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Factors influencing enrolment of households in the Community Health Fund in Moshi District, Tanzania.

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Abstract:
Background*: Community Health Fund of Tanzania was established in 2000 targeting the rural population. Despite the set targets of enrolling 85% of Tanzanians by 2015, only 10% were enrolled within a decade. Limited empirical literature existed on the factors influencing households' enrolment in the CHF. Moshi Rural District was selected because it was among the Districts with lowest enrolment rate and no study was done to assess the factors influencing low enrolment.*
Materials and Methods*: This study adopted a cross-sectional comparative research design. The sample for the study comprised of 50 enrolled, 88 non-enrolled households for quantitative method. Sample for qualitative method comprised of 12 key informant and 14 non-enrolled members for interviews. Questionnaires and in-depth interview guide questions were used to collect quantitative and qualitative data respectively. Quantitative data analysis was done using Statistical Package for Social Sciences (SPSS) while qualitative data analysis was done using content analysis.*
Results*: Only 50 households were CHF enrolees. Respondents' age ranged between 21 and 58 among both enrolled and non-enrolled. A total of 84(61%) respondents involving 43(86.0%) enrolees and 41(46.6%) non-enrolees (p=0.001) perceived diagnostic investigation as a factor for households' enrolment in the CHF. Among 91(66%) respondents involving 48(96.0%) enrolees and 43(49%) non-enrolees (p=0.001) perceived availability of drugs as a factor for households' enrolment in the CHF. Among 19(13.8) respondents involving 2(4.0%) enrolees and 17(19.3%) non-enrolees perceived membership fee as a factor for households' enrolment in the CHF and this shows that more non-enrolees regarded the fee as an obstacle for enrolment.*
Conclusion: *CHF enrolment was low in Moshi District. If the health facilities would undertake diagnostic investigations to patients and stock drugs in the health facilities, households would enrol in the CHF*
Key Word*: Community Health Fund; Utilization; Households.*

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I. Introduction

CHF was established in Tanzania by the Ministry of Health on a pilot basis in Igunga District in December, 1995. Its purpose was to ensure that the rural population are able to access quality health care services at an affordable prices[1]. Households were enrolled in the CHF by paying membership fee equivalent to $5 per household per year[6]. Each households' beneficiaries included the husband, wife, children and other siblings that would make a total of 10 members. Membership fees enabled members to access medical services at the District health facilities without top-up payments. Despite the role of community based health insurance in improving health status of rural population in developing countries, enrolment in Tanzania has remained low[6,7]. CHF would enable reliable health care to its members through risk-sharing whereby members' contributions offset the risk over expenditure for health care use[7]. The aim of CHF was to enrol 85% of the Tanzania population by 2015. However, by 2011, CHF had enrolled only 50 households in Moshi District whereby non-enrolees continued to use out-of-pocket payments. The research, therefore, aims to find out the factors contributing to low rate of enrolment of households in the CHF.

II. Material and Methods

This study on assessment of factors influencing enrolment of households in the Community Health Fund was carried out in Moshi District, Kilimanjaro Region, Tanzania. The study was undertaken from April to July 2012. A total of 164 respondents participated in this study. Out of these respondents, 50 were CHF enrolled members and 88 were non-enrolees who filled the questionnaires. The study also adopted qualitative method whereby in-depth interviews were undertaken to 12 key informant and 14 non enrolled members.
Study Design: Cross-sectional comparative study design

Study Location: This study was done in Moshi District, Kilimanjaro Region, Tanzania. The District has 50 CHF enrolled households. The remaining are non-enrolees.
Study Duration: April to July 2012.
Sample size: 138 households.
Sample size calculation: The sample size was computed based on the existing average national enrolment proportion of households which stands at 10% according to the study[2].
$n = Z_{\alpha/2}^2 (p*(1-p)/\varepsilon^2$
= 3.84*10.0*90.0/25
= 138 households.
Inclusion criteria:

1. Only heads of households who were permanent residents (have been residents for at least 1 year) in Moshi rural District. This was considered necessary because after residing for a period of at least a year, one could be inclined to participate in the scheme because the chances of moving away from the current residence were minimal.

1. Heads of households who were absent during the study.
2. Heads of households who were non-residents.

Statistical analysis

Questionnaires were used to collect data. Data was entered, cleaned and analysed using SPSS version 16.0. Data presented using frequency tables; association between variables was done by using $\chi 2$, statistical significance was considered at p value 0.05. Content analysis was used in qualitative data analysis.

III. Results

Distribution of respondents by gender

The study sought to establish the distribution of the respondents in terms of gender. The findings are presented in Table 1.

Table 1: Distribution of respondents by gender

Variable	All (n=138)	Enrolled (n=50)	Non enrolled (n=88)	
	n (%)	n (%)	n (%)	p-value
Gender:				
Male	78 (56.5)	31 (62)	47 (53.4)	
Female	60 (43.5)	19 (38)	41 (46.6)	0.328

From the findings shown in Table 1, 56.5% were males while 43.5% were females. The results show a higher number of males because large number of head of households were male compared with females. This disparity was occasioned by few women who were single parents because of divorces and early pregnancies.

Distribution of respondents by age

The respondents were asked to indicate their age bracket from the following categories: 18-45 and older than 45 years. The findings are presented in Table 2.

Table 2: Distribution of respondents by age

Variable	All (n=138)	Enrolled (n=50)	Non enrolled (n=88)	
	n (%)	n (%)	n (%)	p-value
Age (years):				
Mean (SD; Range)	50.8 (16.2; 21-58)	54.8 (14.5; 22-82)	48.5 (16.7; 21-58)	
18-45	60 (43.5)	15 (30)	45 (51.1)	
Older than 45	78 (56.5)	35 (70)	43 (48.9)	0.0016

From the findings presented in Table 2, 43.5% of respondents indicated that they were aged 18 to 45 years while 56.5% of the respondents were older than 45 years. From the findings, many of interviewees fell in the 45 and above years' bracket. This implies that most of study respondents were adults.

Distribution of respondents by occupation

The study sought to establish the distribution of the respondents in terms of occupation. The findings are presented in Table 3.

Table 4.3: Distribution of respondents by occupation

Variable	All (n=138)	Enrolled (n=50)	Non enrolled (n=88)	
	n (%)	n (%)	n (%)	p-value
Occupation				
Peasant	119 (86.2)	48 (96)	71 (80.7)	
Non-peasant	19 (13.8)	2 (4)	17 (19.3)	0.0011

Findings from Table 3 show that 119(86.2%) respondents were peasants while 19 (13.8%) respondents were non-peasants. This implies that most of the respondents were peasants engaging in farming as their main activity. Additionally, Moshi District has the population located in the rural areas compared to other Districts.

Distribution of respondents by household size

The study sought to establish the distribution of the respondents in terms of household size. The findings are presented in Table 4.

Table 4: Distribution of respondents by household size

Variable	All (n=138)	Enrolled (n=50)	Non enrolled (n=88)	
	n (%)	n (%)	n (%)	p-value
Household size:				
Mean (SD; Range)	5 (2; 1-12)	5.7(2.8; 2-11)	5.3 (2.3; 1-12)	
Up to 5	82 (59.4)	29 (58)	53 (60.2)	
More than 5	56 (40.6)	21 (42)	35 (39.8)	0.798

Findings from Table 4 show that the household size among enrolees and non-enrolees were 5 ranging between 1-12 people. This implies that many households comprised of extended families which is common in rural setting.

Distribution of respondents by income status

The study sought to establish the distribution of the respondents in terms of income status. The findings are presented in Table 5.

Table 5: Distribution of respondents by income status

Variable	All (n=138)	Enrolled (n=50)	Non enrolled (n=88)	
	n (%)	n (%)	n (%)	p-value
Income status (proxy of property ownership)				
Mean Score (SD; Range)	4 (1.7; 2-8)	3.7 (1.6; 2-8)	4.1 (1.7; 2-7)	
Low	91 (65.9)	38 (76)	53 (60.2)	
High	47 (34.1)	12 (24)	35 (39.9)	0.06

Findings from Table 5 show that nearly two thirds of participants (65.9%) were in the low income bracket whereby 38 (76.0%) were enrolees and 53 (60.2%) were non-enrolees.

Factors that influencing households' enrolment in the CHF

The study sought to establish if the following factors namely referral system, membership fees, perceived quality of health care services, investigation, drugs and advocacy influences enrolment in the CHF. The findings are presented in Table 6.

Table 6: Factors that influencing households' enrolment in the CHF

Factor	All (n=138) n (%)	Enrolled (n=50) n (%)	Non enrolled (n=88) n (%)	p-value
Referral system	71 (51.4)	30 (60)	41 (46.6)	0.130
Membership fee	19 (13.8)	2 (4)	17 (19.3)	0.011
Perceived quality of health care services	13 (9.4)	7 (14)	6 (6.8)	0.165
Diagnostic investigation	84 (60.9)	43 (86)	41 (46.6)	<0.001
Availability of drugs	91 (65.9)	48 (96)	43 (48.9)	<0.001
CHF Advocacies	105 (76.1)	35 (70)	70 (79.5)	0.206

Findings from Table 6 show that significant factors included membership fees, availability of laboratory investigations and drugs. Furthermore, the amount of enrolment fees was a significant factor for non-enrolment while availability of laboratory investigations and drugs increased the chances for enrolment.

Perceived barriers for non-enrolment in the CHF

The study sought to assess the perceived barriers for non-enrolment in the CHF among 12 non-enrolees. Participants said they could not see the need to enrol into the CHF because they were not consulted when CHF was established. None of the participants knew the criteria of setting Tanzanian shillings10,000/= as household's membership fee as reported by respondents;

The fee is high. I could enrol in the CHF if I could be involved in the planning for the establishment of CHF with my fellow villagers. This could give us the room as the community to collectively discuss and set the membership fee and set strategies in ensuring that each household in Moshi District is sensitized on the importance of CHF. This is due to the fact that if the community elders were used that could be easy to influence the community to enrol because they we respect them. The other governmental officers and political leaders at the community level like village Executive Officers, Ward Executive Officer, political party leaders who are influential could promote the enrolment. However only the in-charges of health facilities are the only ones who are busy treating CHF patients but are not influential in the community (Respondent 1).

We have low knowledge on the CHF. Although CHF has about 10 years since its establishment, community members were sensitized only twice on CHF. Even myself, I never got that information on CHF than hearing from fellow villagers with no enough details on how to enrol and its benefits to me. The first time I heard about CHF is when District health workers were talking about coming to give the sensitization more than seven years ago and I could not get the chance to participate because I was far. Therefore, the communities do not really have adequate information on the operations of CHF and how the community can benefit from it. We actually regard CHF as a political issue. If you ask my fellow community members about when was CHF established and how it operates, many will tell you they don't know (Respondent 2).

The findings reveal that the Government had the role of engaging the communities on the importance of introducing CHF something that was done. As a result, the community did not receive their community insurance positively causing it to underperform. Therefore, the Government should review CHF by consulting the community and undertake community meetings for collection of their opinion. This would create sense of ownership of CHF and reduce resistance to enrol through inclusion of community members in the enrolment advocacies teams.

The other perceived barriers to enrol in the CHF was poor health services in rural areas from accredited health facilities. CHF health services were largely offered in dispensaries but clinicians in dispensaries dispensed drugs without undertaking diagnostic tests. Households reported this weakness as a dangerous practice as explained by respondents:

The CHF only depend on dispensaries and health centers to offer the health services, but health centers in the whole District were only 4, if someone gets sick should travel to the other ward for about five hours to reach the health center, the only available health facility is a dispensary whereby when you attend there and explain to the doctor how you feel, the doctor looks at your eyes and write you the drugs and when you go to take drugs you will be told the drugs are finished and asked to go and buy. Therefore, we usually get afraid if

we are usually given the right drugs for the right diseases. That's why when my family gets sick I can know how the doctor usually look at and I decide my children to take some drugs from the nearby pharmacy. That's why it is not important for me to enrol in the CHF unless you accredit the District hospitals and even those private health facilities that offer quality of health care (Respondent 3).

The findings show that the households are not confident with the quality of services rendered to them. Therefore, they opt to access medical services in the health facilities of their choice and preference using out-of-pocket payments. The households would enrol if they could visit the health facilities accredited by CHF and receive diagnostic investigation followed by taking drugs which are relevant to their diseases.

The study also interviewed District officials who engage directly with the implementation of CHF. These key informants reported that the households had low knowledge about CHF and that the communities were ignored during the establishment of CHF and eventually they resisted to enrol. The other challenges were financial constraints that affect health promotion at the village levels on CHF. The following is the findings from the respondent:

The communities were not involved in the establishment of CHF. Therefore, they do not perceive it as their Fund rather the government Fund. Therefore, even planning and management of CHF is not in the hand of the community. That's why even when the advocacy is in place people turn up is low because the community members disregard it (Respondent 4).

This shows that after the establishment of CHF it was important to form the health promotion teams at the village levels. Then the Government could prepare the budget for that activities so as to ensure the education advocacy is done appropriately and successfully. When the community are well informed about the program it helps to educate themselves and decide to enrol if their challenges are addressed.

Findings showed that despite clinicians being trained, when they went to work in the Dispensaries they were not allowed to collect samples and undertake diagnostic investigations. The patients were not happy with the system of dispensing drugs hence they perceived the health care services under CHF as poor and untrusted. These reasons led to resistance to enrol and drop out. Therefore; households opted to pay medical services using out-of-pocket payments in private health facilities. The following are some of the findings from respondents:

The community complains about the lack of laboratory examination, when we were in the health colleges we were trained on how to undergo basic laboratory tests but when we were employed according to the national Health Policies, we are not allowed to undergo laboratory test at the dispensary level despite the ability to do that. This frustrates the community members because we prescribe and provide drugs to patients without laboratory tests. But again we run shortage of drugs mostly due to inappropriate supply of drugs in our facility or supplying drugs that are not treating diseases prevalent in the community (Respondent 5).

The Medical Store Department is the governmental agency which procures and supplies the drugs to all governmental health facilities, but this agency usually has many problems, first supplying drugs without referring to drugs needs assessment, but also supplying drugs which are about to expire hence taking shorter time in health facilities before being expired (Respondent 6).

The findings show that the households were not convinced regarding the health services rendered to them without the basic diagnostic examinations. Therefore, the community still perceive that the clinicians decide to dispense drugs without considering the diagnostic examination results. Also the Government agency for supply of drugs increased the problem by supplying drugs without considering the regions' needs leading to stock out because of returning unrequired drugs and consumables.

IV. Discussion

The study show that older peasants were predominant enrolees of the CHF. This was because the study area was predominated by peasants whereby youth tend to migrate to urban areas for better prospects of their lives. Old age and peasantry coupled with small lands for agriculture lead to low income levels among households hence having high propensity for the need of CHF health services since they cannot afford out-of-pocket payments. The findings are supported that health insurance was the best suited in financing chronic and other diseases. Furthermore, the findings were supported that voluntary health insurance increased use of outpatient facilities and public providers away from self-treatment and private providers; effects that were particularly strong at lower income levels[4]. Therefore, it was concluded that CHF would enable community members to access to effective and affordable drugs and to surgery and other interventions[12].

The findings reveal that households' enrolment in the CHF would increase if the accredited health facilities would provide health care services from skilled health workers including diagnostic investigation before dispensing drugs to patients. This revealed that the perception of the households on the quality of health care includes visiting the health facilities and consulting the clinicians for asking diagnostic examinations first in order to diagnose their diseases. This was addressed revealing that the provision of health care services from skilled health workers and availability of medical stock in rural areas influence the community to enroll in the

community health insurance in the rural setting[9]. The respondents also mentioned the membership fee as the factors for community willingness to enrol in the CHF. This was also revealed by[3] that the respondents hesitated to enrol in the community health insurance because of high premiums and low quality of health services. Conversely, the study by[11] found the same factor for higher enrolment in Rwanda whereby about 85% of the community enrolled in the Micro Health Insurance (MHI) due to good quality of health care including diagnostic examinations, availability of drugs and participatory management.

Findings from the in-depth interview revealed that the households were not willing to enrol in the CHF because they were not involved at the inception. Among the reported factors for non -enrolment includes high membership fees, absence of diagnostic investigations and inappropriate drug dispensing. The findings are supported by[11], whereby enrolment in Rwanda was 85% and it was influenced by community involvement during the plan and establishment of community health insurance and provision of education advocacies that involved community members in the advocacies teams. Additionally, it was found that drugs stock out influenced low enrolment[9]. The other similar findings[2] also found that shortage of drugs, unavailability of appropriate diagnostic equipment and lack of possibility to use health facility according to enrolees own choice coupled with referral problems influenced low enrolment. Therefore, The Ministry of Health insisted on the need for intensive advocacies for creating awareness to the community for them to enol[5].

V. CONCLUSION

The most predominant group in the CHF in Moshi rural was found to be old peasants of both sexes with majority belonging to the low income bracket. This is due to the fact that many youths migrated into urban areas to look for business, social and economic opportunities. Old peasants are in the high risk of chronic disease more especially heart diseases. The amount of enrolment fees was a significant factor for non-enrolment while availability of diagnostic investigations and drugs increased the chances for enrolment. Therefore, availability of diagnostic investigations and drugs in the accredited health facilities accredited by CHF were factors that would influence enrolment. Furthermore, both CHF enrolled and non-enrolled households perceived the membership fee being the factor for enrolment.

Community advocacies on CHF should be done intensively using various methods like radios which are available in rural areas like Radio Tanzania (RTD) and cinema shows for awareness creation and influencing CHF enrolment. The advocacies should ensure the community members form the advocacy teams for them to own CHF operations. The other important arears of improvement in provision of health care services should include diagnostic examinations and dispensing of appropriate dosage basing in examination findings. Lastly the review and setting of membership fees should ensure the households are actively involved so as to establish the realistic fee that would be accepted.

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