biological children below the age of eighteen (18) years with the Scheme.

An HMO shall not:

Encumber its assets without the prior consent of NHIS in writing.

Allow its assets to be held by other persons on its behalf.

An HMO shall in respect of its business maintain at all times a margin of solvency being the excess of the value of its assets in Nigeria over its liabilities in Nigeria consisting of:

- Provisions for unpaid capitation
- Provisions for outstanding claims
- Provisions for claims incurred but not yet reported
- Funds to meet other liabilities.

The HMOs shall:

- Ensure continuous monitoring of the Facilities.

- The Facilities should allow HMOs easy access for such monitoring.
- The relationship between the HMO and its affiliated Facilities shall be governed by the provisions of NHIS *Operational Guidelines* and the contractual agreement executed between them.

Formal Sector Social Health Insurance Programme:

This programme covers employees of the formal sector, i.e., the public sector and the organized private sector. It is mandatory for every organization with ten (10) or more employees.

Contributions

Contributions are earnings-related and currently represent 15% of basic salary. The employer will pay 10% while the employee will only contribute 5% of basic salary to enjoy health benefits.

The contributions made by/for an insured person entitles himself or herself, a spouse and four (4) children under 18 years of age, to full health benefits. Extra contributions will be required for additional dependants.

The contributions of two working spouses cover the spouses and four (4) children for each of them.

How the Programme Works

An employer registers itself and its employee with the Scheme. Thereafter, the employer affiliates itself with an NHIS-approved Health Maintenance Organization (s), who now provide(s) the employees with a list of NHIS-approved Health Care Providers (public and private). The employee registers itself and dependants with such Provider of his/her choice.

Upon registration, a contributor will be issued an identity card with a personal identification number (PIN). In the event of sickness, the contributor presents his/her identity card to his/her chosen Primary Health Care Provider for treatment. The contributor will be able to access care after a waiting period of thirty (30) days. This will enable the completion of all administrative processes.A contributor has the right to change his/her Primary Health Care Provider after a minimum period of three (3) months, if he/she is not satisfied with the services being given.

The Health Maintenance Organization (HMO) will make payment for services rendered to a contributor to the Health Care Provider. A contributor may, however, be asked to make a small co-payment (where applicable) at the point of service.

Appendix D

Health care provider

A **health care provider** is an individual or an institution that provides preventive, curative, promotional, or rehabilitative health care services in a systematic way to individuals, families or communities.An individual health care provider (also known as a **health worker**) may be a health care professional within medicine, nursing, or a field of allied health. Health care providers may also be a public/community health professional. Institutions (also known as **health facilities**) include hospitals, clinics, primary care centres, and other service delivery points. The practice of health professionals and operation of health care institutions is typically regulated by national or state/provincial authorities through appropriate regulatory bodies for purposes of quality assurance. Together, they form part of an overall health care system.

Desk Officer

Desk Officer is the staff that is responsible for coordinating major activities of the NHIS. The officer is in charge of registration of enrollees and performing other duties such liaising with the health care providers, health Management Organizations and other NHIS stake holder on behalf of NHIS. He plays very roles in the conduct of day to day activities of NHIS and other stake holders.

Medical Facility

A **medical facility** is, in general, any location at which medicine is practiced regularly. Medical facilities range from small clinics and doctor's offices to urgent care centers and large hospitals with elaborate emergency rooms and trauma centers. The number and quality of medical facilities in a country or region is one common measure of that area's prosperity and quality of life. In many countries, medical facilities are regulated to some extent by law; licensing by a regulatory agency is often required before a facility may open for business. Medical facilities may be owned and operated by for-profit businesses, non-profit organizations, governments, and in some cases by individuals, with proportions varying by country.

Practitioners and Professionals

Health care practitioners include physicians, dentists, pharmacists (including clinical pharmacists), physician assistants, nurses (including advanced practice registered nurses), midwives, dietitians, therapists, psychologists, chiropractors, clinical officers, phlebotomists, physical therapists, respiratory therapists, occupational therapists, audiologists, speech pathologists, optometrists, emergency medical technicians, paramedics, medical laboratory scientists, medical prosthetic technicians, radiographers, social workers, and a wide variety

of other human resources trained to provide some type of health care service. They often work in hospitals, health care centres, and other service delivery points, but also in academic training, research, and administration. Some provide care and treatment services for patients in private homes. Many countries have a large number of community health workers who work outside of formal health care institutions. Managers of health care services, health information technicians, and other assistive personnel and support workers are also considered a vital part of health care teams. Health care practitioners are commonly grouped into four key fields:

- Medical (including generalist practitioners and specialists);
- Nursing (including various professional titles);
- Dentistry;
- Allied health professions, including pharmacy, physical therapy, para medicine, respiratory therapy, and many others.

Within each field, practitioners are often classified according to skill level and skill specialization. ñHealth professionalsò are highly skilled workers, in professions that usually require extensive knowledge including university-level study leading to the award of a first degree or higher qualification. This category includes physicians, dentists, nurse practitioners, pharmacists, physiotherapists, optometrists, and others. Allied health professionals, also referred to as "health associate professionals" in the International Standard Classification of Occupations, support implementation of health care, treatment and referral plans usually established by medical, nursing, and other health professionals, and usually require formal qualifications to practice their profession. In addition, unlicensed assistive personnel assist with providing health care services as permitted.

Another way to categorize health care practitioners is according to the sub-field in which they practice, such as mental health care, pregnancy and childbirth care, surgical care, rehabilitation care, or public health.

Appendix E

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<link href="SpryAssets/SpryMenuBarHorizontal.css" rel="stylesheet" type="text/css" />
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FORMAL SECTOR

Formal SECTOR
PUBLIC SECTOR

ARMED FORCES

POLICE
ARMY
NAVY
AIRFORCE
TERTIARY INSTITUTIONS

UNIVERSITIES
POLYTECHNICS
COLLEGES OF EDUCATION
PARA MILITARY

PRISONS
CUSTOMS
IMMIGRATION

VOLUNTARY ORGANIZATIONS


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<li><a href="file:///C|/mcobibackups/mcobibackups/guide for students and armed forces.htm">OTHERS</a></li></ul></li></ul>
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     <li><a class="MenuBarItemSubmenu"href="#">STATE HMO</a>
<ul>
<li><a  href="hmoreg.php">Add Record</a></li>
    <li><a href="modifyhmo.php">Modify Record</a></li>
    <li><a href="delhmo.php">Delete Record</a></li>
    <li><a href="hmoreg.php">View</a></li></ul>  </ul>
      <li><a class="MenuBarItemSubmenu" href="#">EMPLOYEES</a>
   <ul>
       <li><a href="enroleereg.php">ADD RECORD</a></li>
<li><a href="modifyenrolee.php">MODIFY RECORD</a></li>
<li><a href="delenrolee.php">DELETE RECORD</a></li>
<li><a href="delenrolee.php">VIEW RECORD</a></li>
</ul>
<li><a class="MenuBarItemSubmenu"href="#">BANKERS</a>
<ul>
<li><a href="hmoreg.php">ADD RECORD</a></li>
<li><a href="modifyhmo.php">MODIFY RECORD</a></li>
<li><a href="delhmo.php">DELETE RECORD</a></li>
<li><a href="addenrollee.php">VIEW RECORD</a></li></ul>

<li><a class="MenuBarItemSubmenu" href="#">INSURANCE COMPANIES</a>
<ul>
<li><a href="hmoreg.php">ADD RECORD</a></li>
<li><a href="modifyhmo.php">MODIFY RECORD</a></li>
```

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<li><a href="delhmo.php">DELETE RECORD</a></li>
<li><a href="hmoreg.php">VIEW RECORD</a></li></ul>

<li><a class="MenuBarItemSubmenu" href="#">ARMED FORCES</a>
<ul>
  <li><a class="MenuBarItemSubmenu"="#">POLICE</a>
<ul>
<li><a href="addenrollee.php">ADD RECORD</a></li>
<li><a href="addenrollee.php">MODIFY RECORD</a></li>
<li><a href="addenrollee.php">DELETE RECORD</a></li>
<li><a href="addenrollee.php">VIEW RECORD</a></li></ul>

<li><a class="MenuBarItemSubmenu" href="#">ARMY</a>
<ul>
<li><a href="addenrollee.php">ADD RECORD</a></li>
<li><a href="addenrollee.php">MODIFY RECORD</a></li>
<li><a href="addenrollee.php">DELETE RECORD</a></li>
<li><a href="addenrollee.php">VIEW RECORD</a></li></ul>

<li><a  class="MenuBarItemSubmenu"href="#">NAVY</a>
<ul>
<li><a href="addenrollee.php">ADD RECORD</a></li>
<li><a href="addenrollee.php">MODIFY RECORD</a></li>
<li><a href="addenrollee.php">DELETE RECORD</a></li>
<li><a href="addenrollee.php">VIEW RECORD</a></li></ul>

  <li><a  class="MenuBarItemSubmenu"href="#">AIR FORCE</a>
<ul>
<li><a href="addenrollee.php">ADD RECORD</a></li>
<li><a href="addenrollee.php">MODIFY RECORD</a></li>
<li><a href="addenrollee.php">DELETE RECORD</a></li>
<li><a href="addenrollee.php">VIEW RECORD</a></li></ul>
 <li><a  class="MenuBarItemSubmenu" href="#">EMPLOYERS</a>
<ul>
<li><a  href="employers.php">FEDERAL MINISTRIES</a></li>
<li><a href="employers.php">STATE MINISTRIES</a></li>
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<li><a href="employers.php">LGA</a></li>
<li><a href="employers.php">FEDERAL PARASTATALS</a></li>
<li><a href="employers.php">PUBLIC CORPORATIONS</a></li>
<li><a href="employers.php">PRIVATE ORGANIZATIONS</a></li>
<li><a href="employers.php">OTHERS(SPECIFY)</a></li></ul>

 <li><a class="MenuBarItemSubmenu" href="#">TERTIARY INSTITUTIONS</a>
<ul>
<li><a  class="MenuBarItemSubmenu"href="#">UNIVERSITITES</a>
<ul>
<li><a href="addenrollee.php">ADD RECORD</a></li>
<li><a href="addenrollee.php">MODIFY RECORD</a></li>
<li><a href="addenrollee.php">DELETE RECORD</a></li>
<li><a href="addenrollee.php">VIEW RECORD</a></li></ul>
  <li><a  class="MenuBarItemSubmenu"href="#">POLYTECHNICS</a>
<ul>
<li><a href="addenrollee.php">ADD RECORD</a></li>
<li><a href="addenrollee.php">MODIFY RECORD</a></li>
<li><a href="addenrollee.php">DELETE RECORD</a></li>
<li><a href="addenrollee.php">VIEW RECORD</a></li>
   </ul>
<li><a  class="MenuBarItemSubmenu"href="#">COLLEGES OF EDUCATION</a>
   <ul>
<li><a href="addenrollee.php">ADD RECORD</a></li>
<li><a href="addenrollee.php">MODIFY RECORD</a></li>
<li><a href="addenrollee.php">DELETE RECORD</a></li>
<li><a href="addenrollee.php">VIEW RECORD</a></li>
  </ul></ul>
   <li><a  class="MenuBarItemSubmenu" href="#">EMPLOYERS</a>
<ul>
<li><a  href="employers.php">FEDERAL MINISTRIES</a></li>
<li><a href="employers.php">STATE MINISTRIES</a></li>
<li><a href="employers.php">LGA</a></li>
<li><a href="employers.php">FEDERAL PARASTATALS</a></li>
<li><a href="employers.php">PUBLIC CORPORATIONS</a></li>
<li><a href="employers.php">PRIVATE ORGANIZATIONS</a></li>
```

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<li><a href="employers.php">OTHERS(SPECIFY)</a></li></ul></li>
  <li><a class="MenuBarItemSubmenu" href="#">VOLUNTARY ORGANIZATIONS</a>
<ul>
<li><a href="employers.php">NGOs</a></li>
<li><a href="employers.php">OTHERS</a></li></ul>

<li><a class="MenuBarItemSubmenu" href="#">HEALTH CARE PROVIDERS</a>
<ul>
 <li><a class="MenuBarItemSubmenu" href="#">PRIMARY HEALTH CARE PROVIDERS</a>
 <ul>
 <li><a  href="../healthcareprovider.php">Add Record</a></li>
<li><a href="../modifyhealthcareprovider.php">Delete Record</a></li>
 <li><a href="modifyhcp.php">Modify Record</a></li>
<li><a href="uni.php">View Record</a></li></ul>
 <li><a class="MenuBarItemSubmenu" href="#">SECONDARY HEALTH CARE PROVIDERS</a>
 <ul>
  <li><a  href="../healthcareprovider.php">Add Record</a></li>
<li><a href="../modifyhealthcareprovider.php">Delete Record</a></li>
 <li><a href="modifyhcp.php">Modify Record</a></li>
<li><a href="uni.php">View Record</a></li></ul>
<li><a class="MenuBarItemSubmenu" href="#">TERTIARY HEALTH CARE PROVIDERS</a>
 <ul>
  <li><a  href="../healthcareprovider.php">Add Record</a></li>
<li><a href="../modifyhealthcareprovider.php">Delete Record</a></li>
 <li><a href="modifyhcp.php">Modify Record</a></li>
<li><a href="uni.php">View Record</a></li></ul>
</ul>
   <li><a class="MenuBarItemSubmenu" href="#">PARA MILITARY</a>
 <ul>
 <li><a href="uni.php">CUSTOMS</a></li>
<li><a href="uni.php">PRISONS</a></li>
 <li><a href="uni.php">IMMIGRATION</a></li></ul>
```

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 <li><a href="provider.php">Healthcare Providers</a></li>
  <li><a href="hmos.php">HMOS</a></li>
  </ul></ul>
       </li></ul>
  <li><a class="MenuBarItemSubmenu"  href="#">ID Cards</a>
  <ul>
  <li><a href="idcard.php">Add New Id Card</a><li>
  </li></ul>
  <li><a class="MenuBarItemSubmenu" href="#"> Forms</a>
   <ul>
    <li><a href="attend.php">ATTENDANCE</a></li>
    <li><a href="referral.php">REFERRAL</a></li>
    <li><a  href="ack.php">Acknowledgement</a></li>
     <li><a  href="complaints.php">COMPLAINTS FORM</a></li>
      <li><a  href="record.php">RECORDS AND INFORMATION FORM FOR MHO</a></li>
      <li><a  href="drugr.php">ADVERSE DRUG REACTION COMPLAINT FORM</a></li>
       <li><a  href="hcp.php">HEALTH CARE PROVIDER PERIODIC INFORMATION </a></li>
       <li><a  href="chcp.php">CHANGE OF HEALTH CARE PROVIDER FORM</a></li>
        <li><a href="chmo.php">CHANGE OF HMO FORM</a></li>
        <li><a href="phclaim.php">PHARMACY CLAIM FORM</a></li>
        <li><a href="dishmo.php">HMO DISBURSEMENT FORM</a></li>
   </ul>

  <li><a class="MenuBarItemSubmenu" href="#"> Search</a>
  <ul>
   <li><a class="MenuBarItemSubmenu" href="#">HMOs</a>
  <ul>
    <li><a  href="nhmo.php">NATIONAL HMO</a></li>
  <li><a href="zhmo.php">ZONAL HMO</a></li>
  <li><a href="shmo.php">STATE HMO </a></li>
  </ul>
```

```
<li><a class="MenuBarItemSubmenu" href="#">HEALTH CARE PROVIDERS</a>
<ul>
<li><a href="provider.php">PRIMARY health care</a></li>
<li><a href="provider.php">SECONDARY health care</a></li>
<li><a href="provider.php">TERTIARY health care</a></li>
<li><a href="provider.php">SPECIALIST health care</a></li></ul>

<li><a class="MenuBarItemSubmenu" href="#">EMPLOYERS</a>

<ul>
<li><a class="MenuBarItemSubmenu"  href="#">FEDERAL</a>
<ul>
<li><a href="stateemp.php">STATE</a></li>
<li><a href="lgemp.php">LGA</a></li>
<li><a href="para.php">PARASTATALS</a></li>
<li><a href="public.php">PUBLIC</a></li>
<li><a href="private.php">PRIVATE</a></li></ul>
<li><a class="MenuBarItemSubmenu" href="#">ARMED FORCES</a>
<ul>
<li><a href="police.php">POLICE</a></li>
<li><a href="army.php">ARMY</a></li>
<li><a href="navy.php">NAVY</a></li>
<li><a href="airforce.php">AIRFORCE</a></li>
</ul>
<li><a class="MenuBarItemSubmenu" href="#">TERTIARY INSTITUTIONS</a>
<ul>
<li><a href="uni.php">UNIVERSITIES</a></li>
<li><a href="poly.php">POLYTECHNIC</a></li>
<li><a href="college.php">COLLEGES OF EDUCATION</a></li></ul></ul></ul></ul>
<li><a  href="contact.php">contact us</a></li></li>
<li><a href="faq.php">FAQ</a></li>

  <div id="clearfix"></div>
</div>
<div id="wrapper">
<script type="text/javascript">
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```
var MenuBar1 = new Spry.Widget.MenuBar("MenuBar1", {imgDown:"SpryAssets/SpryMenuBarDownHover.gif", imgRight:"SpryAssets/SpryMenuBarRightHover.gif"});
</script>
<div id="wrap">
<div id="featured_slide">
  <div id="featured_content">
    <ul>
      <li><img src="images/1.jpg" alt="" />
        <div class="floater">
          <h3>About NHIS!</h3>
          <p>I am pleased to welcome you to the official website of the National Health Insurance Scheme (NHIS). The Scheme established under Act 35 of 1999 by the Federal Government of Nigeria, is aimed at providing easy access to healthcare for all Nigerians at an affordable cost through various prepayment systems.
          <p class="readmore"><a href="#">Continue Reading &raquo;</a></p>
        </div>
      </li>
      <li><img src="images/2.jpg" alt="" />
        <div class="floater">
          <h3>NHIS Program.</h3>
          <p>NHIS is totally committed to securing universal coverage and access to adequate and affordable healthcare in order to improve the health status of Nigerians, especially for those participating in the various programmes/products of the Scheme.</p>
          <p class="readmore"><a href="#">Continue Reading &raquo;</a></p>
        </div>
      </li>
      <li><img src="images/3.jpg" alt="" />
        <div class="floater">
          <h3>NHIS Operations</h3>
          <p>GUIDELINES FOR THE OPERATIONS OF THE FORMAL SECTOR SOCIAL HEALTH INSURANCE PROGRAMME</p>
          <p class="readmore"><a href="#">Continue Reading &raquo;</a></p>
        </div>
      </li>
    </ul>
```

```
</div>
<a href="javascript:void(0);" id="featured-item-prev"><img src="images/prev.png" alt="" /></a> <a href="javascript:void(0);" id="featured-item-next"><img src="images/next.png" alt="" /></a> </div>
</div>
<div id="main_content">
<div class="center">
<table border="0" width="100%">
<tr><td height="30px" colspan="2"><h4><marquee behavior="alternate" scrolldelay="300">
Welcome to NHIS Website
</marquee></h4></td></tr>
<tr><td valign="top" ><h4>Welcome Note from Executive Secretary </h4>
<p>
I am pleased to welcome you to the official website of the National Health Insurance Scheme (NHIS). The Scheme established under Act 35 of 1999 by the Federal Government of Nigeria, is aimed at providing easy access to healthcare for all Nigerians at an affordable cost through various prepayment systems.

NHIS is totally committed to securing universal coverage and access to adequate and affordable healthcare in order to improve the health status of Nigerians, especially for those participating in the various programmes/products of the Scheme.
</p></td></tr>
<tr><td valign="top"><h4>What is NHIS?</h4>
<p>Health insurance is a social security system that guarantees the provision of needed health services to persons on the payment of token contributions at regular intervals..
The National Health Insurance Scheme (NHIS) is a body corporate established under Act 35 of 1999 by the Federal Government of Nigeria to improve the health of all Nigerians at an affordable cost. The NHIS Act is the statutory authority for the Scheme's benefits programmes as well sets the general rules and guidelines for the operation of the Scheme.</p>
</td></tr>
</table>
</div>
<div class="sidebar">
<table border="0" width="90%">
```

<tr><td></td></tr>
<tr><td ><h3>OUR OBJECTIVES</h3>
To ensure that every Nigerian has access to good health care services
To protect families from the financial hardship of huge medical bills
To limit the rise in the cost of health care services
To ensure equitable distribution of health care costs among different income groups
</td></tr>
</table>

 <table border="0" align="center" bgcolor="#FFFFFF"><tr><td>© National Health Insurance Scheme 2012.Powered By OREMNET Technologies</td></tr></table>

<script type="text/javascript">
var MenuBar2 = new Spry.Widget.MenuBar("MenuBar2", {imgDown:"../SpryAssets/SpryMenuBarDownHover.gif",
imgRight:"../SpryAssets/SpryMenuBarRightHover.gif"});
</script>
</body>
</html>

Appendix F

HOME PAGE IMPLEMENTATION

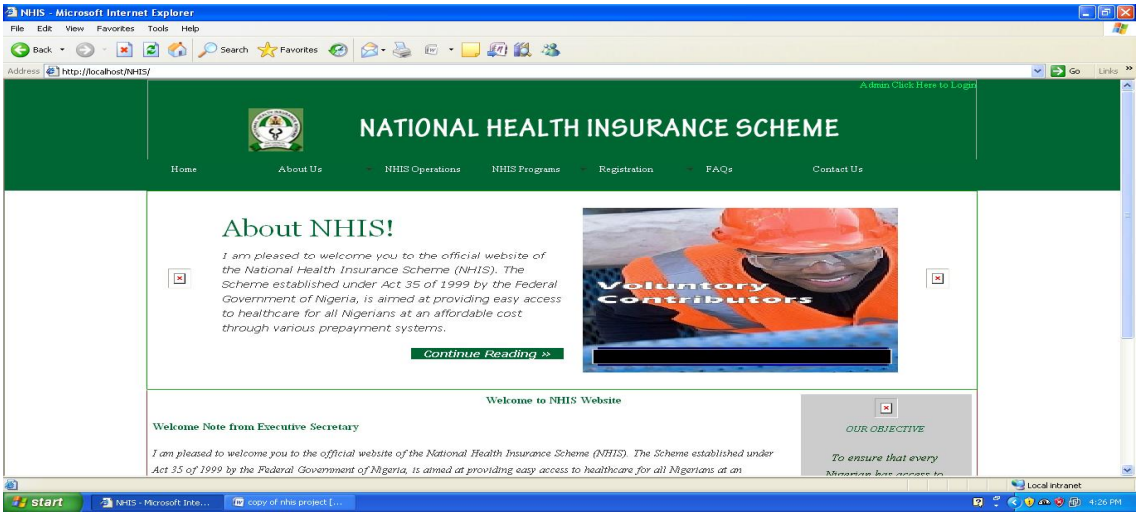


Figure 4.1 Home page implementation

USERS LOGIN PAGE

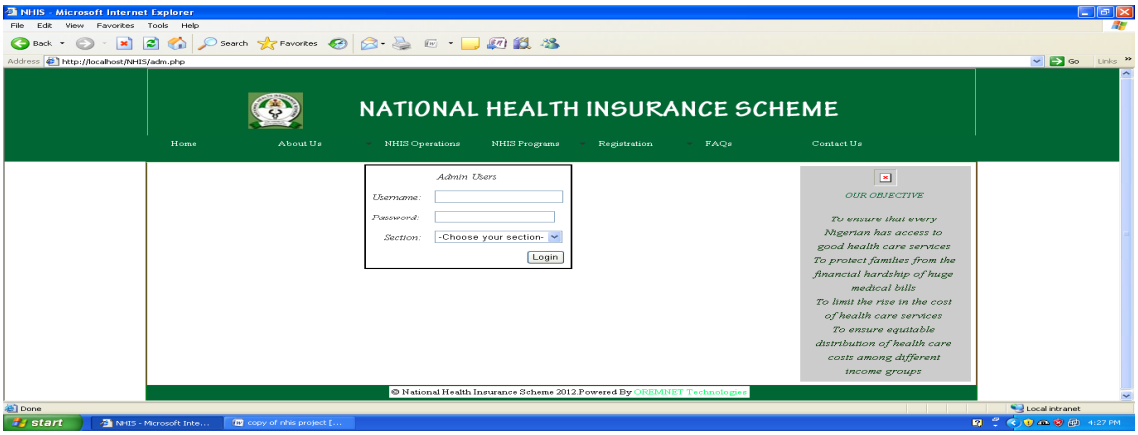
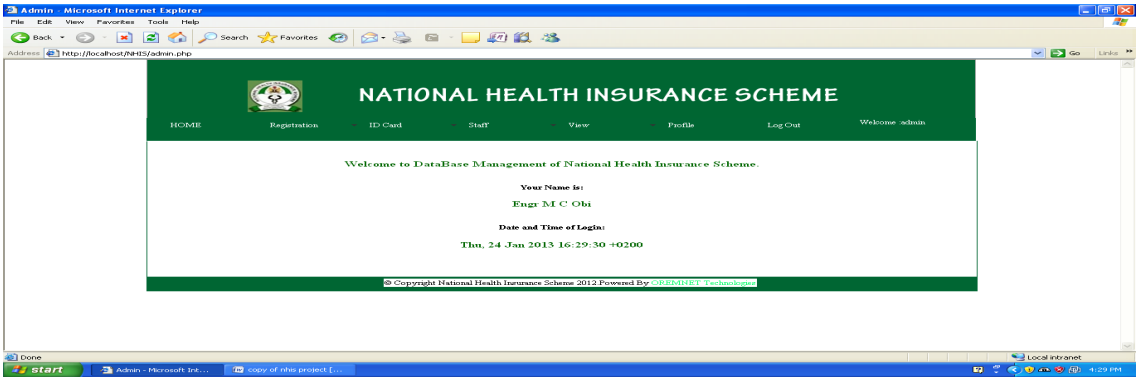
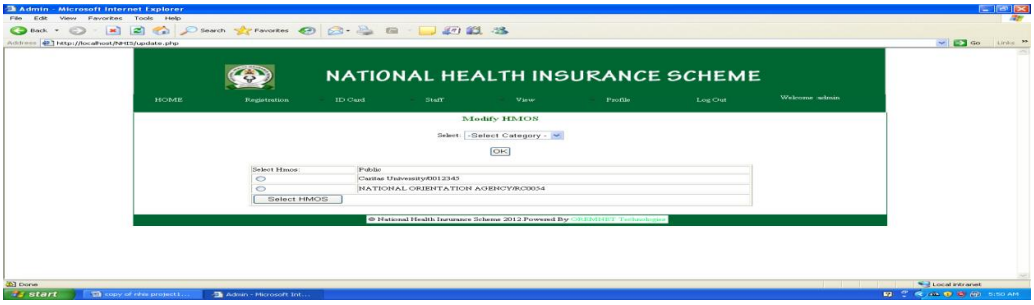


Figure 4.2 a : Users Login page without any entry from the user.





4.5. 5 Page that selected the category and the corresponding HMO for modification

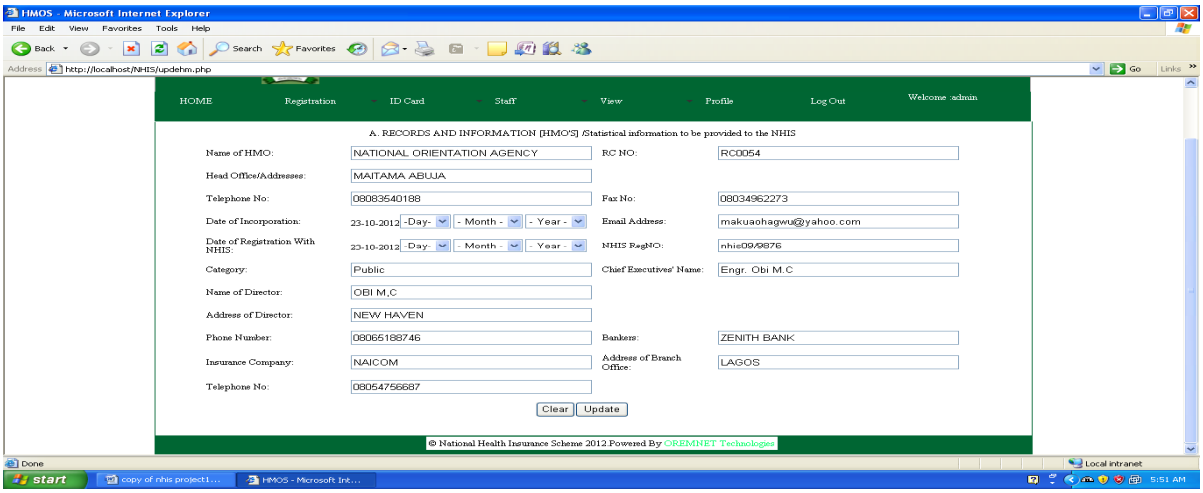


Figure 4.8 Page that selected the category and the corresponding HMO for modification

4.5.1 Page showing a pull down menu when the user clicks Registration menu item

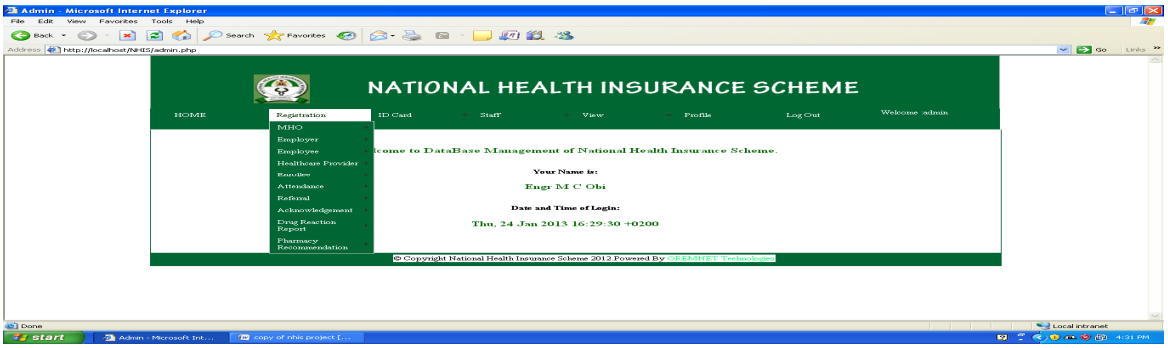


Figure 4.4 Page showing a pull down menu when the user clicks Registration menu item.

4.5.2 Page displaying list of actions that is associated with the MHO menu item

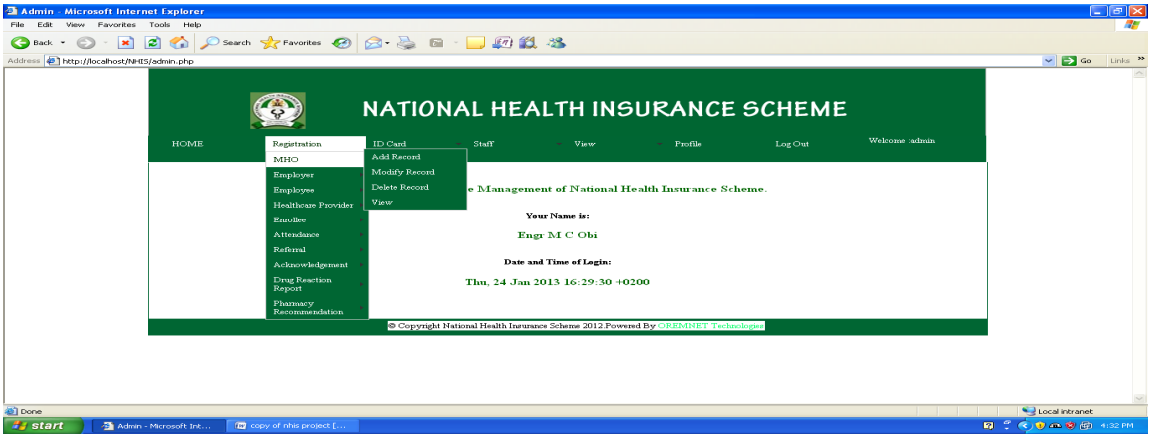


Figure 4.5 Page displaying list of actions that is associated with the MHO menu item

4.5.3 Page for selecting the category and the corresponding existing HMO for modification

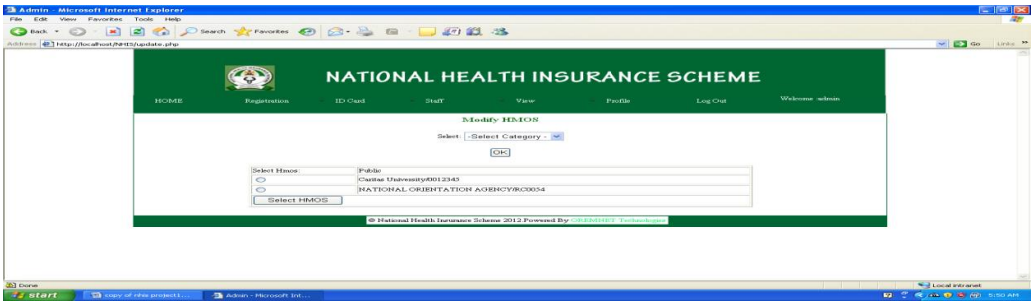


Figure 4.6 Page for selecting the category and the corresponding existing HMO for modification

4.5.4 Page for selecting the category of HMO to modify

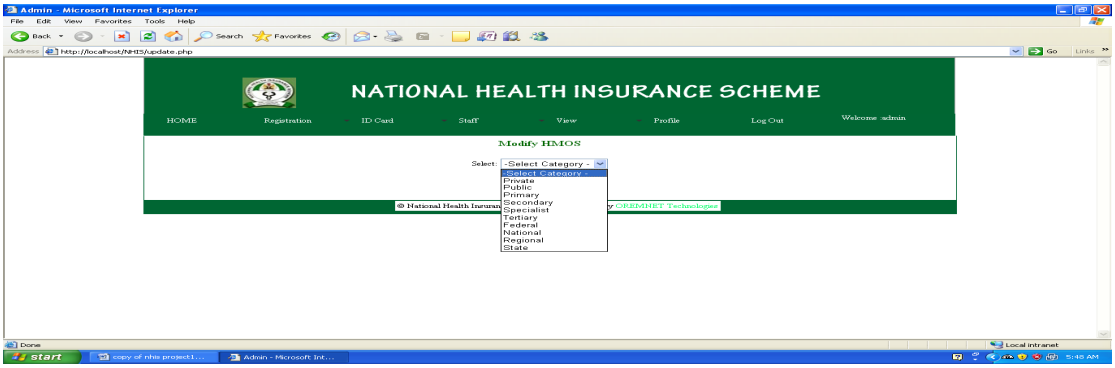


Figure 4.7 Page for selecting the category of HMO to modify

4.5. 5 Page that selected the category and the corresponding HMO for modification

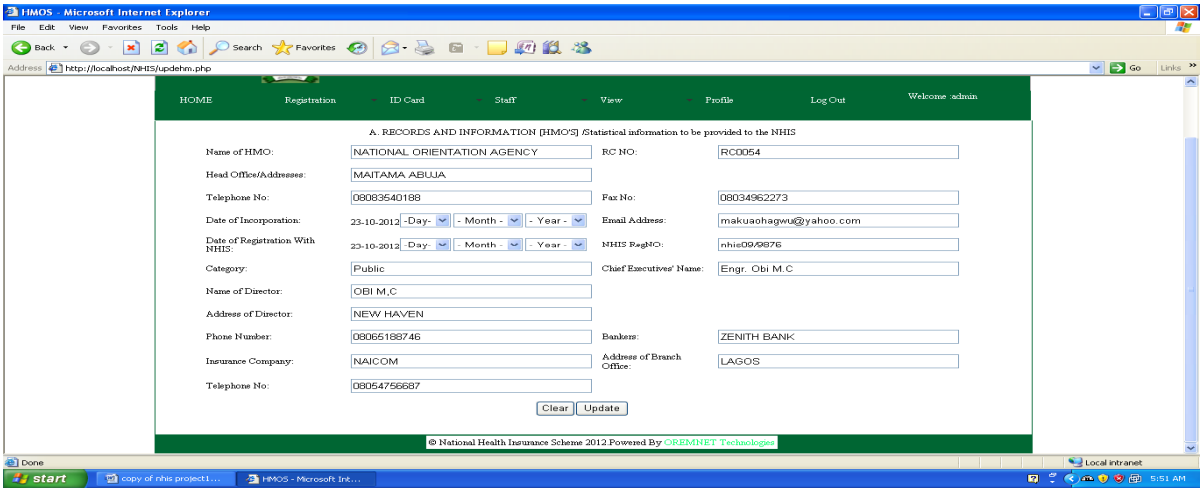


Figure 4.8 Page that selected the category and the corresponding HMO for modification

4.5.6 Page that is used to add or register new HMO menu item

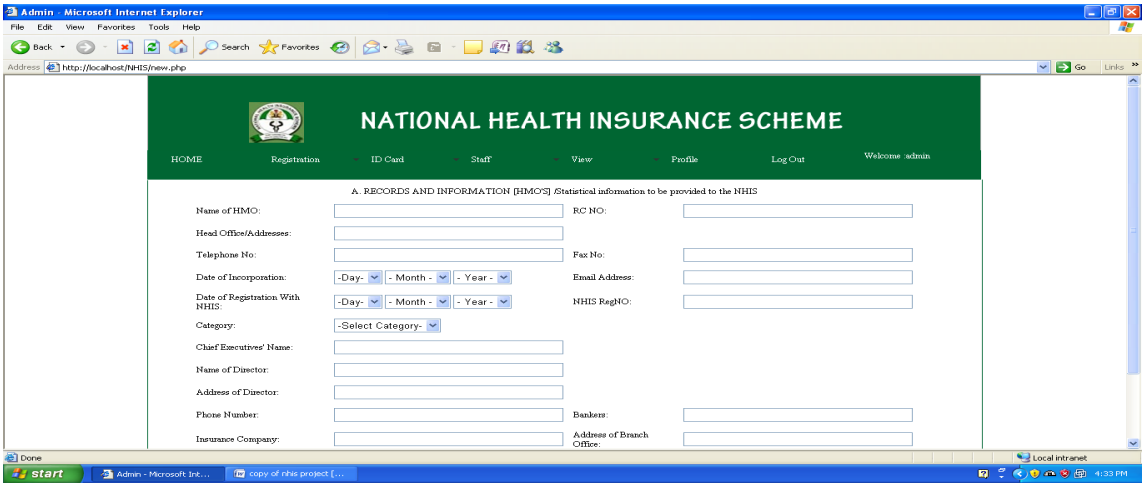


Figure 4.9 Page that is used to add or register new HMO menu item

4.5.7 Page used to view list of registered HMOS

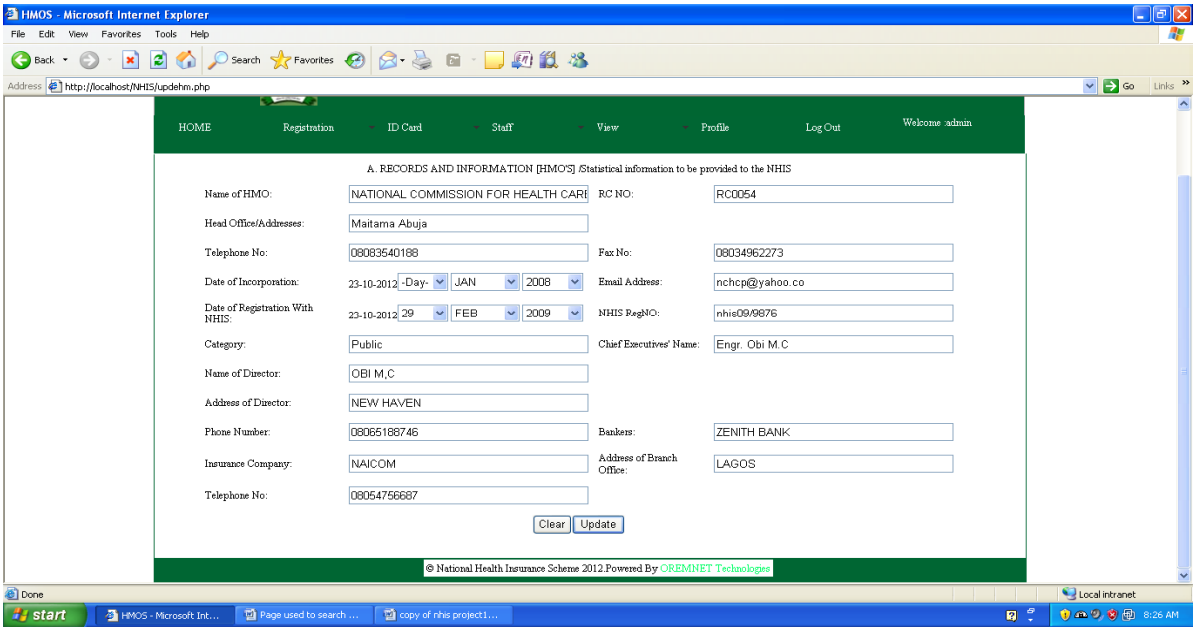


Figure 4.10 Page used to view list of registered HMOS

4.5.8 Page used for registration of new Employers

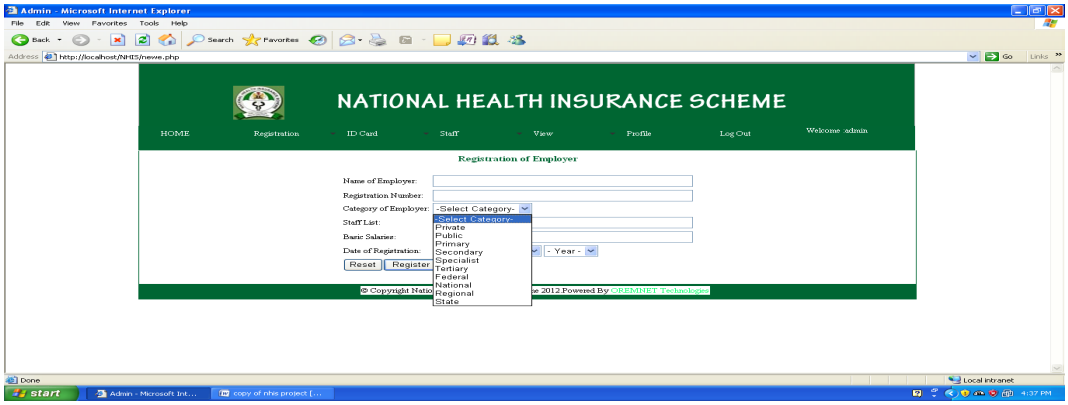


Figure 4.11 Page used for registration of new Employers

4.5.9 Page for viewing list of registered Employers

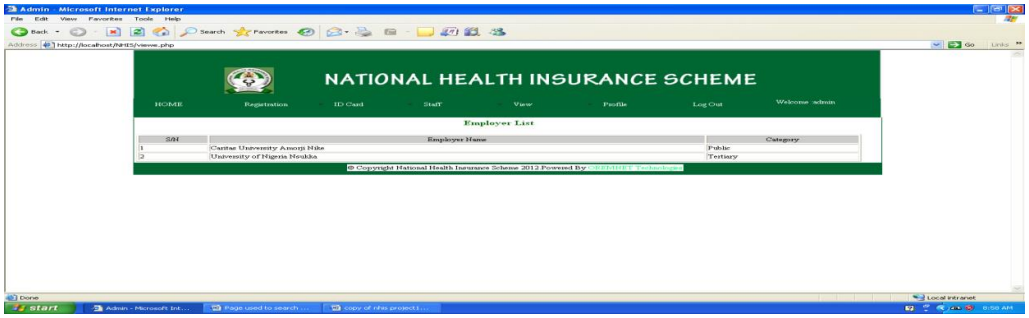


Figure 4.12 Page for viewing list of registered Employers

4.5.10 Page for viewing registered Health Care Providers

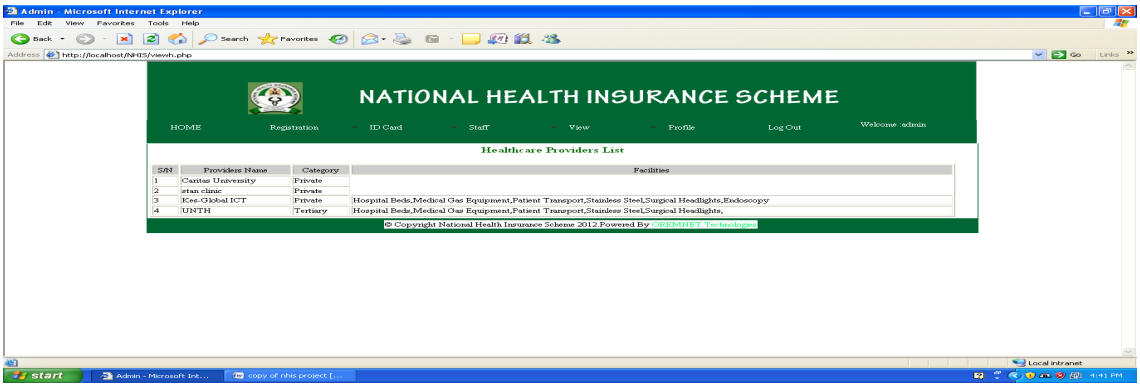


Figure 4.14 Page for viewing registered Health Care Providers

4.5.11 Page for registering new Health Care Providers

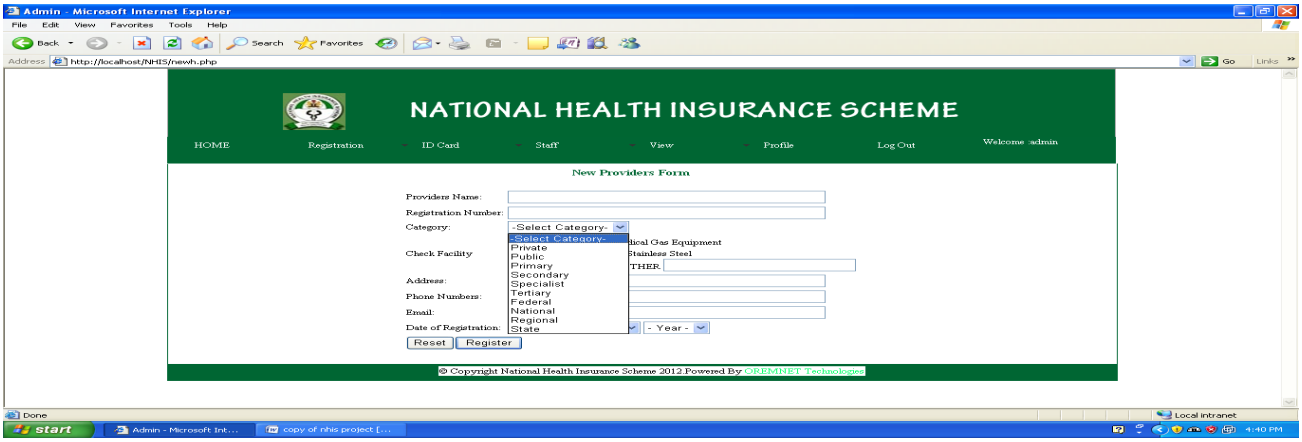


Figure 4.14 Page for registering new Health Care Providers

4.5.12 Page used for quarterly registered enrollees

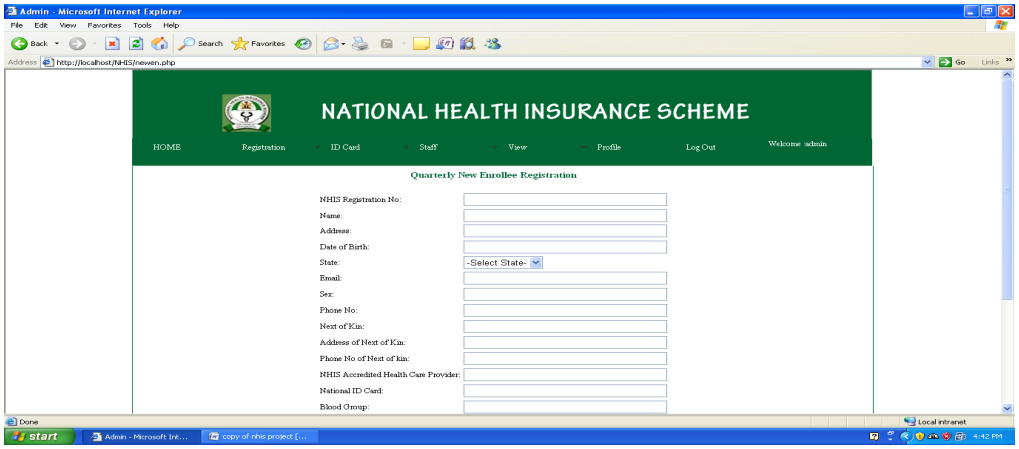


Figure 4.15 Page used for quarterly registered enrollees

4.5.13 Page used for registering new enrollees

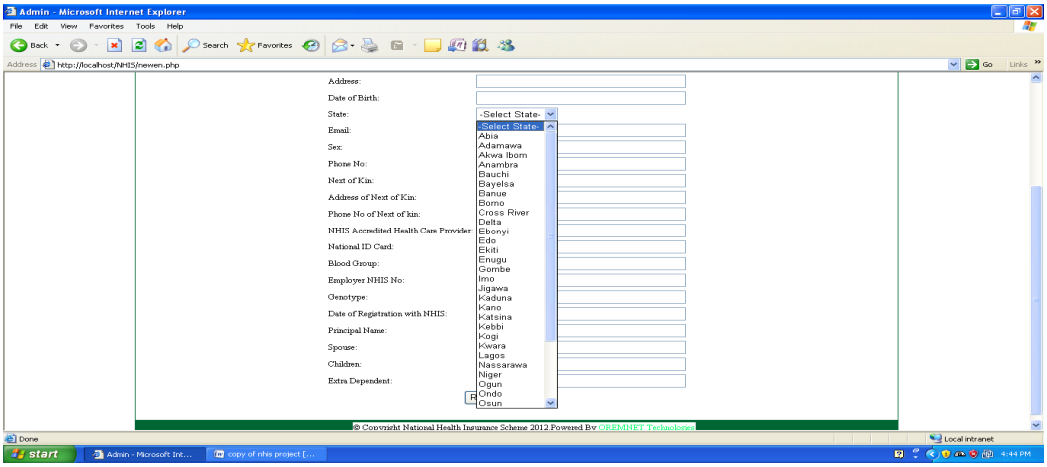


Figure 4.16 Page used for registering new enrollees

4.5.15 Referral Page

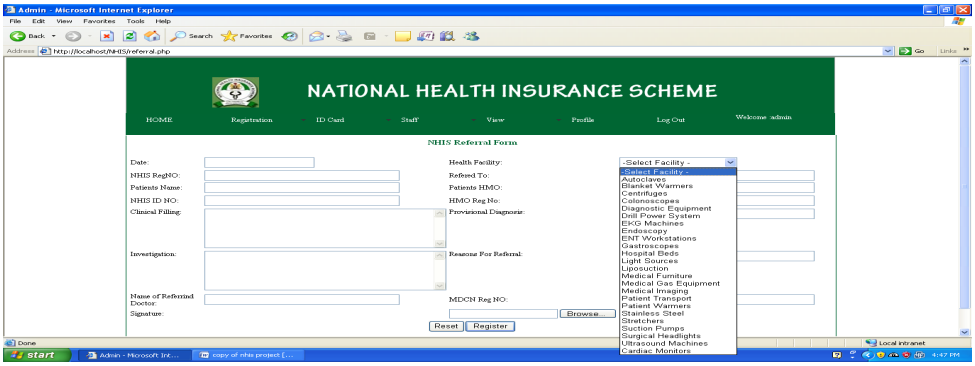


Figure 4.17 Referral Page

4.5.18 Page used to search or check for whether a health care or HMO is registered with NHIS

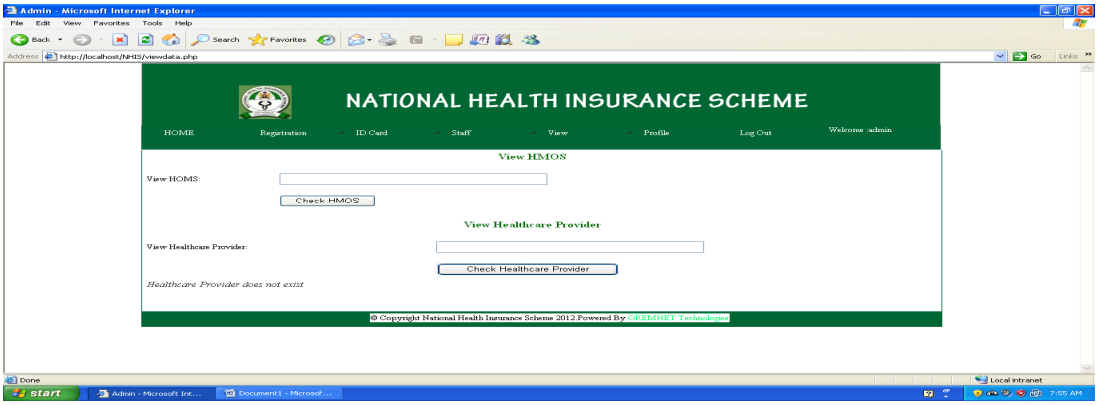


Figure 4.20 Page used to search or check for whether a health care or HMO is registered with NHIS

4.5.19 Page for preparing identity card for registered enrollees

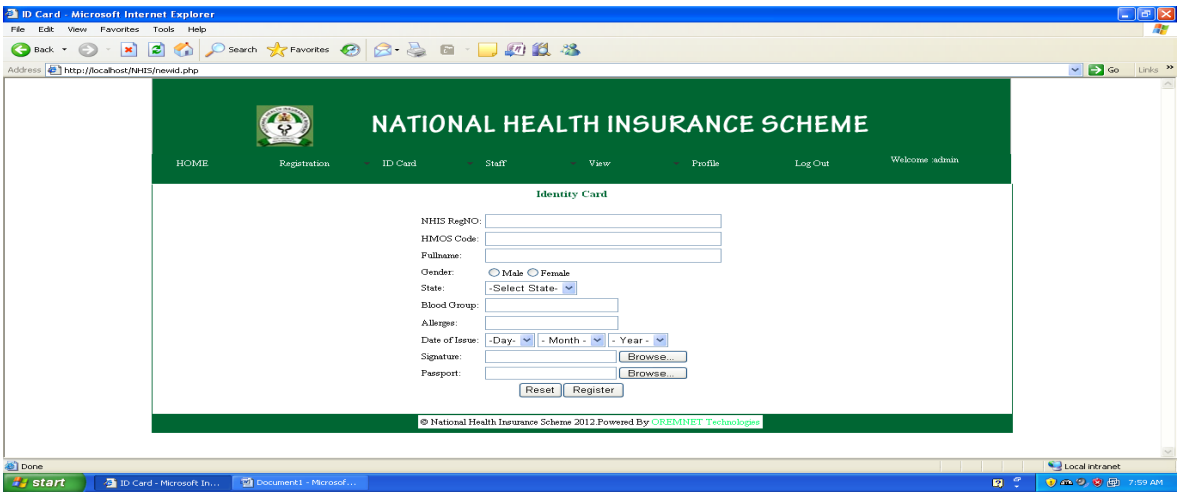


Figure 4.21 Page for preparing identity card for registered enrollees

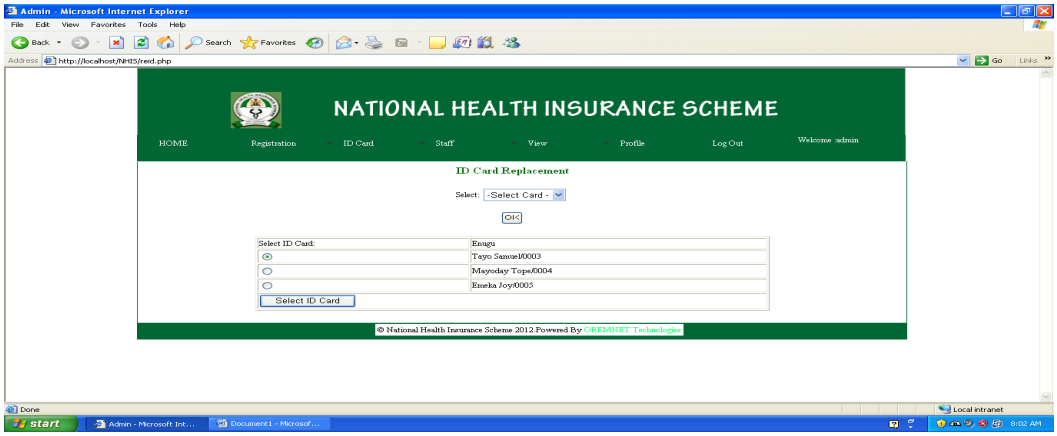


Figure 4.22 Page used to select names whose identity card will be replaced

4.5.20 Page displaying an enrollee whose identity card is to replaced

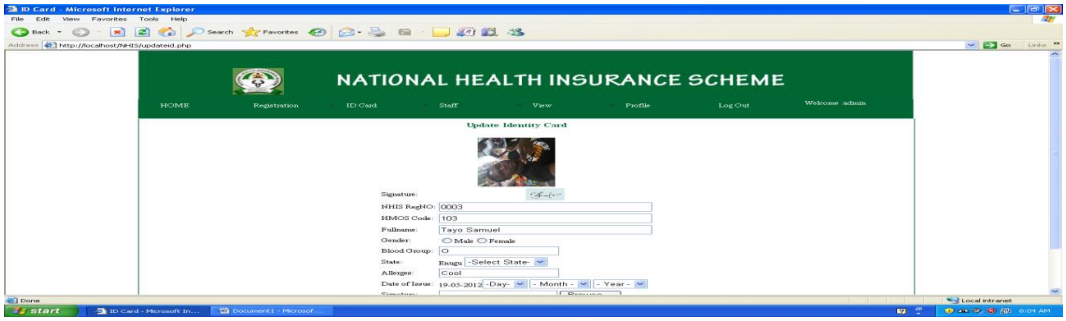


Figure 4.23 Page displaying an enrollee whose identity card is to replaced

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