Transfiguration of National Health Financing to Rural Communities: A Case of Pastoro-Nomadic Communities in Marsabit

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Abstract:

Health financing is one of the important goals of any government. In Kenya, the government is exerting all effort to ensure its citizens' health care needs are safeguarded through increased budgeting and putting in place requisite legislative measures. However, like any other developing nation, the dream of equity in accessing health care is not satisfactorily realized due to many challenges. For pastoralist/nomadic communities in the country, who are deemed marginalized in a considerable number of spheres relative to communities subscribing to other subsistence strategies, the solution is far from being hoped for. This research asks the question "how can national health financing be transfigured to suit the need of pastoral-nomadic communities?" The research adopted descriptive research design to survey household in the four constituencies of Marsabit County. Respondents were selected using random sampling. Structured questionnaire and focused group discussion was used to gather data and using logistic regression. Many of them do not have a formal education and hence formal employment to enable them have consistent income to pay for their health cover forcing them depend on donors. It was recommended that education should be enhanced so as to upscale the enrolment to health insurance. Further, they should be encouraged to join to a welfare group so as to access finances for payment of insurance subscription. The government should diversify mode of payment and also mobilize resources that will be used to help the poor pay for their health financing need.

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1. Introduction

Universal health care is a vision to be achieved by any country all over the world. It is one of the sustainable development goals (SDG) to be attained and especially for Kenya as envisaged in the vision 2030 goal and the governments big four agenda which is to provide equitable and affordable health care at the highest affordable standards to her citizens. This requires not only adequate health care funding from various stakeholders that include the government, private and external sources but also equity in access and guaranteed financial risk protection (Ataguba and Akazili, 2010). This in Kenya is wanting due to historical and cultural marginalization.

The government's effort to counter and reverse this situation is demonstrated in the use of the equalization funds as an extra funding for marginalized areas, increased health sector budget from year to year in line with Abuja declaration (even though not achieved fully, increased from KES 37.8 Billion in 2009/10, 42.2 Billion in 2010/11, to KES 58.9 Billion in 2011/12(health sector working group, 2012)) and setting up of national health insurance funds (NHIF). Following 2005 World Health Assembly resolution regarding Protection of the poor and vulnerable against the cost of unforeseen ill health, the government developed NHIF to cushion its citizens against health risk to finance the health care needs of both its rich and poor citizen who contribute monthly premium. This is clear as the NHIF membership increased by 13.5% from 3.34 million in 2011/2012 to 3.79 million in 2012/2013 while also the informal membership increased from 898,000 to 1.15 million during the same period (NHIF, 2015).

However, funds available are not adequate to finance all the health care needs fully. This prompted different communities to devise different techniques in meeting the shortfall in their health care needs. For example, many communities all over the world make use of welfare schemes or merry go round to finance their health care needs. For Marsabit communities who are mainly pastoralists/nomads and agro-pastoralist, the situation is worse due to their way of living, poverty, illiteracy and lack of information to finance health care needs using national health insurance funds.

Marsabit County is one of the poorest counties after Turkana with poverty rate of 83.5% contrastedwith45.9% of the country (KIHBS, 2005/2006). This fact is further exacerbated by the enormity of the area with a thinly dispersed population and with high poverty level of 92% (KIHBS, 2005/2006). In fact, it is the largest county by land size in Kenya with a population of only 0.8% of the total population of Kenya (KNBS, 2012). The situation is further worsened as it ranked 44 out 47 counties with highest illiteracy level where only 26.2% of the population can read and write compared to the counties average of 66.4% (CRA, 2011).

Despite its vastness, the county has only 57 health posts which are inclusive of 38 dispensaries. It has only twelve (12) health centers mainly around towns which are

accredited by NHIF (NHIF, 2015). This indicates that majority of the people who live outside the town engaging in informal activities are excluded making the NHIF to be not an all-inclusive affair.

Commendable measures are being explored by the government of Kenya in a bid to address the health care needs of her population in conformity with the provisions of, locally, the vision 2030 roadmap and, globally, the universal health care; a critical element of the sustainable development goals. For the government, the task at hand is enormous and challenges are bound to be unavoidable given the heterogeneity of the population economically, socially, culturally, among other demographic considerations. This research focuses on the aptness of national health financing technique to pastoralist communities.

The objective of the study is to therefore establish the aptness of national health financing to Pastoral-Nomadic Communities. The analysis answers the question, what is the aptness of national health financing to Pastoral-Nomadic Communities

2. Theoretical Background

Pastoralism is a livestock production system that is based on extensive land use and often some form of herd mobility (Dong et al., 2011). Dubale & Mariam (2007), pastoralist communities are those who derive their livelihood 50% from livestock. They are marginalized communities due to the consequences of skewed process of distribution of scarce resources (CRA, 2010). They do not engage in any formal activities as their day to day business is moving with animals from place to place in search of pasture and water. Again, due to their lifestyle, the prevalence of such ailments as cancer requires huge investment in health care financing. In fact, only 1.8% of county population is covered by health insurance (KHHEUS, 2013).

Geissler et al. (2013) argued that Health financing may work best when accompanied by a cohesive package of health services influencing health knowledge and behaviors and providing greater access to preventive and primary services. World Bank (2017) carried out a study on Micro Insurance Academy: Improving

Health Insurance Coverage in India, they observed that though some of the schemes have managed to extend financial protection to rural communities, they have not been able to extend the coverage to the poorest of the poor for several reasons namely irregular cash flows of poor households where they are unable to pay premiums; lack of awareness about the benefits of health insurance; and inability of the illiterate population to understand the terms and conditions of the insurance policy.

Kansra & Gill (2017) carried out research on the role of Perceptions in Health Insurance Buying Behaviour of Workers Employed in Informal Sector of India and identified significant perceptions factors were lack of awareness about the need to

buy health insurance; comprehensive coverage; income constraint; future contingencies and social obligations; lack of information; availability of subsidized government health care; linkage with government hospitals; and preference for government schemes. They found that perceptions play a vital role in the household decisions to enrol for health insurance.

Agyemang-Duah et al. (2019) investigated the Prevalence and Patterns of Health Care Use among Poor Older People under the Livelihood Empowerment against Poverty Program in the Atwima Nwabiagya District of Ghana and found that the Livelihood Empowerment against Poverty grant played a little role in reducing health poverty.

Olasehinde & Olaniyan (2017) on their part also looked at the Determinants of household health expenditure in Nigeria and found that individual characteristics like age, religion, education and household characteristics like income, size and headship commonly influence healthcare expenditure in Nigeria significantly. Akazili et al (2014) carried out a survey in seven districts in northern Ghana from 5469 women aged 15 to 49 in order to explosre the extent to which poor child-bearing age mothers are covered by the NHIS in Ghana's poorest and most remote region. The results suggest that the NHIS is yet to achieve its goal of addressing the need of the poor for insurance against health related financial risks.

In her review, Carr (2004) observed that the poor are disadvantaged in all of the determinants of health as they are more vulnerable to ill-health and disease because of lack of financial resources, limited knowledge of health matters and limited use of health services compared to others who are better-off citizen. Also Community factors, including environment and geography, also disadvantage the poor in relation to health. Further, people living in underserved, rural, and remote areas have less access to clean water, safe housing, and efficient transportation. In poor communities, social norms including early age at marriage, large family size, and discrimination against women are more likely to support behaviors associated with poor health.

Many nations, all over the world engage in alternative health care financing in order to cater for the need of the poor. Singapore uses the innovative health care financing to cater for the need of the poor who could not afford paid system (Taylor & Blair, 2003), Turkey uses the green card system to finance the poor (Kisa & Younis, 2007). In his review on health care for the poor Americans to obtain medical care, Swatchz (2009) points out that several states created programs in early 2000s to expand eligibility for public insurance or encourage low income people who were not eligible for Medicaid to buy private health insurance with state subsidies. Olivier et al. (2012) researched on the contributions of faith based institutions

In her policy briefs on improving the health of the world's poorest people, Carr (2004) examined extent of the rich-poor health divide, the factors that play a role in

health disparities, and approaches for improving the health of the poor and observed that even in more developed countries such as United States and Europe, the poor die younger than the rich. She noted that many governments all over the world have supported free or subsidized health services to improve health conditions among poor and vulnerable people, as part of a countrywide strategy to reduce poverty even though the poor are not benefiting as much as the better-off group.

Mathauer et al. (2008) contributed to analysis and understanding the demand for (social) health insurance of informal sector workers in Kenya by assessing their perceptions and knowledge of and concerns regarding health insurance and the Kenyan National Hospital Insurance Fund (NHIF).It was found that the most critical barrier to NHIF enrolment is the lack of knowledge of informal sector workers about the NHIF, its enrolment option and procedures for informal sector workers.

3. Methodology

This research employed descriptive research design. This design is the only means through which views, opinions, attitudes and suggestions for improvements regarding the phenomenon under study can be gathered. A survey method was used to collect both qualitative and quantitative data. This method is useful in gathering data at a particular point in time which was used to establish the aptness of national healthcare financing to pastoralists. The research used both the primary and secondary data. The primary data was collected by use of a combination of techniques that included questionnaire, focused group discussion (FGD) and interview. These came in handy to furnish the study with primary data relating to use of any insurance including NHIF and any other methods used by pastoralists/nomads to mitigate their health care needs. Secondary sources for the study encompass the use of past records of NHIF uptake, input from faith based organizations, private health insurance covers, among other archival records with the potential of providing reliable figures and impression on the uptake of health care needs financing in the county. The raw data was classified and tabulated after ensuring that it has been carefully checked for completeness and consistency. This was followed by analysis and interpretation of findings. The final information was presented in the form of tables, frequencies, percentages, pie charts and bar graphs where applicable

3.1 Location of the Study and the Target Population

The location of the research was four constituencies in Marsabit County. These are Moyale, North Horr, Saku and Laisamis. The target population were all the 56941 households in all the 4 constituencies of Marsabit County (national population census, 2009).

3.2 Sampling Frame and Sample Size

By using stratified random sampling, households were chosen from each of the four constituencies (Moyale, North Horr, Saku and Laisamis) proportionate to the number of households in each constituency. Therefore, 56941 will constitute sampling frame for the study. The sample size is determined using Hogg and Tanis (1997) method given as:

$$n = \frac{\frac{z^2 \alpha/2 \ p(1-p)}{\varepsilon}}{1 + \frac{\frac{z^2 \ \alpha/2 \ p(1-p)}{\varepsilon} - 1}{N}}$$

Where:

n   : sample size of the finite population
N   : population size
Z   : normal distribution z score
P   : proportion covered by the NHIF insurance in the county
α   : level of significance at 99% confidence intervals (0.01)
$\in$: error term (0.01)

Therefore, the sample size is 381 respondents. These respondents were proportionately distributed   as follows,

Table 1. Sample size per constituency

Constituency	Household	Proportions	Sample size
Saku	10005	0.18	66
Moyale	16608	0.29	110
Laisamis	14742	0.26	99
North Horr	15586	0.27	103
Total	**56941**	**1.0**	**381**

Source: Population Census(2009)

3.3 Data Collection Procedures

The secondary data was collected from the respective offices within the County. According to county integrated development plan (2016), there are 58 locations in the four constituencies (Saku-11, Laisamis-11, North Horr-13 and Moyale-23). In order to collect primary data from the counties, 58 enumerators were recruited. They were trained for two days on how to go about collecting the relevant data using the various data collection techniques. These include questionnaires, the interview schedule and the focused group discussion schedule. The number of household per enumerator was determined by the number of households in the locations.

4. Results

Various sources used by the pastoralists in financing their health care needs are shown in Table 2.

Table 2. Sources of health care financing

Variable	Mean	Standard deviation	Minimum	Maximum
		N=161		
Household own funding	0.6667	0.3634	0	1
NHIF funding	0.1282	0.3354	0	1
Welfare, NGO and insurance	0.0833	0.2773	0	1
Borrowed and harambee	0.1218	0.3281	0	1

Source: Author

Around 66.7% of households in the sample finance healthcare costs through personal/ own funding while 12.8% depend on NHIF funding. About, 12.1% of nomad households cater for their healthcare needs through welfare groups, NGOs and insurance. On the other hand, approximately 12.2% of household's fund healthcare through borrowing and conducting a Harambee.

The pastoralists levels of education are shown in Table 3.

Table 3. Pastoralists levels of education

Variable	Mean	Standard deviation	Minimum	Maximum
		N=161		
Individual has no formal education	0.3962	0.4907	0	1
Individual has primary education	0.1195	0.4352	0	1
Individual has secondary education	0.2138	0.4113	0	1
Individual has tertiary education	0.2704	0.4456	0	1

Source: Author

Around 39.6% of pastoralist household head do not have any formal education while 12.0% have primary education. Further, the data show that 21.4% of household heads have secondary education while 27.0% have tertiary education.

Table 4 shows how the pastoralists derive their livelihood.

Table 4. Sources of livelihood

Variable	Mean	Standard deviation	Minimum	Maximum
		N=161		
Formally employment	0.1615	0.3541	0	1
Livestock keeping	0.4410	0.4981	0	1
Farming	0.0435	0.2046	0	1

Casual work	0.2360	0.4260	0	1
Other livelihood	0.1180	0.3236	0	1

Source: Author

The statistics show that 16.2% of nomad household heads are in formal employment while 44.1% are involved in livestock keeping. About 4.4% of nomad household heads are engaged in farming/crop cultivation while 23.6% are in casual employment. Further, the statistics indicate that 11.8% of pastoralist household head are involved in 'other' types of livelihood.

Methods used by healthcare financing and other social aspects of pastoralists are shown in Table 5.

Table 5. Methods of health care financing and social aspects

Variable	Mean	Standard deviation	Minimum	Maximum
		N=161		
Belong to a welfare group	0.7578	0.4298	0	1
Higher income household	0.5590	0.4981	0	1
Household has no sick member	0.2975	0.4586	0	1
Household unable to meet healthcare costs	0.5682	0.4972	0	1
In kind payment	0.2937	0.2671	0	1
Pooling resources	0.1678	0.3750	0	1
Donor funding	0.1678	0.3750	0	1
Selling assets	0.3706	0.4847	0	1

Source: Author

Around 75.8% of nomad headed households belong to a welfare group and 55.9% of households have an average daily household expenditure of more than Ksh 300 per day. About 29.8% of households did not have a sick household member while 56.8% of households are unable to meet all household healthcare costs. The data also indicate that 29.4% of nomad households consider in-kind payment as an alternative source of healthcare financing while 16.7% of household would resort to pooling of resources. Further, 16.8% of nomad household would depend on donor funding while 37.1% of the households would sell assets to finance healthcare.

5. Discussion

The results presented in Table 6 below show that the binary probit model converged on a log pseudo-likelihood of -83.96 with a Wald chi-square of 36.44 that is significant at 1 percent level, suggesting that the probit model has a strong explanatory power. Furthermore, the Hosmer-Lemeshow goodness-of-fit test indicates that the probit model fits the data reasonably well with a Pearson chi-square of 40.26 which is insignificant at 10 percent level as shown below:

Table 6. Probit Regression of Source of livelihood and health financing by Pastoralists

Variable	Probit estimate
Livestock keeping	-1.4244***
	(0.3224)
Farming	-0.8076
	(0.5425)
Casual work	-1.0290***
	(0.3736)
Others	-0.7519*
	(0.4134)
Belong to welfare organization	-0.4546 *
	(0.2533)
Income<300	-0.3874*
	(0.2332)
Meets all health costs	0.2539
	(0.1592)
Constant	1.1434**
	(0.5806)
LR chi2(7)	36.44***
	(0.000)
Pseudo R2	0.1710
Log likelihood	-83.9629
Number of observations	161

Source: Author's computation Note: ***, ** and * show significance difference at 1%, 5% and 10%, respectively

The parameter estimates indicate that being a pastoralist engaged in livestock keeping has a negatively correlated with the probability of enrolling in a NHIF service and this effect is significant at 1 percent level. The marginal effects of probit model as shown in Table 7 below shows that a livestock keeper has a 48.4 percentage point lower probability of enrolling in a NHIF scheme compared to a formally employed pastoralist because employers deducts the subscriptions at source and remits to insurers. It is legal requirements in Kenya that employers deduct health insurance covers at sources from employees as statutory deductions. *This is in agreements with findings by* Akazili et al (2014) that Compared to urban residents, rural respondents were 30 percent less likely to be insured by the NHIS. Pastoralists are usually in rural and marginalized areas. Similarly, being a casual worker is negatively associated with uptake of NHIF service. Being a casual worker pastoralist reduces the likelihood of enrolling in a NHIF service by 37.1 percentage point compared to a pastoralist in the formal employment. The similar observation was also made by Mathauer,I.,Olivier ,J. and Wenyaa M(2008).

Table 7. Average Marginal Effects of Probit Regression of Determinants of uptake of NHIF Services

Variable	Probit estimate
Livestock keeping	-0.4841***
	(0.1052)
Farming	-0.2954
	(0.1904)
Casual work	- 0.3707***
	(0.1247)
Others	-0.2755*
	(0.1451)
Belong to welfare organization	-0.1331*
	(0.0717)
Income<300	-0.1134*
	(0.0673)
Meets all health costs	0.0743
	(0.0466)

Source: Author's computation Note: ***, ** and * show significance difference at 1%, 5% and 10%, respectively

The estimates further show that a pastoralist being engaged in 'other' source of livelihood apart from livestock keeping, farming and casual work is negatively related to uptake of NHIF service. Being a nomad involved in 'other' source of livelihood reduces the likelihood of taking up NHIF service by 27.6 percentage point in comparison to a pastoralist whose main source of livelihood is paid employment. This is because the pastorals in informal group do not have consistent earnings to frequently pay and renew the health insurance contract This is similar to findings by Mutinda M (2015) who investigated the uptake of National Health Insurance Fund (NHIF) scheme by government among low income earners in Kibera slum, Nairobi City County and found out that there is low uptake of NHIF cover. A pastoralist who does not belong to any welfare organization has a lower prospect of taking-up NHIF service relative to a pastoralist who is employed in the formal sector. Specifically, being a nomad who does not belong to a welfare organization reduces the probability of enrolling in a NHIF service by 13.3 percentage point compared to a pastoralist having a welfare group. Being a member of welfare group guarantees a member with benefits that can be paid off as medical insurance subscription.

The study proceeds to analyze the effect of a nomads' level of education on the decision to enroll for NHIF service. The results are reported in Table 8.

Table 8. Conditional Marginal Effects of Probit Regression of Determinants of uptake of NHIF Services

Variable	Probit estimate
Primary education	0.1830
	(0.1253)
Secondary education	0.0266
	(0.0928)
Tertiary education	0.2270**
	(0.0931)

Source: Author

The probit estimates suggest that a nomads' level of education has a positive effect on the decision to enroll for NHIF service. Specifically, a nomad having a tertiary level of education increases the probability of taking-up NHIF service by 22.7 percentage point relative to a nomad without any formal education. this is in agreement with findings by Kansra & Gill (2017), Olasehinde & Olaniyan (2017).

6. Conclusions

The study found that education plays biggest role in enlightening pastoralists in taking a cover to cushion themselves against health risk. This is the sure way of achieving the universal health coverage. It was also seen that social welfare groupings enable pastoralists afford the insurance premium. As their main livelihood is livestock keeping, in kind payment for tha cover is considered the most appropriate way of financing their health care need. Nomads are seen not to have consistency in earning forcing them to prefer dependent on donor and other support in financing.

The study recommends that the government and other stakeholders to continue enhancing the enrolment of the pastoralists to education. Moreover, the adult education enrolment should be up scaled so as to enable senior citizens to understand the importance of health insurance. Further, they should be encouraged to join a welfare group so as to access finances for payment of insurance subscription. The government should diversify mode of payment for the health cover to include the form which the citizen will be comfortable in contributing. However, they should mobilize resources that will be used to help the poor pay for their health financing need

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