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Community-Based Health Insurance:

A Case Study of Khartoum-State

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Dedication

To the souls of my mother and father

To my little son and daughter the fragrance of my life

And

To those whom I love

Abstract

Community based health insurance (C**B**HI) is a health care financing, non- profit, voluntary insurance mechanism for urban and rural self employed and informal sector workers.

CBHI in Sudan started in Khartoum state by the end of 1997 . the first experiment took place in Umdawan ban locality.

The present study illustrates the experiment of Umdawanban and throws light on the coverage and determination of premiums . the study focuses on the causes of failure, it also suggests some remedies. The methodological approach of the present study is descriptive and analytical in nature. The data of the study is extracted from references, papers, reports and interviews.

The study conclusively comes to the result that the experiment of umdawanban was not founded on scientific basis in both design and application. And it faces the moral hazard, adverse selection and financial instability problems. The procedures taken to tackle the above mentioned problems were in some cases scientific and contradictive to the ethics and principles of health insurance in others.

The researcher recommends that insurers must conduct a prior study of the targeted population to determine their financial risk protection, willingness to pay and average risk suffered to determine suitable premiums and offer an affordable benefit package.

مستخلص الـدراسـة

إن التأمين الصحي على أساس المجتمع المحلي هو وسيلة طوعية لا ربحية لتمويـل الخـدمات الصحية لغير العاملين بالدولة في المدن والأرياف.

بدأت مسيرة التأمين علي أساس المجتمع المحلي الصحي في السودان بولاية الخرطوم في نهايـة 1997م وكانت التجربة الأولى بمحلية ام ضوا بان .

تصف هذه الدراسة تجربة ام ضوا بان من حيث التغطية السكنية وتحديد القسط (الاسـتقطاع). كما تركز الدراسة علي أسباب فشل التجربة مع إعطاء بعض اقتراحات المعالجة.

المنهج المتبع في هذه الدراسة منهج وصفي تحليلي. استخلصت البيانات مـن المراجـع وأوراق العمل والتقارير والمقابلات توصلت الدراسة إلى انه لم يتم اتباع المنهج العلمي في تجربة التأمين الصحي علي أساس المجتمع المحلي المطبق بمحلية ام ضوا بان في كل من التصميم والتطبيـق. كما أن التجربة واجهت مشكلة خطر استغلال الخدمة التأمينية بشقيها، أي مشكلة الاختيار السلبي ومشكلة عدم الاستقرار المالي. وان الطرق التي اتبعت لعلاج المشاكل آنفة الذكر بعضها علمـي والبعض الأخر يناقض أهم مبادئ التأمين الصحي. وقد أوصت الباحثة بـإجراء دراسـة مـسبقة للمجتمع المستهدف لتحديد مقدرة المواطنين على الدفع، الحماية ضد الخطـر المـالي ومتوسـط الخطر الذي يتعرض له العميل، لتحديد استقطاع مناسب وتقديم حزمة خدمات مناسبة.

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CHAPTER ONE

Community Based Health Insurance in Sudan

2.0 Introduction:

"Health is increasingly being viewed not only as an "end" in itself but also as a crucial input to the development process. Indeed a positive link between health and economic growth is widely established, particularly for low – income countries". (Ahuja & Jutting 2003.P.P.1).

"How to finance health plans and how to make the best use of resources have both become critical issues. The various strategies and options available to government in order to mobilize resources for health have been outlined in several international meetings, such as the technical discussions held during the 40th World Health Assembly in 1987. Emphasis was laid on the considerable potential of social security programs directed towards the provision of health services. These programs are generally organized according to compulsory health insurance criteria" (Aviva 1998 pp.v).

"Health insurance is a way of paying for some or all of the costs of health care. It protects insured persons from paying high treatment costs, the consumer makes a regular p a managing institution. This institution is responsible for holding the payments in a fund and paying a health care provider for the cost of the consumer's care". (Pconn & Walford 1998. PP.2,3)

In most industrial and many middle – income countries, insurance has turned out to be a useful financial tool in the health sector, in Africa the

wage- based social insurance and private health insurance have had very limited impact because they failed to cover informal sector workers and rural self – employed persons who constitute the majority of the African population. The debate about the potential of community – based health insurance to improve access to health care and social protection is still ongoing, while more and more schemes have been emerging during the nineties in rural and urban sub-Saharan Africa Pconn (ibid). Community health care financing schemes are usually based on the following characteristics: voluntary membership, non profit objective, link to health care provider (often hospital in the area), risk pooling and relying on an ethic of mutual aid/ solidarity. (Ahuja & Jutting 2003).

1-1 The Problem of the Study:

The Health insurance scheme in Khartoum State tried to cover the informal sector under its umbrella three times but the trials failed.

In this study the researcher will try to give a description of the community based health insurance experiment implemented in Khartoum State, Umdawanban Locality.

1-2 The Importance of the Study:

Sudan needs a huge effort to develop and this can never be reached without healthy people, so we need to cover even the informal sector which constitutes 65% of Khartoum State population with health care and this can be done only through community based health insurance. therefore studying the attempt will be useful to draw lessons about how successfully to cover this important segment of the population.

1-3 Hypothesis of the Study:

1- The willingness to pay for health insurance and financial Risk protection were not calculated before starting the experiment of Umdawanban.
2- Risk protection among the insured is zero.
3- The premium determined exceeds the willingness to pay of the insured.
4- The causes of failure of community based health insurance in Sudan originate from the non scientific methods followed in design and implementation.

1-4 Objectives of the Study:

Broad objective:

1\ Examining the coverage of the informal sector with health insurance services in Umdawanban locality.

Specific objectives:

1- Modify the non scientific ways followed in determination of the premium and package of services.
2- Determine the previous causes of failure and give some suggested remedies.

1-5 Methodology of the Study:

The study is analytical and descriptive in nature.

Source of data:

Primary level:

Interviews

Secondary level:

Reports. The lack of reports makes the researcher depend on the reports of the first and last year of the experiment.

Tertiary level:

Books, journal articles and scientific writings on the subject whether in print or soft copy forms.

1-6 Analysis plan:

Research variables will be analyzed according to economic theory of health insurance.

1-7 Organization of the Study:

Chapter one:

Introduction.

Chapter two:

Literature Review and Conceptual Framework.

Chapter three:

Social health insurance in Sudan, and Community based health insurance Umdawanban experiment.

Conclusion

CHAPTER TWO

Literature Review

2-1-0 Introduction:

The researcher endeavors in this chapter to provide some information about types of risk aversion and give a historical background of compulsory health insurance. The chapter also discusses the characteristics, goals, coverage and package of services of health insurance. The chapter principally discusses community based health insurance (CBH), the willingness to pay for it, the financial risk protection it offers and problems it faces.

2-1-1 Types Of Risk Aversion:

For Getzen (2004) people must be healthy in order to contribute to social and economic development but what will happen if people face unpredictable sickness, how could they cover the financial losses they will face? this can be done through different ways such as savings, but individual savings are quite limited as a form of risk management, families sharing in medical bills – which may lead to intruding in personal affairs – and charity which tend to be unreliable and even more meddlesome. Because the need for service is huge and resources are limited so charity alone could never fund a modern medical system.

Due to all weaknesses of different forms of risk spreading mentioned above there are formal market institutions which have arisen for risk coverage based on risk pooling . Sharing insurance is a very essential feature which is shifting money from the state in which individuals have more (not

sick) to the state people have less (sick) we have to mention that insurance pools losses but it doesn't get rid of the losses or even reduce them. the subscribers must pay for the losses plus some administration fees with the premiums they pay.

Insurance companies specialize in pricing risk not in taking risk so they try to figure out in advance exactly how large premiums will have to be to cover all the predicted losses. So they are willing to help only when there is a profit to be made. The solution is social insurance, which combines the humanitarian thrust of charity and financial strength of the market and can be comprehensive only if contributions are made compulsory(Getzen, 2004).

2-1-2 Historical Background of Compulsory Health Insurance:

Wiesman & Jutting (2000) stated that a country's economic development is closely interrelated with the health status of its population. An efficient and equitable health care system is an important instrument to break up the vicious circle of poverty and ill health. Sub – Saharan African countries have tried different modes of health care financing since independence. Due to low and unstable tax revenues and cutbacks in public budgets, the initial goal to provide "free health care for all" was never achieved. In the eighties, government resources dried up in many countries and resulted in a deterioration in the quality of existing services, with poorly paid and less motivated staff and shortage of drugs and medical equipment. Under the pressure to mobilize additional resources for health care provision, public facilities and NGO. run hospitals resorted to formal or informal cost recovery strategies by collecting fees at the point of use. for the above mentioned authors user fees have been heavily criticized for Several reasons*:*

- Negative impact on equity and access: user fees can lead to access problems or even exclusion of the poor from health care utilization, in case they cannot afford to pay the charges. the effect of poverty on access to health care may be aggravated by seasonal income variation in rural areas, as the striking of illness does not necessarily coincide with availability of cash income and by the fact that poor people mainly rely on their labor productivity for income generation, which is likely to be affected in the event of illness. Inequity related to user fees also exists within households with respect to children whose access to health care may be decreased because they do not have income.
- negative impact on health care utilization and public health: access problems cause a drop in utilization rates and eventually delays in seeking care which can result in prolonged and more expensive curative treatment in order to restore health status. Moreover, underutilization of health facilities will reduce the running costs of these facilities less than proportionately due to the high share of fixed costs for salaries - in consequence, cost effectiveness declines.
- Furthermore, the contribution of user fees to health care financing turned out to be far smaller than expected, and hospitals were, increasingly facing the problem of rising “bad debts” because a considerable proportion of patients left the hospital after recovery without ever paying the bills.

On the average, national user fee systems have generated only about 5% of recurrent health system expenditures.(Wiesmann & Jutting 2000)

For Decosas (2005) user charges decrease utilization of health services, at least in the short run. The decrease is selective ,and affects

primarily the poor and the elderly .In Ghana, one of the first African countries that introduced health care user fee in 1980s, studies had shown that user charges were a major deterrent in seeking health care services. outpatient rates initially dropped by 50% in rural & urban areas. There was an increase in use rates of traditional medicine, which allowed more flexible method of payment and in self-medication (Decosas 2005).

2-1-3 Definition Of Social Health Insurance:

The alternative of user fees is health insurance which encompasses risk sharing and is supposed to reduce unforeseeable or even unaffordable health care costs (in the case of illness) to calculable, regularly paid premiums.

Partly as a response to lack of social security, to the negative side – effects of user fees and to persistent problems with health care financing, non profit, voluntary insurance schemes for urban and rural self – employed and informal sector workers have recently emerged. (Doris & Johannes 2000).

Social health insurance can be defined as a key mechanism for increasing access to care and protecting households against financial disaster. Well designed social health insurance system can be a central feature of national health reforms that aim to achieve universal coverage and improve access, quality, efficiency and equity of health services.

Access can be improved by removing financial barriers and giving providers incentives to serve the entire population.

Quality can be improved by rewarding service providers who offer high quality & penalizing those who don’t.

Efficiency can be improved if incentives are created to encourage appropriate utilization of resources .

Equity can be improved if those with higher incomes contribute more than lower income people and relatively healthy people subsidize those who consume more system resource (risk pooling).

(http//www.msh.org/news_room/seminars/12dec00.htm1)

2-1-4 Characteristics of Social Health Insurance Schemes:

The ILO in (2000) identified the following as the main characteristics of social health insurance schemes:

1- Compulsory or mandatory membership of individuals and/ or groups or households, initially targeted to cover civil servants, and other formally employed people, public and private, commercial and semi – commercial, industrial and agricultural establishments and their dependents, and, usually expanding coverage to informally employed people, non working people, retirees and even students.

2- Responsibility for contributions by the members (employees) with proper organizational arrangement to collect regular income – related contributions or flat – rate contributions from individuals / groups, with added contribution from employers and the government.

3- Contribution according to the ability to pay (based on economic means) and not related to health risks of individuals, households or employment groups.

4- Choice of health care according to the health needs (Basic benefit packages usually set by many countries, which also allow the members to make co- payment or purchasing supplementary health care services in addition to basic packages)

5- Solidarity across the population risk equalization and cross subsidization .
6- Arrangement for social assistance to cover vulnerable populations (young aged, disabled and pregnant women). Contributions by these groups may be partially or totally subsidized by the government through general revenue.

Covering a large segment of the population, and funds collected from contributions are pooled into single or multiple fund arrangements administered by a quasi-independent public body that would act as a purchaser of health care.(ILO launches World Labour Report 2000)

2-1-5 Goals of Social Health Insurance:

For Davis (1975) national health insurance has many goals primarily insuring that all persons have access to medical care, eliminate the financial hardship of medical bills and limit the rise in health care costs. A national health insurance plan meeting each of these three goals is unlikely to be acceptable, however, unless it can also be equitably financed, easy to understand and administer and acceptable to providers of medical services and to the public.

Financing for most national health insurance plans is based on premiums, pay roll tax revenues and federal and state general revenues. National health insurance aims primarily to cover people with low income. Or high medical bills, yet a national health insurance plan that attempts to meet only their needs may fail to do so. (Davis, 1975).

2-1-6 Coverage:

(Ron) 1990 identified many approaches for national heath insurance one approach to national health insurance would limit population coverage to those who have made contributions to the social security systems, on the assumption that people feel better if they believe whether correctly or incorrectly, that they have "paid" for their benefits through systematic contributions. Thus, they are collectively more willing to submit to higher tax rates than they would be if the link between costs and benefits is more so direct. But excluding those outside the social security system would frequently exclude those who are most in need of assistance, thus undermining one of the basic goals of the plan.

Another approach to national health insurance would provide coverage under employer group plans, with separate plans for the poor, the aged and those not eligible for coverage under an employer group plan. However, if few subsidies are provided for the latter group the cost of coverage to them can be quite high.

Under such a plan, self employed worker, families with a disabled head, unemployed workers on a temporary or part time basis would frequently be excluded from coverage because of the high cost of obtaining insurance without employer or government contributions.

Thus, While the universal coverage does have disadvantages, the major goals of national health insurance can not be achieved so long as there are segments of the population that do not have adequate protection against the high cost of medical care.

Universal coverage without regard to family composition, employability or social security contribution history seems to provide the most equitable solution. (Ron; et.al 1990)

According to Wiesman & Jutting (2000) universal coverage of health insurance can be brought about by mandatory membership where most people are either self – employed or informal sector workers (Wiesman & Jutting 2000).

2-1-7 Determination of Package of Services :

For Davis (1975) Several considerations affect the choice of the range of medical services that should be covered under national health insurance high priorities include:

(1) Medical services that reduce mortality or increase productivity , hence benefiting society as whole.

(2) Medical services that can add substantially to the financial burden of Medical care for an individual .

(3) Medical services that are so essential they will be sought regardless of the cost .

(4) Medical services that constitute acceptable lower cost substitutes for covered services. (Davis 1975)

According to Wiesmann & Jutting (2000) the package should be affordable and includes basic services tailored to the healthcare needs and preferences of the population .

Though health insurance funds can replace public subsidies and external support only to a limited extent.

In low – income countries, the actual costs of the benefit package should be taken into account when the premium is calculated (Wiesmann & Jutting 2000)

2-1-8 Community Based Health Insurance (CBHI):

Fairblank & Diop (2003)stated that although the argument for social health insurance as a mechanism of health financing work very well for developed countries, their actual impact on developing countries health systems is minimal.

In Africa, public and private health insurance cover almost exclusively the formal sector, and therefore achieve a coverage rate of not more than 10 percent of the population, the majority of African citizens are informal sector workers and the rural population have never had access to this kind of social protection.

To face these persistent problems of health care financing in Africa, non-profit, voluntary insurance schemes for urban and rural self –employed and informal sector workers have recently emerged.

"CBHI is health insurance that is provided at the community level and often organized and managed by community or community – related organizations while there are numerous distinct forms for such organization and for the financial arrangements characterizing their operations, the one common feature of such schemes is that they spread at least some of the finical risks of getting sick across the entire (enrolled) community; for there to be financial risks of course, patients must face user fee when trying to access services, and such fees must be significant relative to an individual's income, and because financial risk necessarily has two dimensions –firstly, how frequently it might occur and secondly, how large the financial cost would be from its occurrence –pooling of risks within a community will vary along a spectrum incorporating both of these two dimensions. At one extreme in the spectrum of alternatives, a scheme could cover only very expensive medical care events that occur relatively rarely (e.g. nonselective

inpatient surgery) at the other extreme a CBHI scheme could cover only inexpensive medical care events that occur relatively frequently (e.g. routine ambulatory consultations).

It is common to find CBHI schemes that cover some combination of these extreme forms of risk pooling needless to say, it is rather common in poor countries for many individuals to have insufficient cash on hand to be able to afford (even small) payments in the case of illness or injury if CBHI can make medical care more affordable by spreading these risks, it is also likely to make medical care more accessible to those enrolling in the schemes. and usually responsive to the needs and desires of the community, (Fairlbank & Diop 2003). P P.3

For Arhin & Tenkorang (2001) "health insurance schemes are arrangements in which officials formally hold funds that consist of payments by insured participants and use the resultant resource pool to finance all or part of members health care costs.

In African countries that have schemes of the informal sector, most plans fall into the first three of the following four models:

1/ Mutual Benefit Society Model:

Where the officials are members of an identifiable group whose contributions make up the pools and are responsible for management activities such as determining benefits and contribution .

Atim (1999) in "*contribution of mutual health organizations to financing, deliver and access to health care: synthesis of research in west and centeral African countries"* provides an example and defines a mutual health organization as (a voluntary, nonprofit insurance scheme, formed on the basis of an ethic of mutual aid, solidarity, and the

collective pooling of health risks, in which the members participate effectively in its management and functioning.

2/Provider insurance Models:

The officials originate form the health care provider institution (or from the ultimate provider organization such as the government or mission health administration) and manage both the insurance and the health care aspects of the scheme, similar to health maintenance organization (HMOs).

3/Mutual provider partnership model

In a variant of these Mutual and provider models, the officials are responsible for managing the insurance product and providing health care, and are drawn form members of a mutual society as well as health care provider organization.

Such a model correlates in general to the concept of community –based insurance put forward to test the hypothesis of feasibility of insurance for households in the informal sector.

4/ Third-party insurance has not been a feature of insurance Schemes for the informal sector in African" (Arhin & Tenkorang 2001) P P.10

2-1-9 Determination Of Premium:

IF we want to speak about premium we have to discuss three main issues:

2-1-9-1 Willingness To Pay For Community Based Health Insurance (WTP):

Arhin & Tenkorang (2001) stated that willingness to pay for the community based health insurance is the economic demand of the target population of community based health insurance (Arhin & Tenkorang 2001).

For Binam; et.al (2004) (WTP) deals with the amount that the respondents are willing to prepay to become beneficiaries. In the literature, the willingness to pay measurement technique is founded on the contingent Valuation Method (CVM).

The fundamental principle of this method is that the preferences of individuals must serve as base of evolution for gains and losses of non market goods and services.

It is now left to individuals to express their preferences through the concept of willingness to pay, Due to the fact that it is based on auto reporting, economists in particular remain sceptical. concerning the value of this method in the case where the declared intentions sometimes don't correspond to the real behavior of individuals.

Generally, three procedures are sometimes used to express the respondent's willingness to pay:

- The first one called direct open format question procedure , it consists of asking directly the respondent about his WTP for higher consumption of a particular good or service ;
- The second procedure currently called list model, offers a diversity of values (a list) to the respondent and asks him to propose the maximum amount he wishes to pay for goods or services .
- The last and the most popular one is the referendum model . Here, the respondent is asked if he wishes to pay a specific amount of money (proposed by the interviewer) for a good or not.

  For certain authors, all direct open format question, like the list model, are sources of mistakes, because in reality these types of markets are not frequent. For the last one, the fundamental criticism is

that it leads generally to values lower than those revealed by the other procedures.

In the literature, some authors concluded that the willingness to pay was influenced by economic and socio-demographic characteristics and characteristics of the good itself In the ex-post evaluation, they classify these factors into three different categories which are: Predisposition factors, facilitating and reinforcing factors.

In addition to socio-demographic changes such as age, the level of education, gender, religion and family size. The predisposition factors generally arise form the socio-cultural environment of the respondent: it is concerned generally with the local mutual help tradition (associative experience) and the open-mind of the respondent.

Facilitating factors are essentially issued by economic conditions of the respondent. In this case, the households revenues level is considered as relevant indicator of this factor, and, lastly, the reinforcing factors synthesize characteristics to the proposed good: it is concerned with the sanitary experience undergone by the respondent (availability of drugs, the efficiency of the physician, the willingness etc).

In the literature, we have noticed an expansion of research on the contingent analysis method; it seeks to construct hypothetic markets for goods in order to enable the estimation of the demand for these goods.

This method which has been applied to several domains has revealed itself appropriate to evaluate non marketed resources and public goods. It will be used to assess the willingness to prepay for the access to health care.

One of the major problems with the contingent valuation methods is that, for variety of reasons, respondents may not answer “willingness to pay” question accurately and thus not reveal their, true, willingness to pay.

The most two popular variants often – used in the contingent valuation analysis are both open and Direct questions – for example, what is the maximum you would be willing to pay per year in advance, to be beneficiary members of health services? And two forms of bidding games in which we ask a series of yes-no questions for example.. Would be willing to pay (amount in currency) per year in advance to be beneficiary members of health services.

Although the value households place on the proposed health prepayment scheme is a continuous variable, we believe the most reliable data generated from the bidding game are the set of yes-no response to questions about specific, discrete prices. Thus, the observed dependent variable obtained from the bidding game procedure is not the maximum amount the household would be willing to pay but, rather, an interval within which the true. Willingness to pay falls (Sine & Robert).

2-1-9-2 Risk Protection :

According to Arhin & Tenkorang (2001) “risk protection , in the health context, is the shielding of an individual from critical income losses as a result of illness or injury, in sub Saharan Africa, critical income is resources required for needs such as food not grown on the household farm, loosing constructing material that cannot be produced by the household e.g. corrugated iron sheets for roofing and basic formal education. Health related financial risk protection is inversely related to the percentage of income required to meet expenditures related to treatment for an illness episode.

To illustrate, a household survey finding showed that out of pocket expenditure for 20 percent of inpatient episodes exceeded half the mean annual household income for people in the lowest income level quintile

analysis suggesting that risk protection is nonexistent for a significant proportion of Africans.

Insurance schemes that provide 100 percent cover for illness episodes provide the highest levels of protection, and those involving co payment provide lower levels of protection.

Protection is a function of income, The price of healthcare and other goods, the illness incidence, and the completeness of insurance benefit package.

To provide financial risk protection (FRP) a scheme must offer an insurance product that is accessible to the target population and either eliminates payments associated with receiving care, as in the case of a zero co payment rate, or reduce the payment to a level that has negligible impact on critical consumption. Accessibility in this context will be high when a scheme's premium does not exceed targeted individuals critical income.

The compatibility of the collection schedule with the target household cash flow patterns, for example, taking into account the seasonality of agricultural work's cash income, will also enhance accessibility.

Since the process of obtaining health care in most low income settings is bad rather than good, often associated with long journeys on foot and or relatively expensive and uncomfortable travel by road, long hours of queuing, which results in loss of production for most of the day, there is little justification to include measures such as co-payments to reduce possible moral hazard. In addition, the completeness of the benefit package is a design feature that has a major influence on FRP. Schemes in which the benefit package excludes common and or expensive care will, as in the case of co-payments, frequently entail significant payments for the care that is covered, and therefore limited financial risk protection. In the absence of

risk protection, the cost of care becomes a barrier to seeking and obtaining health care.

Thus, health insurance not only provides protection for the, income consequences of ill-health, but also removes financial barriers to obtaining health care at the time of illness, enabling prompt access to treatment. Several African studies have demonstrated that many typical payments are involved; thus sick individuals have to postpone visits to the health facilities until their conditions become critical. Yet delayed emergency treatments can lead to serious health and financial consequences resulting in further impoverishment of the household. The financial barriers to care from the formal health system often lead patients to resort to self medication and other practices that sometimes injure their health. The risk protection provided by insurance also improves health equity in a community. Equity is enhanced as the healthy, at lower risk of illness, subsidize the health care costs of less healthy, higher risk individuals.

Although this may be regarded as income redistribution, the more critical interpretation is that health insurance promotes equity because, irrespective of economic status, individuals, who have equal health care needs, i.e. capacity to benefit from health care are assisted in obtaining comparable care, irrespective of their economic status .

All participating members of an insurance scheme benefit from the removal of uncertainty about their claim to health at the time of ill-health. In addition to the private benefits, health insurance, by promoting the optimal consumption of health care by individuals in society, maximizes the public benefit accuring from the positive externalities associated with healthier populations, (Arhin Tenkorang 2001. P p. 11, 12.)

2-1-9-3 Experience Rating And Community Rating :

According to the ILO experience rating is a concept in group insurance that is similar to the concept of individual equity in individual insurance. Experience rating as a generalization of the concept of individual equity is often applied to group insurance. Under experience rating each group is treated like an individual. The premiums charged to the group are based on the actual past experience of the group, if the group is small, its experience is combined with that of other small groups in order to get enough experience so that statistical fluctuations are kept to minimum. If the group is sufficiently large, the premiums of the group based solely on the experience of the group just as with individual premiums some group would experience a low cost and thus be charged a low premium. These groups would be those with young healthy workers in non hazardous occupations. Other groups would have high cost experience and be charged a high premium. These groups would be those with older workers in hazardous occupations.

The most equitable way to achieve the needed cross subsidization is to base premium payments on a percentage of income, with or without a ceiling, on the basis of income on which premiums are paid, given the total costs needed. Because cross subsidization is required, high income people end up paying something for the health services consumed by lower income people, all of whom are paying something for the health services that they consume, except those who genuinely are too poor to pay. many higher income people however tend to think in terms of individual equity, therefore they resent paying for part of the services of others and would refuse to do so if their contributions were solicited on voluntary basis. Therefore if cross subsidization with private sector contributors is to be sustained premiums

have to be compulsory; however, this requires some element of government subsidy to support such programmes.

The implication of building cross subsidization into the premium structure as result of basing premiums on income and not on calculations of expected utilization by various population groups, has been the shifting of risk management classification from the "experience rating approach" to "the community rating approach". Community rating is similar to the experience rating in that it uses past experience to set premium rates. Under community rating, however the experience of groups is combined so that every one is charged virtually the same rate, thus providing for cross subsidization (Ron et.al 1990).

2-1-10 Problems Facing Community Based Health Insurance :

1/ Moral Hazard :

Ahuja & Jutting (2003) stated that the moral hazard problem arises because of the tendency of individuals to behave, once they are insured, in such a way as to increase the likelihood or size of the risk against which they have insured. Moral hazard problem has implications for the financial sustainability of a scheme, but in addition it also has implications for costs of services. Moral hazard is either ex ante or ex post. The ex ante moral hazard problem arises due to reduced care for health after joining a scheme. The ex post moral hazard problem arises due to over consumption of medical services. The over consumption may be the result of provider's behavior or due to patient's behavior. When it comes to providing health insurance to the low income people through micro – insurance it is argued that it is the ex ante rather than the ex post moral hazard problem that is dominant and serious. Where supply of health care services is scarcer and is

distributed among many people who demand such services, its over consumption is unlikely to assume any serious proportion.

Therefore, ex post moral hazard in low income communities is unlikely to pose any great difficulty in design of health insurance. Furthermore, in a low – income society there is considerable scope for risk reduction which does not take place due to lack of health information related to public and personal basic hygiene, cause – effect relationships, and preventive measures. Even where such knowledge exists, or is provided, the difficulty is in motivating the people to follow such advice. Instead the challenge is of encouraging preventive and promotive care among people, which is a precondition for making insurance viable and affordable. According to the literature, ex ante moral hazard problem arises from lack of monitoring agent's care level that tends to decrease after the purchase of insurance. (Ahuja & Jutting 2003)

For Weismann & Jutting (2000) "insurance lowers the price of health-care at the point of use and removes barriers to access, utilization of health facilities surely will increase which is a desirable effect given the current underutilization of facilities in developing countries.

But health care costs may grow far more rapidly than resources mobilized through premiums – an effect which can quickly jeopardize the scheme's financial viability. Furthermore, some provider –payment mechanisms like fee for service reimbursement give incentives for the provision of unnecessary and expensive treatment for insured patients.

These problems can be tackled by appropriate provider payment mechanisms and by levying small co – payments at the point of use. Indeed, over prescription of services or drugs to CBHI subscribers by doctors has been reported in several cases, e.g. for the Kisiizi hospital health society in

Uganda, the Chogria hospital scheme in Kenay, the Atiman Health Insurance scheme in Tanzania and has at least been suspected of the Masisi scheme in the Democratic Republic of Congo, where part of the revenue was used as incentive payment for doctors". (Weismann & Jutting 2000. PP.11)

From the above it is obvious that Jutting has two different opinions about ex post moral hazard so this area needs further study. For the researcher the second opinion in (2000) is more stronger because he gives stronger evidence for it .

According to Ahuja & Jutting (2003) a potential solution to encourage preventive action in a low – income community is not through co- payments or deductibles as it is suggested to deal with ex- post moral hazard but through a group contract designed to induce peer monitoring by limiting the number of claims.

"A group insurance contract can be designed so as to generate interdependence among group members in such a way that the members who do not expend effort usually run the risk of not getting their claim reimbursed. The interference is built by restricting the size of loss insured under the contract vis –a- vis total group loss. More precisely, we assume that so long as the actual loss suffered by the group as a whole is less than the insured loss, the group members do not bother about reporting to the insurer as to who undertakes preventive action and who doesn't. it is only when the actual group loss exceeds insured loss that the "careful" members report to the insurer about other members who did not take preventive action. Since the level of claim reimbursement that careful members get is dependent on their reporting about the behavior of non- careful members, it is therefore in their own interest to do so. This way of generating interdependence encourages group members to keep a tab on preventive

actions of other members with whom they sign up a group contract. In fact, the information about the preventive action of one's peers is readily available in the informal setting, and does not require incurring any additional costs. This knowledge of one's behavior comes handy during the process of formation of a group, and once the group is formed members who do not take preventive action are kept out from receiving the benefits in certain situations" (Ahuja & Jutting 2003. P P.17,18).

2/Adverse Selection:

As Weismann & Jutting (2000) declared that the "people most likely to join a voluntary scheme are high risk individuals such as the chronically ill, who anticipate a high need for care. Due to this self – selection, the claims made to the scheme will exceed its revenues by far if premiums are based on the average risks in the community. As a consequence, premiums would have be to raised and insured persons with a relatively lower risk than other members would drop out of the scheme, and would therefore again increase the health care cost per insured member and so on" (Weisman & Jutting 2000. P P.11).

For Pconn & Walford (1998) the risk of adverse selection means that insurers want to exclude high risk cases by charging them higher premiums. Yet for social policy reasons, governments want all their population to have access to health care.

These factors have led to governments taking an active role in the health insurance sector. through regulating the private sector and/or developing social insurance schemes.

The adverse selection problem by limiting the membership and thereby the size of the risk pool reduces the scope for risk diversification

which tends to affect the scheme financial sustainability(Pconn & Walford 1998) .

According to Ahuja & Jutting (2003) to control the adverse selection problem, it is pointed out in the literature that enrolling the family as the unit of membership seems to have done better in terms of pooling risks than enrolling individuals. The idea behind an appropriate unit of membership is to extend membership beyond those who would join the scheme voluntarily and thus mitigate the adverse selection problem. When the household/ family is the unit of membership the fee can vary with the household/ family size or can he fixed irrespective of the household size. (Ahuja & Jutting 2003).

According to Weismann & Jutting (2000) to prevent insurance market failure induced by adverse selection waiting periods should be established to prevent people from joining just after they have fallen ill (Weismann & Jutting 2000) .

3/ Financial Instability:

According to Bennett et.al (2004) sustainability of a community based health insurance fund (CBHF) scheme means that it has the capacity to keep operating over time.

Sustainability has political, social, managerial, and financial dimensions.

Unfortunately very little empirical evidence from which to draw conclusions about scheme in west and central Africa and in Asia have lasted long enough to seem fully sustainable, it is likely that there have also been many failed schemes that have never been documented (Bennett et.al 2004).

Scheme financial sustainability does not require that the scheme fully covers the costs of health care services:

Schemes may be predicated upon continuing government or donor subsidy.

For the many CBHF schemes that cover relatively poor households, ongoing government subsidies, either to the schemes or government health services in the area, appears critical for both sustainability and equity aspects. Nonetheless financial sustainability does require that, over time, schemes at least balance their expenditures and their incomes. Recent analysis of CBHF schemes has led to a number of valuable lessons on how to improve prospects for sustainability. It seems that the biggest roadblocks to sustainability are specific scheme design flaws, inexperienced management, inadequate dues collection, and the lack of institutional development.

Training and technical assistance may help overcome some of these problems. For example, CBHF scheme mangers need to define realistic benefits packages and premium rates; data from feasibility studies can help to inform these decisions. CBHF mangers also need skills in the use of information systems to manage data, and in accounting and bookkeeping practices, including more accurate systems for collecting premiums.

Additionally, CBHF schemes are only sustainable if they are able to retain their members and recruit new ones. CBHF scheme initiators need to market and communicate the value of CBHF schemes to the public on a continuous basis. Contracting with multiple and better providers and promoting good quality care will attract new members. Monitoring and evaluation of schemes is also a way for CBHF administrators to pinpoint and solve problems before they become major issues.

Finally, some have argued that even with the best possible management, small CBHF schemes (say with fewer than 500 members) are

particularly vulnerable to failure due to the financial volatility associated with the small size of their risk pools accordingly, increasing attention is now being paid to reinsuring schemes (that is, the insuring of CBHF scheme themselves by larger insurance providers) or developing larger risk pools for certain more expensive services. Bennett (ibid)

According to Fairlbank & Diop (2003) “as a very general rule, a CBHI scheme aiming to achieve financial stability and sustainability would set benefits offered and the associated contribution rate charged at levels expected to generate financial balance, net of any subsidies received. Financial balance will result if and when the total of actual expenses incurred (in any accounting period) in paying the benefits of the enrolled group is no more than the total of the enrolled group’s contributions. But when a scheme experiences a deficit in its financial results (i.e. expenses exceed income), it can be attributed to one or more of limited number of events or circumstances can be divided into two categories:

1. Those that cannot be avoided but sometimes result in surpluses and sometimes result in deficits; and:
2. Those that can (and should) be avoided or at least minimized.

> In order to maximize the chances that expenses will equal or, at least, not exceed income, the scheme would need to predict accurately both the probability that cost generating events will occur among the contributing group and the average cost of each such event” (Ibid P P.7).

“There are three separate (but related) analytical exercises and operational activities that are involved in trying to maximize the chances of fund balance:

1. Choosing a benefits package;
2. establishing the contribution rate implied by the benefit package; marketing the benefits package (with its associated contribution rate) so as to attract a population with a risk profile not substantially different from the risk profile assumed in the calculation of (2) given (1). Ibid PP. 9).

For Bennett et.al (2004) to the (minor) extent that reinsurance is available at all in developing countries, it typically Offers coverage to commercial insurers at relatively high premiums.

Reinsurance is not available at all for CBHI schemes at present because not many countries have significant numbers, and in those few that do, any social reinsurance program would face multiple, unknown risks and high start-up Costs to begin with. Where CBHI schemes have been initiated, however, as the number of schemes grows, the risk that many will fail is great simply because they will have insufficient funds (or access to funds) to finance what could be only temporary deficits in their finances.

Social reinsurance would provide reinsurance to such schemes for social reasons rather than for commercial reasons. The primary benefit of social reinsurances would be to insure the survival, and if possible the continued expansion, of CBHI schemes that would otherwise fail as a result of financial instability. by providing a mechanism for compensating its financial losses when they are excessive, social reinsurance would, in essence, guarantee sustainable financing to CBHI schemes. If it succeeded at this, social reinsurance could then be said to have provided a broader social benefit if the survival of such CBHI schemes were shown to be promoting the achievement of a board social and / or health status goal sought as part

of the country’s national health systems development strategy (Bennett et.al 2004).

Conceptual Framework

2-2-0 Introduction:

Development is ever initiated by healthy people, that is why it is a need for developing countries to build a good health system that is able to provide medical care for every person in the community. Community based health insurance, which is widely applied by developed countries is classified as one of the most suitable tool to help the health system to sustain the above mentioned goal.

This section will describe a conceptual framework which will throw light on community based health insurance, within this frame work basic fundamentals, problems it faces and the experiment of community based health insurance established in Umdawanban locality, Khartoum state, in 1997 will be discussed.

2-2-1 Community Based Health Insurance (CBHI):

Community health financing schemes involve patients as payees and as decision makers and/ or managers. schemes incorporating risk sharing and pooling constitute community based health insurance schemes. Most (CBHI) schemes are modeled as mutual benefit societies (officials are members of an identifiable group whose contributions make up the pool and are responsible for management) or as provider insurance (officials originate from the health care provider institution or from the organization that is the ultimate provider, such as the government and manage both the insurance and health care aspects of the scheme). a few CBHI schemes are mutual partnerships (managers of the scheme are drawn from a mutual society and from the health care provider organization).

Contributions to a CBHI scheme provide a pool of funds that represent resource mobilization beyond the amount that would otherwise be available for health care, (Arhin & Tenkorang 2001).

The experiment applied in our study area is more or less an approximation if not a version of the mutual provider partnership type of CBHI. Specifically we are going to analyze the experiment by investigating the following variables and / or indicators:

2-2-2 Coverage:

One of the approaches to coverage is to provide coverage under employer group plans, with separate plans for the poor. under such a plan, self employed workers or workers work on a temporary or part time basis would frequently be excluded (Davis 1997) .And this is the approach of coverage used in Khartoum state so there was a big need for "CBHI scheme", under which coverage will extend to include urban and rural self employed and informal sector workers (Fairblank & Diop 2003).

2-2-3 Package of Services:

Package of services should be affordable and should include basic services tailored to the health care needs and preferences of the population. (Wiesmann & Jutting 2000). Also the package of services must be taken into account when calculating the premium to sustain the financial stability of the scheme.

2-2-4 Premium:

If we want to throw light on premium calculations we have to discuss two main issues: willingness to pay and financial and risk protection

2-2-4-1 Willingness to pay: WTP

Willingness to pay for the community based health insurance is the economic demand of the target population (Arhin & Tenkorang 2001)

WTP deals with the amount that the respondents are willing to prepay to become beneficiaries of health services. (Binam. etal 2004) the determining of WTP before premium calculation is very necessary to guarantee that insured persons will continue paying for the scheme and then sustain its viability.

2-2-4-2 Financial risk protection:

Risk protection, in the health context is the shielding of an individual from critical income losses as a result of illness or injury.

Health related financial risk protection is inversely related to the percentage of income required to meet expenditures related to treatment for an illness episode .

Quintile analysis suggests that risk protection is non existent for a significant proportion of Africans. so insurance schemes that provide 100 percent cover for illness episodes provide the highest levels of protection (Arhin & Tenkorang 2001)

The most equitable way to achieve the needed cross subsidization is to base premium payments on percentage of income depending on the total costs of medical services that are needed by the aggregate society. (Ron et.al 1990).

In low – income countries when premium is calculated the actual cost of benefit package should be taken into account (Wiesmann & Jutting 2000).

2-2-5 The problems Facing CBHI:

Community based health insurance in Africa faces many problems that most of the time constitute the cause of their failure. These problems are:

1) moral hazard:

Insurance lowers the price of care at the point of use and removes barriers to access, as a result utilization of health facilities will increase, which is surely a desirable effect given the current under – utilization of facilities in developing countries. But health care costs may grow far more rapidly than resources an effect which can quickly jeopardize the schemes financial viability. (Ahuja & jutting 2002).

The moral hazard problem is of two kinds:

(A) The ex ante moral hazard:

Arises due to reduced attention to care for one's health after joining an insurance scheme. A potential solution is to encourage prevention action in a low income community is through group contract (Ahuja & Jutting 2003).

(B) The ex post moral hazard:

Arises due to over consumption of medical services. This problem can be to tackled by appropriate provider – payment mechanisms and by levying small co – payments at the point of use .(Wiemann & jutting 2000)

(2) The adverse selection:

The people most likely to join a voluntary scheme are high risk individuals such as the chronically ill, who anticipate a high need of care, to this self selection, the claims made to the scheme will exceed its revenues by

far if the premiums are based on the average risks in the community; as a consequence, premiums would have to be raised and insured persons with a relatively lower risk than other subscribers would drop out of the scheme and would therefore again increase the health care cost per insured member (Wiesmann & Jutting 2000).

Adverse selection by limiting the membership and thereby the size of risk pool reduces the scope for the risk diversification which tends to affect their financial sustainability .

Enrolling the family as unit of membership seems to have done better in terms of pooling risks than enrolling individuals (Ahuja & Jutting 2003).

To prevent insurance market failure induced by adverse selection waiting periods should be established to prevent people from joining just after they have fallen ill . (Wiesmann & Jutting 2000)

(3) Financial sustainability:

sustainability of a community based health insurance fund (CBHF) means that it has the capacity to keep operating over time .

Scheme financial sustainability does not require that the scheme fully cover the costs of health care services: scheme may be predicated upon continuing government or donor subsidy.

increasing attention is now being paid to reinsuring schemes (that is, the insuring of CBHF schemes themselves by larger insurance providers) or develop larger risk pools for certain more expensive services. (Bennett. et. al 2004)

Financial sustainability can be maintained by the continuous subsidy from government, investment and through accurate administrative monitoring to guarantee the collection of dues.

2-2-6 Summary:

Community based health insurance is a financial mechanism for health services. It covers rural and urban self employed and informal sector workers. It offers them an affordable package of services which is taken into account when calculating the premium.

Premiums must be determined according to the financial risk protection of the targeted population and their willingness to pay.

CBHI faces variety of problems: moral hazards, adverse selection and financial instability.

CHAPTER THREE

Social Health Insurance In Khartoum State

3-1-0 Introduction:-

This chapter gives a background about the development of the health insurance system in Sudan in general and in Khartoum State in particular. It gives a brief account of the way it operates, detailing the extent of population segments coverage and the services rendered by health insurance in Khartoum State.

3-1-1 Background Of Health Insurance In Sudan And Khartoum State:

"Sudan is a low –income, highly indebted poor country on the northeastern coast of sub Saharan Africa Sudan's population is spread out over 2.5 million square kilometers, per capita income is estimated at 330$ for 2001. As has been the case in most African countries, the public health system was the main provider of health care services.

Physician & facilities were over concentrated in urban areas although indicators point to the rural areas as being the most in need.

Taxation was historically the primary source of funding, with all premises and equipment owned & maintained by the government. Although historically services were offered free of charge at the time of use, economic retrenchments and severer natural manmade disasters, including flood, droughts & armed conflicts in the southern part of the country, have caused serious dislocation in the national health system.

Spending on social services in general and on health in particular was low & declined during the 1980s &1990s" (Getzen 2004). PP.357

Referring to the situation of Sudan described above a real need of additional funding for health services appeared, the solution was a national health insurance system for Sudan.

The modern concept of medical services was introduced at the beginning of the colonial period. i.e the Condominium Rule. However, Under Turkish rule, limited medical services were introduced to the military, so they should not be classified as comprehensive medical services. In the post colonial era, the medical services were Sudanized immediately after attainment of independence. This included the Medical Department that inherited an integrated infrastructure of premises, personnel and medical laws. After independence, with growing awareness among citizenry, due to increasing numbers of educated and expansion of the move towards educations that had started during the colonial period, it was inevitable that the need for medical services would increase. (Mahmod, 1997).

In the late sixties, the Doctor's Union was introduced to the Egyptian experience in health insurance. It was not until 1984, however, that it presented the issue to the Ministry of Health in an attempt to adopt a more efficient and cost effective system. Therefore, it was agreed to rely on both international and local experience. Thus the Ministry of Health contacted the world Health Organization (WHO), which sent professor Kalimo, the health insurance expert, to make his own judgment on how to apply the health insurance system in Sudan. His report stated that increasing industrialization, business and investment in the country necessitated a healthier work force.

The increasing awareness among the population eventually lead to an increasing demand on health services that the Government could not meet

alone. This would, in turn, lead to deterioration of health services in Sudan (which were offered freely). Thus there was a pressing need to strike a balance by levying reasonable fees against medical services to reduce rates of the private sector expansion and to reduce the financial burden on the government sector.

On the other hand, there are many hospitals that could form a nucleus for health insurance in the capital. The creation of a health insurance system in Sudan based on reasonable monthly contributions would thus lead to an end of the brain drain among qualified physicians. Health insurance might be the only way to good and serious medical care that keeps the private sector in place while removing a substantial burden from the government, which would then be able to enhance the level of medical services. This is because health insurance is only a socioeconomic device, so it takes into consideration the urgent and necessary nature of modern medical care, irrespective of the beneficiaries position.

According to Kalimo's point of view, the best health insurance system in Sudan should be governmental, provide comprehensive medical care, be based on subscriptions of groups within its scope, with premiums in percentage form deducted from both employers and employees (Masirat al Ta' ameen Al Sahi – Marhalat Al Assaas).

In the early 1990s, health insurance headed the nation's priorities within the implementation of the Low-Cost Medicine and Frequently Used Drugs Programme. However, the question of how to treat poor and low income people and all emergency cases continued. It has also been acknowledged that dependence on governmental funding alone for health insurance would not grantee sustainability and the quality of medical

services, which necessitated involvement of the community in both management and financing.

In 1993, the high Commission for Health Salvation organized the first health insurance seminar, where in it recommended the initiation of the system. The National Health Insurance Corporation was legalized in 1995 at the federal level. It provided for an executive administration to be set up in each state. The scheme commenced in October 1995 in Sennar State (Malik,1997).

Health insurance was introduced in Khartoum State in 1996. Its administration was directly affiliated with the General Health Insurance corporation and under the direct supervision of the state's health minister.

3-1-2 A Brief Account Of Health Insurance In Khartoum State:

Health insurance in Khartoum State operates as part of the government services sector, providing health services through health facilities scattered throughout the state, these are purchased from the state health ministry under certain regulation, agreements and prices whereby health insurance has no commitment towards the personnel of these institutions. It is compulsory health insurance based on deductions taken from government workers. Financing for national health insurance plan is based on premiums.

A 4% deduction is taken from the basic salary and the Ministry of Finance pays 6% of the net wages of Government employees . There are certain categories that are given special treatment and shall be explained in Section 3.4 In 1997 the umberlla of the health insurance stretched to cover the self employed, the experiment of the community based health insurance of Khartoum state started by *Umdawanbn* locality.

3-1-3 Goals Of National Health Insurance:

National health insurance in Khartoum state aims to:

1. Reduce the cost born by the insured where he would receive free services at the time of need

2. Relieve the government from bearing the full cost of treatment through creation of self financing funding mechanism .(interview)

3-1-4 Coverage

Health insurance of Khartoum State covers the following :

1. State units where 4 % of employee net wages, which is composed of basic salary plus certain stipulated allowances , are deducted and the Ministry of Finance pays 6 % of the net salaries of Government employees
2. .Federal units that the Federal Finance Ministry pays 6% of the net salaries of its own staff .
3. Zakat Chamber pays a flat rate of 800 dinars per every poor family enrolled .
4. Certain private sector institutions pay the whole 6% of the net wage for its employees and they pay 4% by themselves .
5. for Martyr's families localities pay a flat rate of 1000 Sudanese dinars per family.
6. self employed each individual pays 10 % of this salary to be collected through localities .
7. The national student's support fund pays a flat rate of 200 dinars per student .

All of the above subscriptions are monthly (interview).

Table No (1):

Coverage of social health insurance 1997

Sector	Target	Covered	Percentage
Public sector	110.000	63.230	57.5%
Private sector	95.000	6.903	0.7%
Mashat	30.000	5.495	18.3%
Poor families	45.000	25.918	57.6%
Students	30.000	9.459	31.5%
Community based	-	992	-
Others	-	1.984	-

sources: annual population coverage report 1997

Table No (2):

Coverage of social health insurance 2002

Sector	Target	Covered	Percentage
Public sector	110.000	109.036	99%
Private sector	50.000	4.371	8%
Mashat	54.000	14.568	26%
Poor families	16.000	16.000	100%
Mashat of ministry of social insurance	18.000	5.103	28%
Community based	25.000	12.512	50%
Students	19.000	13.165	69%

Students (Kha/was)	3.000	1.958	65%
Martyrs	4.800	4.533	94%
Others	-	3.142	-

sources: annual population coverage report 2002.

3-1-5 Package Of Services:

The national health insurance scheme has introduced health services at health centers level, these services constitute doctors consultations, and routine investigations, all offered free of charge. In severe cases that require special diagnostic and special investigations patients are referred to the diagnostic or referral centers that contracted by health insurance according to certain arrangements.

At the level of diagnostic and referral centers all service are free. If some patients need admission they will be referred to the hospitals contracted by health insurance, in this level all higher level services are offered in additions to surgical operation and anesthesia, also services at this level are free. There are some excluded services such as dental services, chemotherapy, for cancer patients ect. The service is also offered at places that lack ministry of health centers by private diagnostic centers managed by NGOS and other institutions like research foundations which offer chemical tests and X- rays of various types.

Medications are offered at pharmacies distributed throughout the state and around health centers it offers medicines at 25% of its market price, the 75% are paid by the health insurance according to certain steps: firstly the drug offered at the level of the health center pharmacy with 25% of price, if not the pharmacy stamp the prescription and write that the drug is not available (N.A) so the patient try to get it from any health ministry's

pharmacy also with 25% of the price. If not the pharmacy stamp the prescription and write not available (N.A) after this the patient can get the medicine from any commercial pharmacy with full price then gets 75% of the price a reimbursement from the national health insurance office.

Table No (3)

Distribution of health services through Khartoum State 1997

Centers	Centers serving employees	Hospitals	Engazat	Model centers	Health centers	Province
	Elmatar	Ibrahim Malik	El tibi		Migoma	Khartoum
					Sadig Aboagla	
	El darieb	Ibn Siena			Geirf Garb	
	Elwelaiah	El Khartoum			Salamabi	
	Majlis Elw zraa	El shortah			Omer Ibn El Khatab	
	Mostasa - Ibn siena	Ent			El gouz	
					Saad Aboalela	
	Mostashfa Ibrahim Malik				Samir	
					El Shijarah	

Centers	Centers serving employees	Hospitals	Engazat	Model centers	Health centers	Province

Centers	Centers serving employees	Hospitals	Engazat	Model centers	Health centers	Province
	Mostashfa Ahmed Gasim	Ahmed Gasim	Bahri		Kadro	Bahri
					Elhalfaia	
					Shambat	
	Mostashfa Bahri	Bahri			Shabieah	
					Gaile	
					Droshab	
					Haj yousif	
					Gazira Eslang	Karary
					Elsorarab	

					El rakha	Umbadah
	El turki				El Kalakla	
					Gabal Awlia	Gabal Awlia
					Taiba Elhasnab	
					Umdwanban	
					Suba Shareg	
					kutranj	
					Hilat Koko	Sharg Elnil
					Kamboni	
					El Fadni	
					El Ealphon	
					Umdom	

Centers	Centers serving employees	Hospitals	Engazat	Model centers	Health centers	Province
El Telvision	El Saudi				El Dau Hajoj	Umdorman
	Umdorman				Wad Nobawi	
	El Buluk				Gibil El Teinah	
	El mantig Elhorah				El Tegani Hilal	
	El Tigani El Mahi				Abu Seid	
					Umdorman	
					El Seudi	

Source : annual report December 1997

Table No (4)

Distribution of health service through Khartoum State 2002

Centers	Centers serving employees	Hospitals	Engazat	Model centers	Health centers	Province
	El Draib	Khartoum	Eltibi	Samir	Migoma	**Khartoum**
					Sadig Abu Agla	
	El Tairan El madni	Souba	El Gerahi	El Shagra	Gerif Grab	
	Elolaia	Ibn Siena	El seka Hadid		Salamabi	
	Majlis El ozra	Ibrahim Malik	Abdoaa		Omer Ibn El Khatab	
	El Tijara	ENT			El Gouz	
	El Khajria				Hai El Zihowr	
	El Malia				Touty	
					Sahafa Grab	
					Souba Garb	
					El Rimela	

Centers	Centers serving employees	Hospitals	Engazat	Model centers	Health centers	Province
El Yrmok		Gabal Awlia			Klakla Elgalah	
		El Turki			Kalakla Sangat	
		El Sieni			Kalakla Elgoba	
					Taiba Elhasnab	
					Triat Elbija	
					El Salimania sharg	
					Elrakha Garib El gosi	Ombadh
					Hamad Elniel	
	El darieb	omdurman			Abu Sied	Omdurman
		Elwladah			El Tigani Mihal	
		El tigne elmahi				
		El Saudi	Elrdoh	Eldow Hajoj Wad Nbawi	El salmania Garb	
		El nau				

Centers	Centers serving employees	*Hospitals*	Engazat	Model centers	Health centers	Province
		El ban Gadid			Hilt Koko	Sharj Elniel
		Umdawan ban			Kamboni	
		Abudlieg			Giref Sharg	
					Eilafon	
					Umdom	
					Elshahida nada	
					Soba Sharg	
					El Fadni	
					El Eslet	
					kutranj	

Centers	Centers serving employees	Hospitals	Engazat	Model centers	Health centers	Province
		Eslanj	Aboda			Karari
		Sirorab				
		Elbulk				
		Bahri				
		Haj Elsafi				
		Ahmed Gasim	Bahri		El duroshab	Bahri
					El kadru	
					Elhalfia	
					Elshabia	
					Elkhojalab	
					Shambat	
					El jaili	
					Elsagai	
					Elsababi	
					Galatwad Malik	
					Elkomur	

Sources : Annual report December 2002

Community - Based Health Insurance in Khartoum State

Umdawnban experiment.

3-2-0 introduction:

The community – based sector constitutes 65% of the population of Khartoum state. Yet, there was no clear form of availing them with the services of the health insurance system. Thus , by the end of 1997, the first experiment of the community – based health insurance started at Umdawanban locality several constraints had faced this experiment, one of these was the non – payment of the citizens subscriptions at the proper time. Another was the large number of the members of the family at Umdawanban. A further constraint was the large numbers of patients with chronic diseases. This first experiment was lacking in administrative experience. Also, the service centers were 5-7 km away from the residential areas of the subscribers.

The main causes that obstructed the citizens from paying the subscriptions in the health Insurance scheme was their weak financial resources, the lack of the ample information about (CBHI) and the non – satisfaction with the offered services (public corporation of national health insurance of Sudan, financial performance report 2001).

3-2-1 Brief Account of (CBHI) Khartoum State :

The community – Based health Insurance system, locally called (free insurance) i.e for those who do not face legal compulsion to join the national scheme, follows directly the health Insurance administration of Khartoum state. It forms one of the divisions of the scheme. The director of the community – Based Health insurance is responsible for this work. He is

assisted in his work by officials of CBHI section. These officials, are, in turn, assisted by deputies from each locality. There is no job description for these representatives, no regulations to organize their work. Thus, each deputy gets a fixed monthly payment which is not tied to performance. Hence , they delay the delivery and receipt of the subscription forms. They even delay the delivery of the subscriptions to the health insurance division.

The health insurance system of Khartoum state adopts the third model of community - Based Health insurance (i.e . the mutual provider partnership model. This means that the officials in this case, are providers and representatives of the areas which are listed under the community – Based Health insurance (i.e the beneficiaries).

3-2-2 Coverage:

The targeted groups of the community – Based health insurance in Khartoum state, are:

(1) Families which are without a permanent employer.

(2) The free entrepreneurs.

(3) Families of the Sudanese expatriate working abroad.

Families enter into the community – Based Health insurance, through their living quarters, this is done by a contract between the Health Insurance and the credit societies (fund) of the development of poor and weak families, and the middle income families, and they provide social services at comfortable terms - on the bases of 1000 families for all the provinces of the state. The contract is valid for one year.

3-2-3 The Determination of premiums in *Umdawnban* experiment:

None of the two methods of determining premiums neither experience rating, nor community rating were followed in determining deductions. A ratio of 10 % of the income was set without regard to the average risk *Umdawnban* citizens face. This ratio is taken in full from the subscriber. The incomes of the subscribers are determined on the basis of the average income of the states employees. There was no study of the incomes of the categories covered by the community – Based health insurance. The subscription was then fixed at 750 Dinars for each family constituted of five members. Then, 100 Dinars are paid for each additional member. Presently, this rate was raised from 750 Dinars , to 1.500 Dinars for each family. Rural areas in Sudan are distinguished by their large families, while the states employees- the majority live in urban areas and educated –are not so in spite of this fact the average family members was calculated on the basis of the families of the employees working in the state. No consideration was given to the difference in education or culture between the inhabitants of *umDawanBan*- which is a rural area- and the government employees, When determining subscription many economic concepts were ignored. For example no study was made to calculate the financial risk protection; nor the willingness to pay. This led to the determination of subscriptions which exceeded the ability of the beneficiaries to pay. As was mentioned, thus, in the evaluation report on the performance of health insurance in Khartoum state, (2001), about 66% of the families at *UmDawan- Ban* locality, have an income which does not satisfy their needs, this means that the financial risk protection of these families is zero. This is according to Arhins definition of financial risk protection.

Citizens of *Umdawanban* Complained of their inability to pay the subscription fees. Some others had to withdraw, after benefiting from the highly expensive services, which were the cause of joining the coverage of the insurance umbrella, thus, the number of subscribers was reduced, and accordingly subscriptions had to be increased.

Meanwhile, the increase of the frequency over the costly services, led to the imposing of co-payment of 50% of the service. This contradicts with one of the basic objectives of insurance; which is covering the high costly services.

Moreover, when determining the value of subscription, the cost of the package of services was not consider which resulted in that the scheme could not cover the cost of the treatment of subscribers , especially under the shadow of the weakness of the collection.

3-2-4 The causes of the failure of the community – based health insurance and some proposed methods of treatment:

1. The weakness of collection because of non-payment by the beneficiaries, or the non-delivery of the collected subscriptions. This led to financial instability; since the revenues did not cover expenditure for the specified period. These calls for administrative supervision and control over the deputies and linking their remunerations to performance.
2. The community – based health insurance system in Khartoum State, faced the problem of adverse selection. Thus, the needy of the high cost services enter into the system; although the technique of recording the family as a unit was chosen to treat this problem, the problem remained a threat to the financial sustainability of the

scheme. Thus, the waiting period method must be used. By this method, the service should be provided after payment for a specified period (6 months, for example). If this happened , it would be guaranteed that everybody who subscribed to insurance is not in bad need for a major operation; or a high cost service which was the cause of his joining the scheme. Also, the government must support the scheme; so that such support and the subscriptions can be invested in some health related fields to benefit the subscribers & use its revenues as an additional source of income which may maintain the financial sustainability of the scheme.

3. The rural areas in the Sudan are characterized by the deficiency in health awareness and non-caring to the protective procedures, the area in which the experiment was conducted was a rural area (i.e. *Umdawan*b*an* locality) so, the experiment was faced with the ex-ante moral hazard Yet, non-caring for the protective procedure was not a result of joining the scheme; but it may increase carelessness. The experiment also faced the ex-post moral hazards, as a result of patient behavior. This gave the problem a new particularity; because not only over – utilization of the service occurred, but also; the beneficiaries' stop payment, after benefiting from certain services; and then withdraw from insurance.

In an attempt to cure the ex-post moral hazards, a co-payment, a ratio of 25% from medicines and drugs cost, also 50% of the high cost services, were imposed. The latter contradicts a basic principle of insurance which is covering the high cost services, for relieving the citizen of the cost of treatment, as was mentioned earlier.

We can use the idea of the group contract; for treating the ex-ante moral hazards. In this context, the size of reimbursement of the group, dictates reporting those who do not adhere to the protective procedures. Likewise, it is important to equip the citizens with full health awareness, before their access to insurance and also during the experiment.

It is important to borrow the idea of the group contact, for treating the ex-post moral hazards, with making some alterations. These alterations indicate that dealing should be stopped by all the group's cards, if some of its members stop paying the scheme.

For the (CBHI) department to be able to deal with the group contract, The average risk the community of U*mdawanban* faces should be taken into account when the ratio of premium is determined. This is the way to determine the size of insured loss. The purpose is to assess whether the actual loss suffered was greater or less than the insured loss.

Conclusion

According to the previous discussion of this study the researcher arrived at the conclusion that The experiment was not founded on scientific basis in both design & application

In particular the reasons of failure can be summarized as follows :

(1) The set deduction exceeded the ability to pay of the subscribers.

(2) The available services are not of the quality which tempts people to join the community – based health insurance scheme.

(3) There was no administrative supervision on the deputies, which, in turn, threatened the financial sustainability of the scheme, for non – payment of premiums.

(4) The adverse selection and moral hazards problems permeated the experiment, thus, all attempts which were set for cure, failed to solve the problems, this led to the full cancellation of the experiment in 2002.

Recommendations.

On the basis of the successful experiments in the developing countries and according to the economic theory of health insurance. The researcher recommends the following:

1. Linking the incentives of the deputies with performance, so as to create a motive for work.

2. Conducting a prior survey to study the characters of the citizens who are going to be covered by the (CBHI) services. Then determine the willingness to pay and the financial risk protection. Also, the package of services cost must be calculated, in order to determine subscription fees which suit the real income of the beneficiary, in reality. This would guarantee their continuity in payment. Likewise, it would guarantee offering convincing and continuous services.
3. The use of the concept of the waiting period for adverse selection cure.
4. The use of the group contract to cure both the problem of aspects of moral hazard.
5. The determination of premiums as a ratio of income putting the average risk of the community faces in account to facilitate the use of group contract method.
6. The design programs for continuous razing of health awareness, so as to reduce the possibility of catching diseases, and the cost of treatment.
7. Caring for the quality of service offered, so that the largest number of subscribers are engaged in the CBHI which will automatically decrease the premium rate.
8. After the implementation of the above mentioned remedies there will never be any need for the co-payment of 50% of the high cost services bills so it can be cancelled.

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