Health Insurance Plan and Utilization of Health Services: The Case of Tanykina Community Health Plan; Nandi County, Kenya

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Abstract- Community Based Health Insurance mechanism of Health financing targets the informal sector and the Rural who cannot access the national social health insurance. Tanykina Community Health Plan was established to help dairy farmers in Nandi North Sub county of Nandi to access quality health services using monthly milk deductions as the premiums. Despite this financial access, there is still low health care utilization by these residences. This study aimed to evaluate the effect of the perceptions of residents and clients on the utilization of health services. A cross-sectional study was conducted on patients attending the contracted health facilities. Of the 336 respondents (84% response rate) 169(50.2%) were enrolled members of TCHP, with most of them being female (95,55%) and over 50 % having at least college level of education. The level of education was highly correlated with increased healthcare utilization (p=0.069) though this was not statistically significant. Increased level of satisfaction correlated positively with increased used of outpatient services and this was statistically significant (p=0.05). The perceived availability of information was however no statistically significantly associated with increased utilization of health services in either outpatient department (p=0.112) or inpatient department (p=0.939). The perception of increased accessed to information increased with additional age of the clients. The belief that the services offered through TCHP target the poor in the society was highly associated with increased education level of the clients ($p<0.05$) and the duration of membership of the clients ($p<0.05$). There was also a 15% increase in the outpatient services use and 19% increased likelihood to increased inpatient use with the perception that the services target the poor in the society. Almost all the respondents n=325(97%) perceived that the services of TCHP are highly acceptable. The increased level of perceived acceptance was highly associated with increased utilization of inpatient services (p=0.04). Being male increased the level of perceived acceptance by 10 % compared to the female counterparts. With regard to in-patient health services an additional increase in the level of education of the insured members and the duration of membership significantly increases the utilization of these services by 0.19 and 0.89 respectively. However, the duration of membership was statistically significant (p=0.008) in influencing the level of in-patient utilization. We recommend managers of community based health insurance to continuously evaluate the perceptions that the members have in order to improve utilization of health services.

Index Terms- CBHI, health financing, Utilization, Nandi, Kenya

I. Introduction

Health financing refers to the collection of funds from various sources, pooling of funds and spreading of risks across larger population groups, and the allocation or use of funds to purchase services from the public and private providers of health care (WHO, 2006). One mechanism of resource mobilization is the Community Based Health Insurance. Community Based Health Insurance (CBHI) provides financial protection against cost of illness and improves access to quality healthcare services for the low-income households and those in the informal sector in the developing countries (Ranson, et al., 2003). The overall effect of Community Based Health Insurance on health care utilization is significant and positive but the benefit of CBHI is not equally enjoyed by all socioeconomic groups (Gnawali, et al 2009; Schneider, et al. 2000). By providing this financial protection, members get primary and (limited) secondary healthcare to Tanykina dairy ltd. shareholder members and their households. As of January 2014, a total of 3,725 beneficiaries have been enrolled. This study looks at the perceptions of the community and the clients towards the TCHP services and how it has influenced their utilization of health services in the region.

II. RESEARCH ELABORATIONS

Data was collected using an interviewer administered questionnaire during an exit interview at the health facility. The interview forms were then analyzed for completeness and information, entered into Microsoft Excel worksheet for cleaning and coding. The coded information was further uploaded to the STATA version 10 software for statistical analysis. The unit of analysis was the individual insured member of the Tanykina Community Health Plan (TCHP) and the individual member of the community.

Demographic data was collected from all the individuals and this included age, sex and the highest education level attained. The utilization of health services was measured using the patient's perspective and the number of either outpatient and in-patient visits made to the respective facilities for the 12 months prior to the date of the interview. Statistical tests were employed at 0.05 level of significant.

Assessment of the perceptions of the services of TCHP was undertaken in both the enrolled members and non-members. The enrolled members of TCHP were asked about their perceived opinion on the level of satisfaction, adequacy of information, reduction of the burden of ill health, how the program targets the poor and how accessible the program is. A Likert scale; ranging from 1 to 5 with 1 being strongly disagreed and 5 strongly agree was used. The generated means from the elements in the Likert scale were then compared to the classical mean of 3 (mean of 1 to 5). Statements that were below 3 and tended to move towards 1 were considered to be disagreeable sentiments of the respondents while those statements whose means were above 3 and tended to move towards 5 were considered as agreeing sentiments by the respondents.

III. RESULTS OR FINDINGS

a. Sex

With regard to the sex of all those interviewed, there was a higher proportion of female n=183 (54.46 %) compared to males n= 153 (45.54%) resulting in a 1:1.19 ratio. This feature was similar in both the study groups. With regards to health seeking behavior in relation to gender, the study qualitatively established that the women in this community sought health interventions earlier compared to their male counterpart. This was a recurrent theme in focus group discussions. They reported that they are more often at home while the male is in distant places dealing with work related activities.

The following is an excerpt from the focused group discussion:

> *"…Most of the women are found at home, our men are away in the shambas and employed elsewhere. We also take care of the children when they fall ill…"*
>
> (A male participant from the FGD)

These findings were consistent with prior studies by Bertakis et al. (2000) that demonstrated higher medical utilization by the female gender. Studies in other regions have shown that micro insurance has reduced the gender inequality in utilization of health care services even though the coverage is limited (Xander, 2007). Women also do have a significant higher rate of hospitalization and outpatient encounters as noted by Bashiru S. et al (2015). In terms of sex in relation to membership, the results showed that more women (94, 55.62 %) than men (75, 44.38%) were active members of the program, a male to female ratio of 1:1.25

b. Education

The non-members had more individuals having no education 14 (8.4%) compared to the members of TCHP, 2 (2.3%). Insured members of TCHP had more individuals 91(53.8 %) having attained college and degree level education. The level of education was highly correlated with increased healthcare utilization (p=0.069) though this was not statistically significant. Over 50% of the members had attained at least college or degree level of education. Educated individuals do understand the importance of health insurance and do easily take up. Moreover, they do seek medical attention sooner than those with less education. Educational level is an important predictor of healthy life and can affect health care utilization (Abolfazl, et al. 2015).

c. Membership of CBHI

Out of all the respondents interviewed, 169(50.3 %) were enrolled and were active members of TCHP. Being members of TCHP was highly significantly associated with the level of awareness (p=0.014). SEE ANNEX. TCHP members were proud of their membership and had their membership cards. The awareness was assessed by seeking the respondent's level of information on the existence and services of TCHP. Most of insured respondents 119, (70 %) had been enrolled for more than six months. Their enrolment was through active community sensitization by the management of the TCHP. A key informant from TCHP confirmed this during the in-depth interview. The benefits that the clients get were the main reason for joining the health insurance scheme. These benefits were noted to be of great importance during sicknesses which occur in unpredictable times of the year 150(88.7%). The assurance of getting treatment when they do not have money in their hands was the most motivating factor. This reduced and even eliminated the need to pay for services from out of pocket.

d. Perceptions of services offered by TCHP

The degree of satisfaction is the outcome of the quality of health care offered by TCHP and the health care providers. Most members, 154(85%) were satisfied with the program. The level of satisfaction was highly associated with the duration of membership at the TCHP (p=0.01). There was no significant association with the age of the clients (p=0.38) and the education level of the clients (p=0.87). The level of satisfaction was similar across socio demographic variables. The age, literacy level and the gender of the respondents was not significant in determining the satisfaction level. Increased level of satisfaction correlated positively with increased used of outpatient services and this was statistically significant (p=0.05).

Community satisfaction is important in ensuring sustainability and acceptability of services of a community based health insurance. It is an important element of the quality of healthcare and determines the willingness to comply with treatment and influences the effectiveness of care (Lucy G., 1994). It is however noted that other factors come into play in determining the level of satisfaction other than the care itself (Sara et al., 2009). Satisfaction is determined by service quality customer expectations, subjective disconfirmation and emotions experienced during service delivery. Thus patient satisfaction gives an important insight into the quality of care provided by the health services (Devadasan N. et al. 2011).

The majority of the respondents 277, (82.44%) believed that information was often available and adequate.

Most members 71, (42%) felt that information on the program was ready and very available. The perceived availability of information was however no statistically significantly associated with increased utilization of health services in either outpatient department (p=0.112) or inpatient department (p=0.939). The perception of increased accessed to information increased with additional age of the clients. This was similar in the uninsured group where there was no significant effect of this perception on the utilization of health services.

Availability of information relating to a health service is important to the individual in making informed decision about a service. This patient perspective was used to assess their perceived adequacy of access to information about the insurance scheme. Information relating to the community based health insurance need to be provided throughout the membership of the clients. This provision of necessary information has been shown to increase satisfaction, improve knowledge and make the enrollees to be better aware of the insurance schemes activities (S. Mohammed, M. Sambo &H. Dong, 2011). The activities that the scheme is planning to introduce or change should be passed to the enrollees at the appropriate time and through the most effective means. TCHP management has introduced a short text message (SMS) to their clients to pass any information that should reach them. Through this network, information relating to meetings and other announcements are communicated.

Most of the respondents 263, (78.27%) felt that the services of TCHP reduce the high cost of seeking health services and the financial burden that comes with illness. Being male increased the likelihood of this perception by 48 % compared to being female. There was also 30% more likelihood of outpatient utilization for clients with increased in this perception. Majority of the respondents rely on farming as a source of income (Nandi County Development Profile, 2013). They mainly do animal husbandry and medium scale maize farming.

These economic activities are not highly reliable especially in respect to the unpredictable nature of illness. The cost of seeking health services may not be within reach of most of the residents and they have to incur huge expenditures to get health services. he willingness to pay for the insurance scheme is dependent on the socioeconomic status of the individual households. The burden of illness is normally felt by the head of the households who have to incur out of pocket expenditure when purchasing health services. However, the family perspective is important in considering the financial risk associated health expenditure. This is because expenses for one family member may adversely affect the whole family (Robin A, Cohen & Whitney, 2014). The proportion of the general population that spends out of pocket is high especially in the rural areas.

The clients were also asked their perception of the insurance service targeting the poor. The scale for the response ranged from 1 to 5, representing strongly disagree to strongly agree respectively. Of all the respondents, 58, (38.32%) strongly agreed with the statement, 71(42%) Somewhat agreed with this statement while 34(20.12%) were neutral on this perception. The computed mean of 4.1 is moving away from the classical mean of 3 towards 5 imply they strongly agreed with the statement. The belief that the services offered through TCHP target the poor in the society was highly associated with increased education level of the clients ($p<0.05$) and the duration of membership of the clients ($p<0.05$). There was also a 15% increase in the outpatient services use and 19% increased likelihood to increased inpatient use with the perception that the services target the poor in the society. Education is needed for the awareness of health insurance and the benefits that come with the health services.

The overall acceptance of the services of TCHP by the clients was rated in a scale of 1-5. Almost all the respondents n=325(97%) perceived that the services of TCHP are highly acceptable. This quality of the services was quantified qualitatively during the in-depth interviews. The program is tailored to the main economic activity of most of the residence. The following is an excerpt from one focus group discussion.

> *"…I have no other source of income; my cows give me milk that help and treats my family through the TCHP…"*
> *(A male participant during FGD)*

The other fact is that all the health care providers or hospitals contracted to provide the health services are within reach of most of the members. The increased level of perceived acceptance was highly associated with increased utilization of inpatient services ($p=0.04$). Being male increased the level of perceived acceptance by 10 % compared to the female counterparts.

In order to achieve universal coverage services requires a process that ensures equity in access of health services to all irrespective of their ability to pay. The acceptance of the services by the TCHP is an indicator that the community is ready and willing to be members of the health financing mechanism that can be used anywhere in any rural set up.

e. Utilization of health services

After controlling for age, duration of membership and the education level of the clients, the insured male had 0.18 more outpatient visits than the female counterpart. The effects these parameters were however not statistically significant ($p>0.05$). This particular aspect did contradict earlier studies which had more females utilizing health services than the male (Bertakis et al., 2000). However, this finding was only observed with regard to use of out-patient services. This increased use of outpatient services by the insured respondents compared to the non-insured was noted in other studies (Gnawali et al 2009) which showed over 40% higher use. With regard to in-patient health services an additional increase in the level of education of the insured members and the duration of membership significantly increases the utilization of these services by 0.19 and 0.89 respectively. However, the duration of membership was statistically significant ($p=0.008$) in influencing the level of in-patient utilization. The rate of health services utilization by insured clients may have been affected by the level of the insurance coverage. As Faulkner (1997) noted, male and female adults choose between preventive and curative services depending on the coverage from the insurance company.

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There is also variation in the utilization of health services across socioeconomic groups of the insured clients (Gnawali DP et al, 2009). It also noted that the effect of CBHI on health care utilization is significant and that there is need to subsidize the premium to favor the enrolment of the very poor. Furthermore, the income and health status influence the enrollees utilization of health services, with the richer/sicker participants obtaining greater net benefit from CBHI than the poorer/healthier members participants subsidize the rich/sick (Wang H, 2005).

IV. CONCLUSION

Being members of a Community Based Health Insurance do affect the rate of health care services utilization. The level of satisfaction and Acceptance of these services is highly correlated with increased utilization of both in-patient and outpatient services. The Quality of care is a determining factor in the choice of health provider.

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