Sudan University of Science and Technology

College of Graduate Studies

Deanship of Quality and Development

Measuring the Extent of Development of Services Provided by Health Insurance Organizations

Case Study of Health Insurance Corporation Khartoum State (HIKS) (2012 -2016)

قياس مدى تطور الخدمات المقدمة بواسطة مؤسسات التامين الصحي

دراسة حالة هيئة التامين الصحي ولاية الخرطوم (2012 -2016)

A partial dissertation submitted for the fulfilment of the degree of MSc in Quality Management and Excellence.

By: Niddal Osman Ahmed Sanousi.

Supervisor: Professor. Khalid Hassan Elbeely.

January -2018

الآية

(وَقُلِ اعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ وَسَتُرَدُّونَ إِلَى عَالِمِ الْغَيْبِ وَالشَّهَادَةِ فَيُنَبِّئُكُمْ بِمَا كُنْتُمْ تَعْمَلُون)

صدق الله العظيم

(سورة التوبة: الآية 105)

Dedication

This thesis is dedicated to my family, my dear little kids ;Yara, Rabab and Lama for their support and their prayers for me to succeed.

Acknowledgement

I’m grateful to Allah for facilitating the path of knowledge.

I would like to express my great thanks to Professor Khalid Elbeely for his supervision and kind advices to me to fulfill this study to become what it is. Special thanks to the all employees of Health Insurance Corporation Khartoum State specially the quality department group for their great help and support. My thanks to my colleagues and to everyone who helps me, prayer for me and support and encourage me. Thank you all.

Abstract

This study aims at defining the concept of health insurance and identifying the experience of health insurance in Sudan by evaluating the development in providing health insurance services through the Health Insurance Corporation Khartoum State (HIKS).

The study hypotheses assumed that the services provided by health insurance corporation (HIKS) are developing throughout the years. Also the quality of the services provided by (HIKS) is not satisfactory for most of its beneficiaries furthermore, the major problems facing the corporation are financial problems and lack of awareness about its activities by people. The study adopted the descriptive analytical method, in addition to case study method which has been illustrated through the use of health Insurance Corporation Khartoum State (HIKS). Also, it uses the statistical analysis to analyze the data which was collected through the questionnaire.

The research findings indicated that there is a development in providing the service moreover, most of the respondents agreed they are satisfied with the quality of the service provided to them.

The study offers main recommendations include giving more attention for providing the necessary information about health insurance through the different types of mass media to raise the awareness of people, and creating a mechanism for investments or a way to generate more income for the corporation, beside, work on raising the percentage of covered people in the formal sector by improving the quality of the service.

المستخلص

هدفت هذه الدراسة الى التعريف بمفهوم التامين الصحي والوقوف على تجربة التامين الصحي بالسودان وذلك من خلال هيئة التامين الصحي ولاية الخرطوم . وقد بنيت الدراسة على فرضيات ان هناك تطور في الخدمة المقدمة بواسطة هيئة التامين الصحي, جودة الخدمة المقدمة بواسطة هيئة التامين الصحي غير مرضية لمعظم المستفيدين وان المعوقات الاساسية التي تواجه الهيئة هي معوقات مالية بالاضافة الى عدم المام وادراك معظم المواطنين بانشطة هيئة التامين وما تقدمه من خدمات.اتبعت الدراسة المنهج الوصفي التحليلي ودراسة حالة هيئة التامين الصحي ولاية الخرطوم مع استخدام التحليل الاحصائي للبيانات التي تم جمعها عن طريق الاستبيان

وخلصت الدراسة الى ان هناك تطور في الخدمة المقدمة بواسطة هيئة التامين الصحي ولاية الخرطوم كما اشار معظم الذين تم استطلاع ارائهم عن طريق الاستبيان الى انهم راضون عن الخدمة المقدمة لهم . كما قدمت الدراسة بعض التوصيات مثل منح مزيد من الاهتمام لرفع الوعي والادراك لدى المواطنين عن التامين الصحي عبر وسائل الاعلام المختلفة، واستحداث الية لتوفير مزيد من الدخل للهيئة بالاضافة الى رفع نسبة التغطية بالقطاع المنظم عن طريق رفع مستوى جودة الخدمة.

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Chapter one

Introduction and General Framework of the Study

1-1 Introduction:

During the years that followed Sudan independence, medical services were offered by the government for free for all of its citizens. However, in 1971 a health insurance and medical services Act was issued, which stated that the cost of medical services must be deducted from the salary of employees. In 1991and immediately after salvation government took over power , it began to pay more attention for the health sector .Accordingly , in 1993 a seminar for health insurance was held ,whereas the main paper suggested the establishment of a corporation or an organization for health insurance ,which should have financial and managerial independence and have branches in the states . Moreover, in 1995 the health insurance Act was authorized, and the health insurance system was firstly applied in Sennar state in October 1995 followed by Khartoum state in June 1996, and then to the country other states. (National Health Insurance Fund, 2017).

The health insurance corporation Khartoum state was established due to the Act of health insurance which was issued in 1995, whereas the applying of health insurance in Khartoum state started in 1996 and the implementation started on public sector employees represented by teachers, and then spread to the other formal sectors.

The idea of health insurance depends mainly on employees' solidarity in both public and private sector in Khartoum state by financing medical services

through the subscriptions of the insured people in order to get the service at minimum cost. (Elbakhet, 2016)

1-2 Research Objectives:

The research main objectives include the followings:-

- Define the concept of health insurance.
- Identify the experience of health insurance in Sudan.
- Critically evaluate the development in providing health insurance services in Sudan through examining the experience of health insurance corporation Khartoum state (HIKS)
- Provide recommendation that can improve the health insurance services performance.

1-3 Research Importance:

The research importance stems from the fact that health insurance is an essential service that needed by most of the people .Furthermore this research aims at filling the gaps that not covered by the other researches .

1-4 Research problem:

Health insurance Corporation (HIKS) is one of the medical insurance providers in Khartoum state which provides medical and pharmaceutical services to insured

people through medical centres and pharmacies, whereas the corporation sets the general policies, plans and programs which concerns health insurance:

Health insurance corporation (HIKS) provides an integrated package of medical and pharmaceutical services such as clinics and residency, laboratory tests, x-rays and dental services and physical therapy through more than (700) centres, more than (380) of them are medical centre and (340) are pharmacies, for more than (937,000) insured family.(ibid)

This research concerned with measuring the service provided by Health Insurance Corporation Khartoum State (HIKS), the problem of this research raises some questions which can be summarized as follows:

- Is there any improvement in the services provided by health insurance corporation Khartoum State (HIKS)?
- Are the qualities of services provided by health insurance corporation (HIKS) satisfactory for its beneficiaries?
- What are the obstacles that facing (HIKS) in reaching the targeted percentage of covered people?

1-5 Research Hypotheses:

The research hypotheses includes the followings:

- The services provided by health insurance corporation (HIKS) are developing throughout the years.
- The quality of the services provided by Health Insurance Corporation is not satisfactory for most of its beneficiaries.

- Financial problems and lack of awareness about health insurance corporation activities by people are the major problems facing the corporation.

1-6 Research methodology:

This research adopts descriptive analytical method, in addition to case study method, whereas the Health Insurance Corporation Khartoum State (HIKS) has been chosen as a case study.

1-7 Source of data:

The research depends on two types of data:

Primary sources: which include questionnaire conducted with the beneficiaries of the HIKS services and data collected from health insurance corporation Khartoum state (HIKS), while the secondary sources include references, MSc. theses and information from the internet.

1-8 Research Limits:

Spatial limits:

Health insurance corporation Khartoum state (HIKS).

Temporal limits:

2012 – 2016

1-9 Research Structure:

This research contains four main chapters as follows:

Chapter one: contains the introductory part; Chapter two deals with the theoretical framework of the research, as well as defining the main concept and types of health insurance in addition to reviewing the previous studies, Moreover, Chapter three focuses on the research case study (HIKS), as it examines the services provided by health insurance corporation, beside identifying the obstacles facing the corporation through a questionnaire and data analysis; while Chapter four discusses the research hypotheses, results, and offering certain recommendations in order to eradicate the research main problem.

Chapter two

Theoretical Framework

2-1 Definition of the main concept of health insurance:-

Health insurance is a type of insurance coverage that pays for medical and surgical expenses incurred by the insured. Health insurance can reimburse the insured for expenses incurred from illness or injury, or pay the care provider directly. It is often included in employer benefit packages as a means of enticing quality employees. (Macklon, 2008)

Health insurance is a way to pay for health care. It protects you from paying the full costs of medical services when you're injured or sick. Just like car insurance or home insurance, you choose a plan and agree to pay a certain rate, or premium, each month. In return, your health insurer agrees to pay a portion of your covered medical costs.

Health insurance is one of the most important investments we ever make. Illnesses, injuries, and other medical setbacks can be astronomically expensive if hospital visits, surgery, or other serious measures are required; maintaining health coverage is the only way to ensure we aren't stuck covering these emergency medical costs out-of-pocket.

Also, health insurance can be defined as a type of insurance coverage that covers the cost of an insured individual's medical and surgical expenses. Depending on the type of health insurance coverage, either the insured pays costs out-of-pocket and is then reimbursed, or the insurer makes payments directly to the provider.(Mnt team,2016)

With health insurance, you are assured of a more secure future both health-wise and money-wise. This makes health insurance critical for individuals.

Insurance is most logical for large, unexpected expenditure that can tip people into poverty.

It is for lumpy expenditure that cannot be predicted.

For predictable expenses, many people prefer to save. Some (usually rich) countries prefer 'medical savings accounts' - good for savings, no risk pooling, excludes the poor, does not really protect against catastrophic expenditure.

Advantages of Insurance:

- Poverty reduction: risk pooling, so less chance of illness forcing a family into poverty
- More stable and predictable funding source: can lead to services improvement and health sector development. This can lead to increase in utilization and improved health seeking behavior.
- Equity: through risk pooling and possibly in the system the richer subsidize the poor families.(Amad, 2017).

2-2 Types of Health Insurance:-

2-2-1 Mandatory social insurance:

State system, a specific payroll tax is collected for a state managed insurance.

Easiest to do where formal employment is common.

State mandated system - required for all employers and employees. The state pays for the poor.

A problem is that people may see this as just another tax and resist paying.

2-2-2 Voluntary Insurance:

Private companies:

- For profit: In many countries health insurance is one of the benefits of employment, paid by employers to attract good employees.

Not-for-profit associations:

- Community based groups, professional associations, labor unions, Join together to insure themselves.

2-3 Health Service Provision:

Providers are those institutions and individuals who actually give health care to the people.

2-3-1 Two basic types of provision systems:

Public systems: The institutions are owned and managed by the government; Health care workers are employed by the government.

Private systems: The Institutions are owned by private organizations and health care workers are paid privately, either by private organizations or self-employed.

Profit making: if money paid in is greater than the expenses the profit goes to the owner(s).

Not-for-profit: surplus funds are either returned to the users or used for improving services. Social or religious institutions operate this way .

2-4 Financing of Health Services

The financing of services, like provision, can be: public or private

- Financing whether by tax or from private contributions comes from peoples' incomes.
- Risk pooling - the financial consequences of bad health are shared by a larger group: e.gs: Universal health insurance, Social Insurance, community insurance, private insurance.
- Public Finance
- General Taxation: Health services are paid from the general government budget. Nations that use this system tend to have lower spending on health.
- Earmarked Taxation: A specific tax is collected for the health sector. Some countries tax cigarettes and give part of it to health, because these substances increase health care costs.
- Social Insurance: Social insurance is collected, usually as a percentage of income, and it is used to finance health care services.
- Universal health insurance: which is mandatory and gives universal coverage is essentially the same as paying by general taxation. (ibid)

2-5 Experience of some countries in provision of health insurance servicees:

2-5-1 Australia:-

The public health system ensures free universal access to hospital treatment and subsidized out-of-hospital medical treatment. It is funded by a 1.5% tax levy on

all taxpayers, an extra 1% levy on high income earners, as well as general revenue.

The private health system is funded by a number of private health insurance organizations.

Some private heaths insurers are 'for profit' enterprises, some, have membership restricted to particular groups, but the majority have open membership. Membership to most health funds is now also available through comparison websites

Most aspects of private health insurance in Australia are regulated by the Private Health Insurance Act 2007. Complaints and reporting of the private health industry is carried out by an independent government agency

The private health system in Australia operates on a "community rating" basis, whereby premiums do not vary solely because of a person's previous medical history, current state of health, or their age.

The Australian government has introduced a number of incentives to encourage adults to take out private hospital insurance. These include :

Lifetime Health Cover: If a person has not taken out private hospital cover by 1 July after their 31st birthday, then when (and if) they do so after this time, their premiums must include a loading of 2% per annum for each year they were without hospital cover.

Thus, a person taking out private cover for the first time at age 40 will pay a 20 percent loading. The loading is removed after 10 years of continuous hospital cover. The loading applies only to premiums for hospital cover, not to ancillary (extras) cover.

Medicare Levy Surcharge: People whose taxable income is greater than a specified amount in the 2011/12 financial year $80,000 for singles and $168,000 for couples and who do not have an adequate level of private hospital cover must pay a 1% surcharge on top of the standard 1.5% Medicare Levy. The rationale is that if the people in this income group are forced to pay more money one way or another, most would choose to purchase hospital insurance with it, with the possibility of a benefit in the event that they need private hospital treatment – rather than pay it in the form of extra tax as well as having to meet their own private hospital costs. (Bartels, 2004)

The Australian government announced in May 2008 that it proposes to increase the thresholds, to $100,000 for singles and $150,000 for families. These changes require legislative approval. A bill to change the law has been introduced but was not passed by the Senate. An amended version was passed on 16 October 2008. There have been criticisms that the changes will cause many people to drop their private health insurance, causing a further burden on the public hospital system, and a rise in premiums for those who stay with the private system. Other commentators believe the effect will be minimal.

Private Health Insurance Rebate: The government subsidizes the premiums for all private health insurance cover, including hospital and ancillary (extras), by 10%, 20% or 30%, depending on age. The Rudd Government announced in May 2009 that as of July 2010, the Rebate would become means-tested, and offered on a sliding scale. While this move (which would have required legislation) was defeated in the Senate at the time, in early 2011 the Gillard Government announced plans to reintroduce the legislation after the Opposition loses the balance of power in the Senate. (Ibid)

2-5-2 Canada:-

Health care is mainly a constitutional, provincial government responsibility in Canada (the main exceptions being federal government responsibility for services provided to aboriginal peoples covered by treaties, the Royal Canadian Mounted Police, the armed forces, and members of parliament).

Consequently, each province administers its own health insurance program. The federal government influences health insurance by virtue of its fiscal powers – it transfers cash and tax points to the provinces to help cover the costs of the universal health insurance programs. Under the Canada Health Act, the federal government mandates and enforces the requirement that all people have free access to what are termed "medically necessary services," defined primarily as care delivered by physicians or in hospitals, and the nursing component of long term residential care. If provinces allow doctors or institutions to charge patients for medically necessary services, the federal government reduces its payments to the provinces by the amount of the prohibited charges. Collectively, the public provincial health insurance systems in Canada is tax-funded out of general government revenues, although British Columbia and Ontario levy a mandatory premium with flat rates for individuals and families to generate additional revenues – in essence a surtax. Private health insurance is allowed, but in six provincial governments only for services that the public health plans do not cover, for example, semi-private or private rooms in hospitals and prescription drug plans. Four provinces allow insurance for services also mandated by the Canada Health Act, but in practice there is no market for it. All Canadians are free to use private insurance for elective medical services such as laser vision

correction surgery, cosmetic surgery, and other non-basic medical procedures. Some 65% of Canadians have some form of supplementary private health insurance; many of them receive it through their employers. Private-sector services not paid for by the government account for nearly 30 percent of total health care spending. (Ibid)

2-5-3 France:-

The national system of health insurance was instituted in 1945, just after the end of the Second World War. It was a compromise between representatives in the French parliament. The Conservative Gaullists were opposed to a state-run healthcare system, while the Communists were supportive of a complete of health care along a British model. (Ibid)

The resulting program is profession-based: all people working are required to pay a portion of their income to a not-for-profit health insurance fund, which reduces the risk of illness, and which reimburses medical expenses at varying rates. Children and spouses of insured people are eligible for benefits, as well. Each fund is free to manage its own budget, and used to reimburse medical expenses at the rate it saw fit, however following a number of reforms in recent years, the majority of funds provide the same level of reimbursement and benefits.

The government has two responsibilities in this system.

The first government responsibility is the fixing of the rate at which medical expenses should be negotiated, and it does so in two ways: the Ministry of Health directly negotiates prices of medicine with the manufacturers, based on the average price of sale observed in neighbouring countries. A board of doctors and

experts decides if the medicine provides a valuable enough medical benefit to be reimbursed (note that most medicine is reimbursed, including homeopathy). In parallel, the government fixes the reimbursement rate for medical services: this means that a doctor is free to charge the fee that he wishes for a consultation or an examination, but the social security system will only reimburse it at a pre-set rate. These tariffs are set annually through negotiation with doctors' representative organizations.

The second government responsibility is oversight of the health-insurance funds, to ensure that they are correctly managing the sums they receive, and to ensure oversight of the public hospital network.

Today, this system is more or less intact. All citizens and legal foreign residents of France are covered by one of these mandatory programs, which continue to be funded by worker participation. However, since 1945, a number of major changes have been introduced. Firstly, the different health care funds (there are five: General, Independent, Agricultural, Student, Public Servants) now all reimburse at the same rate. Secondly, since 2000, the government provides health care to those who are not covered by a mandatory regime (those who have never worked and who are not students, meaning the very rich or the very poor). This regime, unlike the worker-financed ones, is financed via general taxation and reimburses at a higher rate than the profession-based system for those who cannot afford to make up the difference.

An important element of the French insurance system is solidarity: the more ill a person becomes, the less he pays. This means that for people with serious or chronic illnesses, the insurance system reimburses them 100% of expenses, and waives their co-pay charges.

Finally, for fees that the mandatory system does not cover, there is a large range of private complementary insurance plans available. The market for these programs is very competitive, and often subsidized by the employer, which means that premiums are usually modest. 85% of French people benefit from complementary private health insurance.

2-5-4 Jordon:-

Health System Organization

Jordan has one of the most modern health care infrastructures in the Middle East. Jordan's health system is a complex amalgam of three major sectors: Public, private, and donors. The public sector consists of two major public programs that finance as well as deliver care: the Ministry of Health (MOH) and Royal Medical Services (RMS). Other smaller public programs include several university-based programs, such as Jordan University Hospital (JUH) in Amman and King Abdullah Hospital (KAH) in Irbid. In 2003, each of the health care subsectors has its own financing and delivery system that reflects directly on the delivery of services among these sectors. Problems related to accessibility, equity, duplication of services, and poor coordination among major providers, unregulated private sector, and low utilization rates in the private sector, limited quality improvement programs, inefficient use of available resources, poor management and inappropriate health information system are the main challenges facing all providers of health care in Jordan. The MOH hospitals face several constraints that hamper their ability to contribute more effectively to providing proper health care to the poor and the uninsured. ((WHO)-2006)

Regional Health System Observation

In addition to the centralized management practices, the lack of incentives to promote efficiency and quality, and inadequate information and communications systems are contributory factors for providing proper health care to the poor and the uninsured.

Hospitals and their staff lack incentives and the basic information on costs and evidence-based medicine to implement standardized treatment protocols or to operate efficiently.

The coverage situation is complicated by the fact that many individuals and their dependents are eligible for more than one health insurance program as well as the fact that many individuals with public coverage purchase private sector services through out of pocket payments. About 68 percent of Jordan's population is formally covered through various public sector (48 percent) and private insurance

UNRWA (20 percent) programs, while 32 percent has no formal coverage. Yet, these individuals can purchase services at MOH facilities at highly subsidized prices.

Benefits:

Public programs generally cover a comprehensive array of services including pharmaceuticals with very limited patient cost-sharing. However, uninsured individuals, even those purchasing subsidized care in MOH facilities, must generally pay the full price of pharmaceuticals. Private insurance benefits are more variable and the usual forms of medical underwriting (e.g., pre-existing condition exclusions) are extant.

Financing:

The public programs are financed by the general budget, premium contributions, and user fees. MOH, Civil Insurance and RMS budgets are determined annually through the Government's budgeting process. There are major cross-subsidies built into the budgets among public programs as well as from the General Army Budget to the RMS.

There is no available information on the financing sources of private insurance.

An important potential source of financing is through private firms via Article.3 a. (4) of Jordan's Social Security Law No 19 of 2001.

This article provides for firms to contribute to health insurance for their employees through payroll taxes, but it has never been implemented.

Payment of Providers:

The MOH and RMS have centralized management systems for allocating resources to individual facilities. Individual facilities do not have budgets; rather, facilities receive allocations of supplies, equipment, pharmaceuticals, and salaries. from central MOH and RMS departments. Facility managers have little discretion, and health personnel in the public sector are salaried. MOH and RMS facilities also receive reimbursements based on schedules of charges from uncovered individuals.

Private sector facilities and practitioners are reimbursed on the basis of schedules of charges. Charge schedules differ across all programs, although all must be

approved by the MOH. While MOH charges are heavily subsidized, those of the other programs more closely approximate actual costs or market prices. (Ibid)

2-6 Previous studies:

2-6-1 Assessment of the experience of National Fund for Health Insurance in Sudan, (2008)

The study aims at exploring the experience of the implementation of the health insurance at the state of Khartoum at both the private and public levels, during 2000-2005; research problem can be summed in the following questions:

What are the principles, basis and the regulations in the insurance system, and to what extent it has been applied in the experience of Khartoum state?

Did the establishment of health insurance in Khartoum state prevent or contribute in reducing suffering of citizens in Khartoum state?

- What are the main obstacles that face health insurance in Khartoum state?
- To what extent the health insurance is effective in the formal sector, and what is the possibility of expanding it to include the other sectors?
- The hypotheses of the study are as follows:
- Health insurance overcomes the problem of weak and limited contribution of employers in paying the cost of employee treatment
- Health insurance contributed in improving the health services
- Health insurance experience can be considered as a successful one.
- The study applied descriptive analytical method whereas the main findings indicated that the inadequate services was due to the followings:

lack of adequate financing ,the non-approval of the administrative regulations, the increase in the insurance coverage by the incoming of new categories, and the horizontal and vertical expansion in the field of health services. Moreover the study showed that the citizens and their families agreed to the increase in the attraction categories in favor of the amelioration of the health services, the enlargement of the list of medicines, and consequently this indicated the interrelationship as regard to the level of health services, transfer, and the rate of the satisfaction of the sick people vis-à-vis the project.

In the light of the results, the research came out to a number of recommendations such as:

- Paying more attention to the basic structures such as enlarging the buildings, water and electricity services ,rehabilitating the laboratories and well training the employee
- Continuing in collecting fees from the beneficiaries is a base for the successfulness of the experience
- There must be a provision for more information through different types of media to increase people awareness about the health insurance and its objectives.
- Providing the service 24 hours and establishing emergency units. (Elobeid-2008)

2-6-2 Evaluation of the health insurance program at Khartoum state, (2004)

The study evaluates the experience of health insurance program in the public sector in the city of Khartoum.

It based on a key hypotheses that health insurance program had promoted health services.

The study applied analytical and descriptive methods on the raw data collected from the research field work. The study data include both primary and secondary sources.

The study discussed and analysed the research problem on the basis of the following hypotheses;

The contribution of employers in cost of medical care before the health insurance program was limited. Whereas the results had shown 87% of the sample advocated that before the health insurance program there was marginal financial support from various employers to the patients.

The second hypotheses states that Sudanese patient behaviorism is largely affected by moral hazards.

The third hypotheses presumes that health insurance program had promoted health services, whereas the results proved that health insurance program had reduced cost of medical services. Also concerning the availability of medicines the results revealed that medicine is available only for the cure of certain types of diseases covered by the health insurance program. While for the diseases not covered by the program the medicine is not available. This negatively affected the program and provided bad image for the participants who always claim that health insurance covers only short list of diseases. The majority of the participants stressed that the share of 75 % for the medicine bought from outside the health insurance centers is rarely refunded. However,

most of the participants agreed that health insurance centers are not far from residences; they are well designed and better equipped.

The study also indicate that health insurance program is successful, though in its early stages, however, because the experience did include a limited sector, and a limited number of diseases. Therefore, it is proposed to conduct further study about the possibilities of expanding the health insurance program to cover the whole masses of the society and cover the different types of the diseases. (Azza Abdulsalam , 2004)

- The main differences between this study and those previous ones is that the other studies discussed and evaluated the role and contribution of health insurance corporation Khartoum state in improving the health sector and examined the administrative and technical system on which the project of health insurance in Khartoum state was based and compare it to the international theory . While this study focuses on measuring the services provided by health insurance corporation Khartoum state, tested the quality of it and whether there is an improvement in providing the service or not.

Chapter Three

Applied Study

3-1 Introduction:

The idea of applying health insurance in Sudan started in 1971, the act of health insurance was issued in 1994 by which the health insurance corporation Khartoum state was established, but the applying of health insurance in Khartoum state began in 1996 where the implementation started on public sector employees represented by teachers and then spread to the other formal sectors.

The idea of health insurance depends mainly on employee solidarity in public and private sector in Khartoum state by financing medical services through the subscriptions of the insured in order to get the service at minimum cost.

Health insurance system in Khartoum state is a social health insurance system which provides medical care services based on solidarity principle which based on distributing the cost of treatment among greater number of participants. The social health insurance system based on the following rules:

- The amount of subscribing depends on the monthly salary.
- The insurance services will be provided when it is needed.
- The services are provided to the insured people equally regardless to the amount of subscriptions they pay.
- The system is family (not individual) system.

According to health insurance act Khartoum state 2007 (modified)2015 issued from state legislative Council and Minister Council, all public and private organizations and companies and even individuals are mandated to join the

health insurance and to get treatment cards to all of its employees, as well as the residential areas. The health insurance cards are extracted through the popular committees and administrative units in every municipality.(Elbakhet ,2016)

Joining and subscribing in health insurance can done through the formal sector which include the public and private sectors employees whom they have specific employer and the number of employer must not be less than (10) employees whereas,10% is deducted from the total salary (4% from the employee and 6% is from the employer), while semiformal sector include those who share a common denominator and the deduction is calculated according to certain formula agreed upon while informal sector include workers with no specific salary and there is no common denominator with any other group (residential areas) and the deduction is calculated according to certain formula agreed upon. Also all students are insured through paying specific fees which paid annually.(Abbas and Khatmy, 2014)

3-1-1 The Medical and Pharmaceutical Services Provided by Health Insurance Corporation Khartoum State:

Health Insurance Corporation Khartoum state provides an integrated package of therapeutic , pharmaceutical ,and diagnostic medical services , dental ,endoscopes ,treatment of chronic diseases and other medical services in more than (700) site for medical and pharmaceutical services, and these sites increases as the number of insured people increase .

Health insurance corporation aims to provide excellent medical services which is available economically and geographically to all insured people inside Khartoum state ,so contracts had been done with public and private sectors to develop the

performance of the health organizations and raise its efficiency through creating a competitive environment to provide a high quality services with minimum cost and high operational efficiency, this include (203) public organization, (176) private organization and (321)units for providing pharmaceutical services.

The (379) Medical service sites include:

1. Private centers
2. Hospitals
3. Diagnostic centers

Providing medical services systems:

The medical services is provided through an indirect system, which means that health insurance corporation buys the services from the health organizations whether it is public (Health Ministry), private, or voluntary organizations and this represents the base in providing the medical services in health insurance.

3-1-2 The package of medical services providing by Health Insurance Corporation include:

1	Clinics and residenc	12	Orthopaedics services
2	Laboratory tests	13	General surgery services
3	X-rays	14	Pulmonary (respiratory tract) services
4	Ultrasound	15	Nuclear Medicine services
5	CT scan and magnetic resonance	16	Ophthalmology services
6	Dental services	17	Dermatology services
7	Physical therapy	18	Audiology services
8	ENT (ear nose and throat services)	19	Intensive care
9	Kidney and urinary tract services	20	Hearing aids

10 Gastrointestinal (digestive system) services

11 Obstetrics and gynaecology services

Some excluded services are:

Organs transplants

Eyeglasses and lenses

Plastic surgery. (Elbakhet ,2016)

3-2 Data analysis:

To measure to what extent the services provided by health insurance corporation has been developed, we need to analyze some indicators and data which related to the main activities of the corporation, choosing a time period of 5 years (2012 – 2016) during which we compare those activities, which include insurance coverage activities, and medical services activities.

Some indicators for the year 2012 are as follows:

Table: 1.3

Insurance coverage activities indicators for the year 2012

Statement	Number
Targeted number of Khartoum state citizens	1,054,864
Number of covered families	784,658
Accumulative percentage of covered families	74.4%

Source: health insurance corporation Khartoum state (HIKS) annual reports.

Medical service coverage indicators for the year 2012:

The number of medical sites for the year 2012 were (535), (284) of them were medical centres and (251) were pharmaceutical centres.

Some indicators for the year 2013 are as follows:

Table 2.3: Insurance coverage activities indicators year for the year 2013

Statement	Number
Targeted number of Khartoum state citizens	1,253,586
Number of covered families	834,452
Accumulative percentage of covered families	66.6%

Source: health insurance corporation Khartoum state (HIKS) reports

Table 3.3: Coverage according to the sectors for the year 2013

Classification of the sectors	sector	percentage coverage of the sector
formal sector	Public sector	24.2%
	Private sector	3.6%
Semi formal sector	National fund pensions	6.3%
	Social insurance pensions	3.6%
	Other	5.2%
informal sector	Full subsidized coverage	37.1%
	Non subsidized coverage	19.2%
	Others	0.8%
Total		100%

Source: health insurance corporation Khartoum state (HIKS) reports

Medical service coverage indicators for the year 2013:

The number of medical sites for the year 2013 were (636), (335) of them were medical centers and (301) were pharmaceutical centers.

Some indicators for the year 2014are as follows:

Table 4.3: Insurance coverage activities indicators for the year 2014

Statement	number
Targeted number of Khartoum state citizens	1,306,959
Number of covered families	879,820
Accumulative percentage of covered families	67.3%

Source: health insurance corporation Khartoum state (HIKS) reports

Table 5.3: Coverage according to the sectors for the year 2014

Classification of the sectors	sector	percentage coverage of the sector
formal sector	Public sector	23.8%
	Private sector	4.0%
Semi formal sector	National fund pensions	6.3%
	Social insurance pensions	3.6%
	Other	5.9%
Informal sector	Full subsidized coverage	34.6%
	Non subsidized coverage	19.3%
	Others	2.5%
Total		100%

Source: health insurance corporation Khartoum state (HIKS) reports

Medical service coverage indicators for the year 2014:

The number of medical sites for the year 2014 were(639), (327) of them were medical centers and (312) were pharmaceutical centers.

Some indicators for the year 2015 are as follows:

Table 6.3: Insurance coverage activities indicators for the year 2015

Statement	number
Targeted number of Khartoum state citizens	1,313,598
Number of covered families	858,014
Accumulative percentage of covered families	65.3%

Source: health insurance corporation Khartoum state (HIKS) reports

Table 7.3: **Coverage according to the sectors for the year 2015**

Classification of the sectors	sector	Number of insured families	percentage coverage of the sector
formal sector	Public sector	207,504	23.8%
	Private sector	36,919	3.9%
Semi formal sector	National fund pensions	49,000	5.5%
	Social insurance pensions	24,256	2.7%
	Other	8,734	0.9%
informal sector	Full subsidized coverage	341,982	38.9%
	Non subsidized coverage	173,399	19.7%
	Students	16,220	4.6%
Total		**858,014**	**100%**

Source: health insurance corporation Khartoum state (HIKS) reports

Medical service coverage indicators for the year 2015:

The number of medical sites for the year 2015 were (685), (365) of them were medical centers and (320) were pharmaceutical centers.

Some indicators for the year 2016:

Table 8.3: Insurance coverage activities indicators for the year 2016

Statement	number
Targeted number of Khartoum state citizens	1,317,101
Number of covered families	937,463
Accumulative percentage of covered families	71.2%

Source: health insurance corporation Khartoum state (HIKS) reports

Table 9.3: **Coverage according to the sectors for the year 2016**

Classification of the sectors	sector	Number of insured families	percentage coverage of the sector
formal sector	Public sector	214,693	22.9%
	Private sector	46,401	4.9%
Semi formal sector	National fund pensions	49,000	5.2%
	Social insurance pensions	25,623	2.7%
	Other	10,839	1.2%
informal sector	Full subsidized coverage	352,315	37.6%
	Non subsidized coverage	182,608	19.5%
	Students	55,984	6.0%
Total		**937,463**	**100%**

Source: health insurance corporation Khartoum state (HIKS) reports

Medical service coverage indicators for the year 2016:

The number of medical sites for the year 2016 were (726), (386) of them were medical centers and (340) were pharmaceutical centers.

Table: 10.3 comparing coverage activities for the years (2012-2016)

Year	No of targeted	No. of covered	Percentage
2012	1,054,864	784,658	74.4%
2013	1,253,586	834,452	66.6%
2014	1,306,959	879,820	67.3%
2015	1,313,598	858,014	65.3%
2016	1,317,101	937,463	71.2%

Source: prepared by the researcher

Comparing the Insurance coverage activities during the period (2012-2016),

we notice that there is an increase in the accumulated number of covered people but not the percentage, this is due to the increase in the number of targeted people. Also the informal sector has the greater percentage of covering than the other sectors, while the semi formal sector has the minimum percentage.

Table: 11.3 comparing the numbers of medical sites for the years (2012-2016)

Year	No of medical centers	No of pharmacies	Total
2012	284	251	535
2013	335	301	636
2014	327	312	639
2015	365	320	685
2016	386	340	726

Source: prepared by the researcher

From the medical service coverage indicators point of view (table 11.3), it is clear that there is an increase in the number of medical centres throughout the period .

Table: 12.3 comparing the frequency of patients visits to the medical sites for the years (2012-2016)

year	Frequency for medical centres	Frequency for pharmacies	Total frequency
2012	4,271,804	3,408,575	7,680,379
2013	3,197,690	4,031,951	7,229,641
2014	3,942,611	3,254,972	7,197,583
2015	4,078,186	3,308,603	7,386,788
2016	4,555,166	3,541,876	8,097,042

Source: prepared by the researcher

Comparing the total frequency of patients visits to the medical services, we notice it is fluctuated, sometimes increases sometimes decreases, recording a slight difference throughout the years.

3.3 Questionnaire Analysis

3.3.1 Statistical methods used:

To achieve the objectives of the study and to verify hypotheses, the following statistical methods were used:

1 - charts.

2 - frequency distribution of the answers.

3 - percentages.

4 - alpha equation, to calculate the reliability coefficient.

5 - Median.

6 - Chi-square test for the significance of differences between the answers.

To get results as accurate as possible, SPSS program (Statistical Package for Social Sciences) has been used .

3.3.2 Description for the Study Variables:

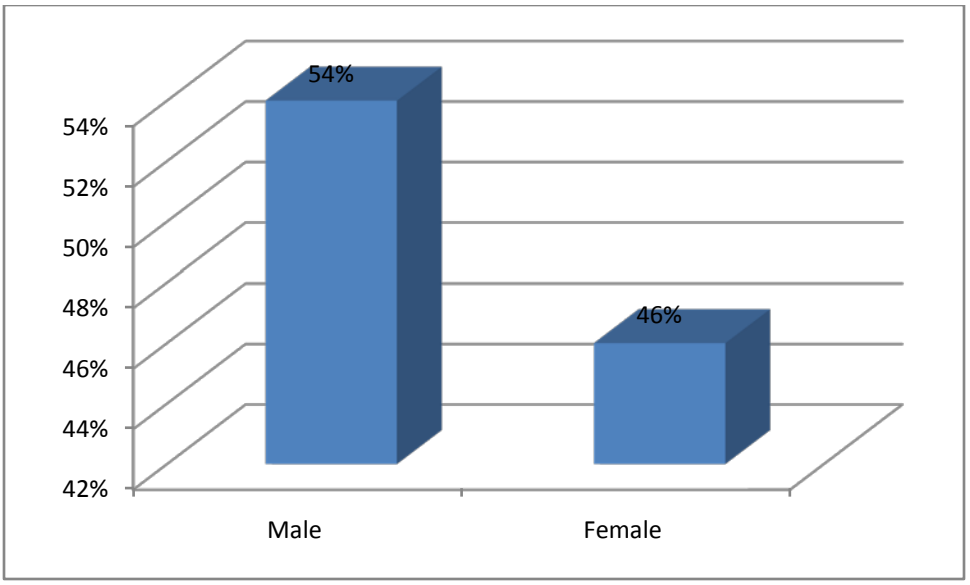
1- Gender:

Table (13.3): Gender of respondents

Gender	Frequency	Percentage
Male	54	54%
Female	46	46%
Total	100	100%

Source: prepared by researcher, using SPSS, 2017.

Figure (1): Gender of respondents



From table (13.3) and figure (1) we notice that most of the study individuals are male representing (54%) while the total number of females represents (46%).

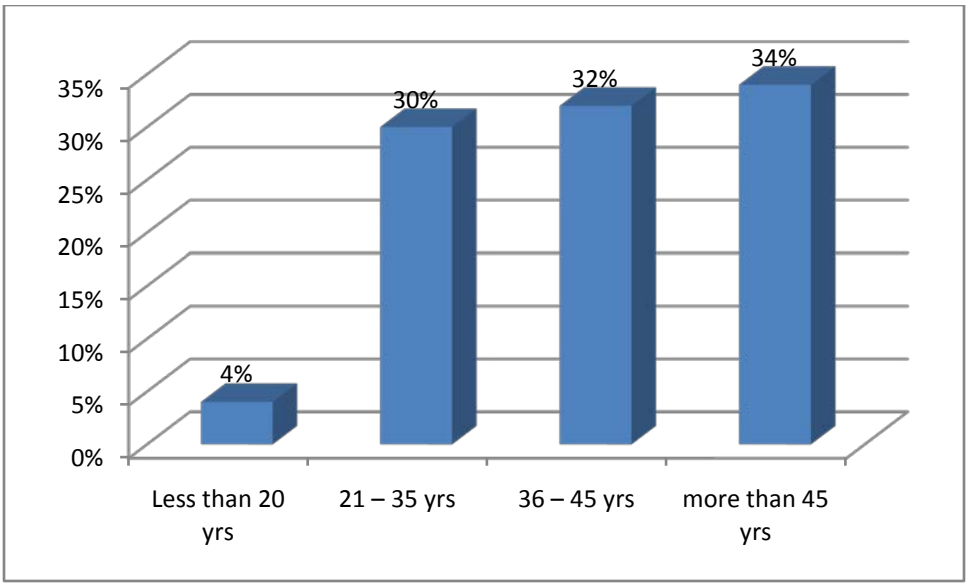
2- age:

Table (14.3): Age of respondents

Age group	Frequency	Percentage
Less than 20 years	4	4%
21 – 35 years	30	30%
36 – 45 years	32	32%
more than 45 years	34	34%
Total	100	100%

Source: prepared by researcher, using SPSS, 2017

Figure(2) : Age of respondents



From table (14.3) and figure (2), we notice that the age of most study individuals are (more than 45 yrs) representing (34%), followed by those age is between (36 – 45 yrs) representing (32%), while the total number of those age is between (21 – 35 yrs) represents (30%).

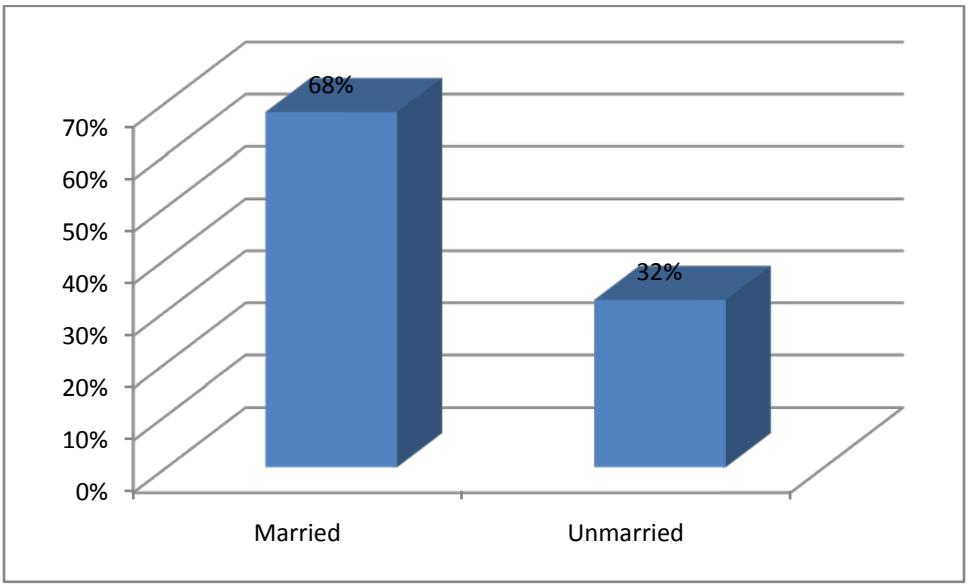
3- Marital status:

Table (15.3): Marital status of respondents

Marital status	Frequency	Percentage
Married	68	68%
Unmarried	32	32%
Total	100	100%

Source: prepared by researcher, using SPSS, 2017

Figure(3) : Marital status of respondents



From table (15.3) and figure (3) we notice that the Marital status of most study individuals are (Married) representing (68%), while the total number of whom Marital status is (Unmarried) represents (32%).

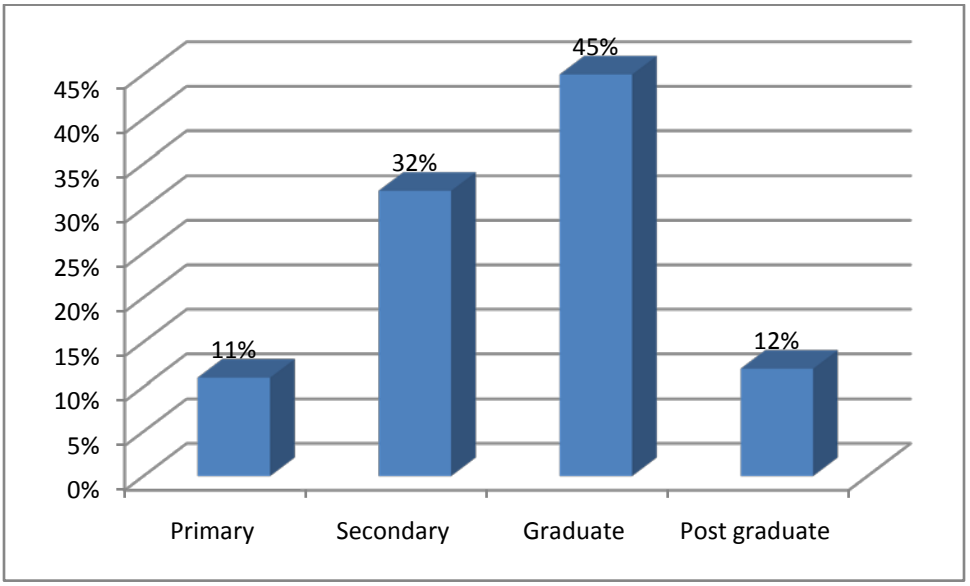
4- Educational level:

Table (16.3): Educational level of respondents

Educational level	Frequency	Percentage
Primary	11	11%
Secondary	32	32%
Graduate	45	45%
Post graduate	12	12%
Total	100	100%

Source: prepared by researcher, using SPSS, 2017

Figure(4) : Educational level of respondents



From table (16.3) and figure (4), we notice that the Educational level of most study individuals are (Graduate) representing (45%), followed by those whom Educational level is (Secondary) representing (32%), while the total number of those whom Educational level is (Post graduate) represents (12%).

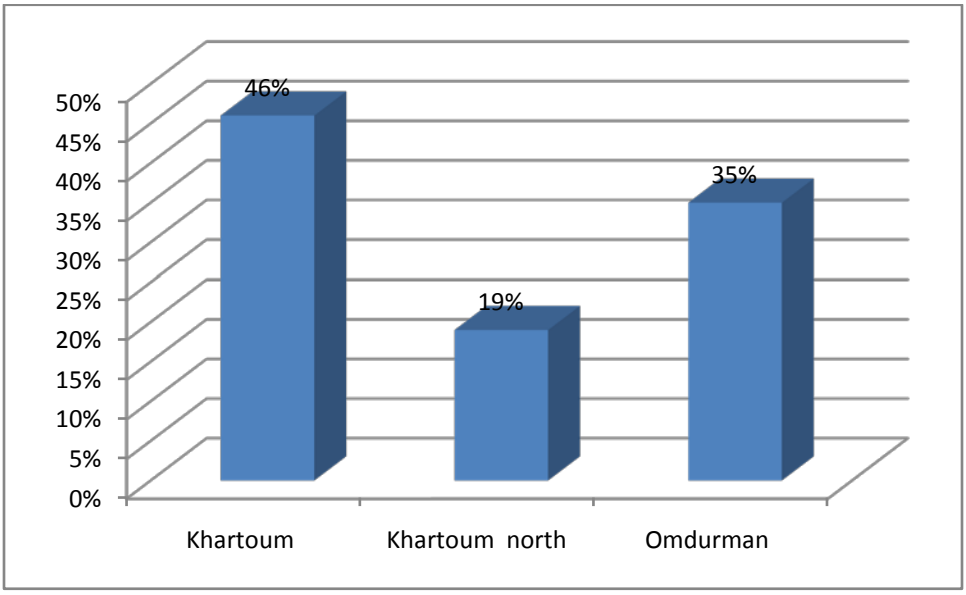
5- Residence:

Table (17.3): Residence of respondents

Residence	Frequency	Percentage
Khartoum	46	46%
Khartoum North	19	19%
Omdurman	35	35%
Total	100	100%

Source: prepared by researcher, using SPSS, 2017

Figure(5) : Residence of respondents



From table (17.3) and figure (5), we notice that the Residence of most study individuals is (Khartoum) representing (46%), followed by those whom Residence is (Omdurman) representing (35%), while the total number of those whom Residence is (Khartoum North) represents (19%).

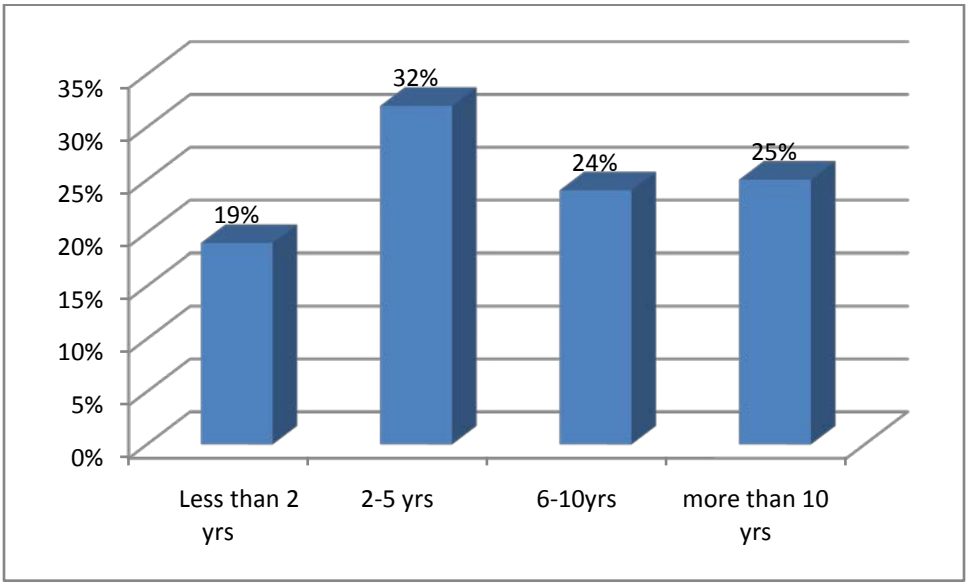
6- For how many years you have the insurance service:

Table (18.3): Time period of receiving the service for respondents

Years of service	Frequency	Percentage
Less than 2 years	19	19%
2-5 years	32	32%
6-10years	24	24%
more than 10 years	25	25%
Total	100	100%

Source: prepared by researcher, using SPSS, 2017

Figure(6) : Time period of receiving the service for respondents



From table (18.3) and figure (6), we notice that the Years of service for most study individuals are (2-5 years) representing (32%), followed by those whom Years of service are (more than 10 years) representing (25%), while the total number of those whom Years of service are (6-10yrs) represents (24%).

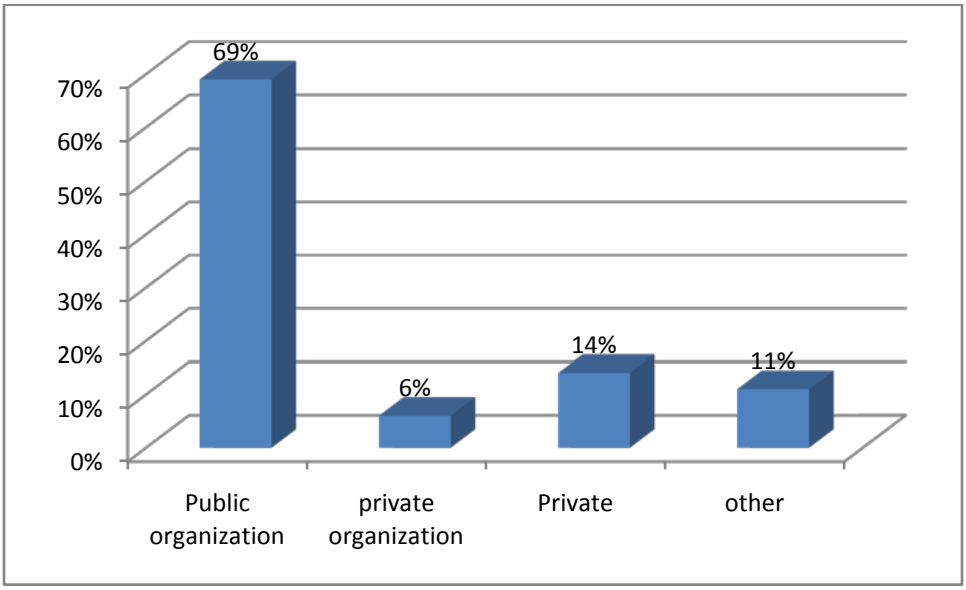
7- **Type of insurers** :

Table (19.3): Type of insurer for respondents

The insurer is	Frequency	Percentage
Public organization	69	69%
private organization	6	6%
Private	14	14%
other	11	11%
Total	100	100%

Source: prepared by researcher, using SPSS, 2017

Figure(7) : Type of insurer for respondents



From table (19.3) and figure (7), we notice that most of the individuals insurer belong to the public organizations representing (69%), followed by private representing (14%), other types representing (11%), and private organizations represents (6%).

3.3.3 Reliability and Valiity:

stability means that measure give the same results if used more than once under similar conditions, while, Reliability is defined as the extent to which a questionnaire, test, observation or any measurement procedure produces the same results on repeated trials. Moreover, Validity is defined as the extent to which the instrument measures what it purports to measure, and can be calculated through the following formula:

$$\text{Validity} = \sqrt{\text{Reliability}}$$

Researchers calculate the reliability coefficient of the scale used in the questionnaire by alpha equation and the results as follows:

Table (20.3): Reliability and Validity**:**

reliability coefficient	**validity coefficient**
0.91	0.95

Source: prepared by researcher, using SPSS, 2017

Table (20.3) indicated that all reliability and validity coefficients for questionnaire is greater than (50%) and close to the one, this indicates that the questionnaire is characterized by high reliability and validity, and makes statistical analysis acceptable.

3.3.4 Test of hypotheses:

To answer the study questions and to verify its hypotheses the Mode will be calculated for each of the phrases in the questionnaire, whereas Grade (5) was assigned as a weight for each answer " Strongly agree ", and grade (4) as a weight for each answer "agree " grade (3) as a weight for each answer " Neutral ", grade (2) as a weight for each answer, " Disagree " and grade (1) as a weight for each answer " Strongly Disagree".

A Chi-square test will be used to examine the significance of differences in each answer.

- **3.3.5 Discussion the phrases:**

Table (21.3): Frequency distribution of the phrases Answers:

No.	Phrases	Frequency and Percentages				
		Strongly agree	Agree	Neutral	Disagree	Strongly diagree
1	when you are in need to medical services you go to the nearest medical center	50 50%	40 40%	4 4%	3 3%	3 3%
2	All the insurance services are available in all the health insurance medical sites	20 20%	27 27%	11 11%	32 32%	10 10%
3	All health insurance centers provide the services at the same level	14 14%	23 23%	11 11%	45 45%	7 7%

4	The medical center is close to your residence place	27 27%	41 41%	14 14%	15 15%	3 3%
5	It is easy to reach the medical center	28 28%	38 38%	13 13%	17 17%	4 4%
6	The pharmacies that provide insured medicines are close to your residence and to medical centres	14 14%	31 31%	17 17%	30 30%	8 8%
7	All the medicines and tests you need are available in health insurance service	10 10%	14 14%	13 13%	38 38%	25 25%
8	All the medicines included in health insurance are available in health insurance pharmacies	9 9%	9 9%	19 19%	41 41%	22 22%
9	The time you spend with the doctor and pharmacist is enough to explain your condition	29 29%	45 45%	11 11%	12 12%	3 3%
10	The doctors and pharmacists treat you with a degree of courtesy	27 27%	43 43%	17 17%	11 11%	2 2%
11	The doctors and pharmacists are highly qualified	25 25%	46 46%	16 16%	12 12%	1 1%
12	The environment of medical centers are comfortable and very good	12 12%	35 35%	19 19%	25 25%	9 9%
13	All the employees in the medical centers are always present and committed to the work hours	16 16%	34 34%	16 16%	20 20%	14 14%
14	You never waste your time waiting for the service	13	25	15	26	21

		13%	25%	15%	26%	21%
15	The amount of money you pay for getting the service is reasonable	19 19%	45 45%	10 10%	16 16%	10 10%
16	The percentage you pay for the medicines is reasonable	22 22%	42 42%	14 14%	14 14%	8 8%
17	You get the information about health insurance services from the announcements of the health insurance corporation and the information it provides to the people	20 20%	31 31%	14 14%	20 20%	15 15%
18	Health insurance corporation always provide the necessary information to insured and all people	14 14%	31 31%	19 19%	23 23%	13 13%
19	In case that the medicine is not available in the insurance pharmacies the amount of (75%)is easily refunded	15 15%	21 21%	13 13%	32 32%	19 19%
20	The execution of transactions such as extraction and renewal of documents is easy	24 24%	38 38%	16 16%	13 13%	9 9%
21	I subscribed for health insurance services by my own choice	33 33%	44 44%	5 5%	14 14%	4 4%
22	I would like to continue receiving the health insurance services if the option is given to me	34 34%	41 41%	9 9%	10 10%	6 6%
23	You are satisfied by the quality of the services provided to you by health insurance corporation	25 25%	35 35%	11 11%	18 18%	11 11%

Source: prepared by researcher, using SPSS, 2017

Table (22.3): Chi-square test results:

No	Phrases	Chi-square value	P-value	Median	Trend
1	when you are in need to medical services you go to the nearest medical center	106.7	0.000	5	Strongly agree
2	All the insurance services are available in all the health insurance medical sites	18.7	0.001	3	Neutral
3	All health insurance centres provide the services at the same level	46.0	0.000	2	Disagree
4	The medical centre is so close to your residence place	42.0	0.000	4	Agree
5	It is so easy to reach the medical centre	35.1	0.000	4	Agree
6	The pharmacies that provide insured medicines are so close to your residence and to medical centers	20.5	0.000	3	Neutral
7	All the medicines and tests you need are available in health insurance service	26.7	0.000	2	Disagree
8	All the medicines included in health insurance are available in health insurance pharmacies	34.4	0.000	2	Disagree
9	The time you spend with the doctor and pharmacist is so enough to explain your condition	57.0	0.000	4	Agree
10	The doctors and pharmacists treat you with a degree of courtesy	49.6	0.000	4	Agree
11	The doctors and pharmacists are highly qualified	57.1	0.000	4	Agree
12	The environment of medical centres are comfortable	21.8	0.000	3	Neutral

	and very good				
13	All the employees in the medical centres are always present and committed to the work hours	13.2	0.010	4	Agree
14	You never waste your time waiting for the service	6.8	0.147	-	-
15	The amount of money you pay for getting the service is reasonable	42.1	0.000	4	Agree
16	The percentage you pay for the medicines is reasonable	35.2	0.000	4	Agree
17	You get the information about health insurance services from the announcements of the health insurance corporation and the information it provides to the people	9.1	0.059	-	-
18	Health insurance corporation always provide the necessary information to insured and all people	10.8	0.029	3	Neutral
19	In case that the medicine is not available in the insurance pharmacies the amount of (75%)is easily refunded	11.0	0.027	2	disagree
20	The execution of transactions such as extraction and renewal of documents is so easy	26.3	0.000	4	Agree
21	I subscribed for health insurance services by my own choice	63.1	0.000	4	Agree
22	I would like to continue receiving the health insurance services if the option is given to me	52.7	0.000	4	Agree
23	You are so satisfied by the quality of the services provided to you by health insurance corporation	20.8	0.000	4	Agree

Source: prepared by researcher, using SPSS, 2017

Analysis of Chi-square test results:

From table (22.3):

- The value of chi-square for the first phrase is (106.7) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of strongly agree.
- The value of chi-square for the second phrase is (18.7) with (p-value=0.001 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of neutral.
- The value of chi-square for the third phrase is (46.0) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of disagree.
- The value of chi-square for the fourth phrase is (42.0) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the fifth phrase is (35.1) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the sixth phrase is (20.5) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of neutral.
- The value of chi-square for the seventh phrase is (26.7) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of disagree.
- The value of chi-square for the eighth phrase is (34.4) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of disagree.
- The value of chi-square for the ninth phrase is (57.0) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the tenth phrase is (49.6) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the eleventh phrase is (57.1) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.

- The value of chi-square for the twelfth phrase is (21.8) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of neutral.
- The value of chi-square for the thirteenth phrase is (13.2) with (p-value=0.010 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the fourteenth phrase is (6.8) with (p-value=0.147 > 0.05), this indicates that there is no significant differences at the level (5%) between answers of study individuals .
- The value of chi-square for the fifteenth phrase is (42.1) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the sixteenth phrase is (35.2) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the seventeenth phrase is (9.1) with (p-value=0.059 > 0.05), this indicates that there is no significant differences at the level (5%) between answers of study individuals.
- The value of chi-square for the eighteenth phrase is (10.8) with (p-value=0.029 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of neutral.
- The value of chi-square for the nineteenth phrase is (11.0) with (p-value=0.027 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of disagree.
- The value of chi-square for the twenty phrase is (26.3) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the fourth phrase is (63.1) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the fourth phrase is (52.7) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.
- The value of chi-square for the fourth phrase is (20.8) with (p-value=0.000 < 0.05), this indicates that there is significant differences at the level (5%) between answers of study individuals and in favour of agree.

Chapter four

Results and recommendations

This study aims to evaluate the development of providing health insurance services, the case study is health insurance corporation Khartoum state (HIKS) a questionnaire was conducted with a random sample of 100 insured citizens distributed between the three areas (Khartoum, Khartoum north and oumdurman) of Khartoum state.

4.1 Discussing the hypothesis:

the first hypothesis stated that "there is a development in the services provided by health insurance corporation", table no(11.3) indicated that there is an increase in the number of medical centres, while questionnaire analysis table no (21.3) indicated that there is geographical distribution for the medical centres, so patients can easily reach them. Also there is a provision for the service with reasonable amount of money and, most of the respondents said they are satisfied with the service provided to them. Hence, this hypothesis is verified.

The second hypothesis stated that "the quality of the service is not satisfactory for most of the beneficiaries", according to the analysis of the questionnaire as shown by table (21.3), most of the respondents said that they are satisfied by the services provided to them. Hence, this hypothesis is not verified. The reason for this can be the lower price of the service if it is compared with the non insurance service moreover, the service is available close to the most of the insured people, however, there is a need for more development inorder all patient can easily find all the services and medicines they need in any of the medical centres.

The third hypothesis about the obstacles that facing health insurance corporation states that "financial problems and lack of awareness about the corporation are the main problems facing (HIKS)". The information collected indicated that the main source of financing is the subscriptions of

the insured, while the analysis of the questionnaire table no (22.3) shows that the respondents did not have enough information about health insurance services and, they did not get the information from the health insurance corporation.

4.2 Results and findings

- Most of the respondents; gender is male with percentage of (54%), age more than 45 years with percentage of (34%), marital status is married with percentage of (68%),educational level is graduate with percentage of (45%),while residence of most respondents is Khartoum with percentage of (46%), most of respondents receiving health insurance services for (2-5) years with percentage of (32%) and most of the insurers are public organizations with percentage of (69%).
- Most of the respondents (50%) strongly agreed that when they are in need to medical services they go to the nearest medical centre.
- A high percentage of insured citizens (table 22.3) agreed that the medical centres are close to their residence and they can reach it easily, the time they spend with the doctor and the pharmacist is enough to explain their conditions, the doctors and pharmacists are highly qualified and they are courteous to them, and the employees in the medical centres are committed to the work hours.
- A great number of respondents assure that the amount of money they pay to receive the service and the percentage they pay for the medicines (25%) is reasonable to them and they subscribed for insurance services by their own choice (table 22.3).
- A great percentage of the insured people agreed to that they like to continue receiving the health insurance services and they are satisfied by the quality of the services provided to them by Health Insurance Corporation.
- A significant number of respondents disagree to that all insurance centres provide the same services at the same level. Also, all the medicines and

tests they need are available in insurance services, and all the medicines covered by insurance are available in insurance pharmacies. Moreover, the percentage of 75% they pay when the medicine is not available in insurance pharmacies is easily refunded.

- There is no difference between the answers of the respondents when they were asked about if they get the information about health insurance services from the announcements of the health insurance corporation and the information it provides to them and that they never waste their time waiting for the service.
- Most of the respondents are neutral to the statement that Health Insurance Corporation always provides the necessary information to insured and all people.
- When asking about the environment of medical centers, and whether insurance services are available in all the health insurance medical sites and whether that the pharmacies that provide the medicines which are covered by insurance are close to their residences, the answers of most respondents were neutral.
- There is an increase in the number of people covered by insurance service but when we compare it with the targeted number of people we find that the percentage is not increasing table (10.3).
- The informal sector has the greater percentage of covering than the other sectors.
- The number of medical centres is increasing from year to year.
- There is no different in frequency of patients to the medical centers from year to year.

4.3 Recommendations:

a. Giving more attention for providing all information about health insurance through the different types of mass media to raise the awareness of people about the activities of health insurance corporation (HIKS).
b. Provision of all insurance services in all medical centres at the same level.
c. Provision of medicines covered by insurance and to be assuring that it is available in all the pharmacies which provide insurance services.
d. Creating a mechanism for investments or a way to generate more income for the corporation.
e. Raising the percentage of covered people in the formal sector by improving the quality of the services such as providing more services and improving the environment of medical centres.

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Appendixes

Questionnaire

The researcher is conducting a research which title is (measuring the improvement of services provided by health insurance organizations) case study Health Insurance Corporation Khartoum State ,submitted as a partial dissertation to fulfill the degree of Msc in total quality and excellence .

So we are grateful if you answer the questions in this questionnaire which helps complete the data and information required for the research , and we insure that all the data and information will only be used for scientific research purposes .

Thank you for your cooperation ..

Personal information :

Gender :

◯ **Male** ◯ **Female**

Age :

◯ **Less than 20 yrs** ◯ **21 – 35 yrs**

◯ **36- 45 yrs** ◯ **more than 45 yrs**

Marital status :

◯ **Married** ◯ **Unmarried**

Educational level :

◯ **Primary** ◯ **secondary**

◯ **Graduate** ◯ **post graduate**

Residence :

◯ **Khartoum** ◯ **Khartoum north**

◯ **Omdurman**

For how many years you have the insurance service :

◯ **Less than 2 yrs** ◯ **2-5 yrs**

◯ **6-10 yrs** ◯ **more than 10 yrs**

The insurer is :

◯ **Public organization** ◯ **private organization**

◯ **Private** ◯ **other**

Questionnaire

No	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	when you are in need to medical services you go to the nearest medical center					
2	All the insurance services are available in all the health insurance medical sites					
3	All health insurance centers provide the services at the same level					
4	The medical center is close to your residence place					
5	It is easy to reach the medical center					
6	The pharmacies that provide insured medicines are close to your residence and to medical centers					
7	All the medicines and tests you need are available in health insurance service					
8	All the medicines included in health insurance are available in health insurance pharmacies					
9	The time you spend with the doctor and pharmacist is enough to explain your condition					

No	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
10	The doctors and pharmacists treat you with a degree of courtesy					
11	The doctors and pharmacists are highly qualified					
12	The environment of medical centers are comfortable and very good					
13	All the employees in the medical centers are always present and committed to the work hours					
14	You never waste your time waiting for the service					
15	The amount of money you pay for getting the service is reasonable					
16	The percentage you pay for the medicines is reasonable					
17	You get the information about health insurance services from the announcements of the health insurance corporation and the information it provides to the people					
18	Health insurance corporation always provide the necessary information to insured and all people					
19	In case that the medicine is not available in the insurance pharmacies the amount of (75%)is easily refunded					

No	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
20	The execution of transactions such as extraction and renewal of documents is easy					
21	I subscribed for health insurance services by my own choice					
22	I would like to continue receiving the health insurance services if the option is given to me					
23	You are satisfied by the quality of the services provided to you by health insurance corporation					

Table 1 : medical services according to the frequency of patients year 2012

Statement	Frequency	Percentage from total frequency
Total of medical services	4,271,804	55.6%
Total of pharmaceutical services	3,408,575	44.4%
Total	7,680,379	100.0%

Source: health insurance corporation Khartoum state (HIKS) reports

Table 2 : medical services according to the frequency of patients year 2013

The service	Claims	Retrieval	Total
	Frequency	Frequency	Frequency
Medical services	3,187,345	10,345	3,197,690
Pharmaceutical services	4,001,522	30,429	4,031,951
Total	7,188,867	40,774	7,229,641

Source: health insurance corporation Khartoum state (HIKS) reports

Table 3 : medical services according to the frequency of patients year 2014

The service	Claims	Retrieval	Total
	Frequency	Frequency	Frequency
Medical services	3,934,134	8,477	3,942,611
Pharmaceutical services	3,229,388	25,584	3,254,972
Total	7,163,522	34,061	7,197,583

Source: health insurance corporation Khartoum state (HIKS) reports

Table 4 : medical services according to the frequency of patients year 2015

The service	Claims	Retrieval	Total
	Frequency	Frequency	Frequency
Medical services	4,071,295	6,891	4,078,186
Pharmaceutical services	3,295,520	13,083	3,308,603
Total	**7,366,814**	**19,974**	**7,386,788**

Source: health insurance corporation Khartoum state (HIKS) reports

Table 5: medical services according to the frequency of patients year 2016

The service	Claims	Retrieval	Total
	Frequency	Frequency	Frequency
Medical services	4,550,258	4,908	4,555,166
Pharmaceutical services	3,531,416	10,460	3,541,876
Total	**8,081,674**	**15,368**	**8,097,042**

Source: health insurance corporation Khartoum state (HIKS) reports

Table 6 :Coverage according to the sectors for the year 2012

Sectors classifications	sector	Targeted families during 2012	Actually covered		Percentage	Insured families accumulative
formal sector	Public sector	1200	12075		1006%	193210
	Private sector	8000	2803		35%	30156
Semi formal sector	National fund pensions	6000	3100	8038	134%	50411
	Social insurance pensions		2455			27772
	Other		1489			11385
	Universities students		994			33722
informal sector	Sponsorship of zakat office	38500	-	20678	53.7%	126283
	Martyrs families		-			-
	Partial subsidized coverage		-			-
	Full subsidized coverage		1570			174859
	Non subsidized coverage		17752			135504
	Others		1356			1356
Total		53700	43594		81.2%	784658

Source: health insurance corporation Khartoum state (HIKS) reports