Factors Influencing Demand for Healthcare Insurance: A Study of *Jua Kali* Workers in Nairobi

Mugubi Robert N. Nalebeson[1*], George W. Odhiambo-Otieno[2] & Wanja Mwaura-Tenambergen[1]

[1] *Department of Health Systems Management and Medical Education, Kenya Methodist University P.O. Box 6509, 00200 Nairobi, Kenya,*

[2] *Directorate of Research and Development, Kenya Methodist University P.O. Box 267, 60200 Meru, Kenya,*

* *Corresponding email: bobnalebeson@yahoo.com*

Abstract

Health systems are a means to achieving better health outcomes for all. However, where patients depend largely on out of pocket (OOP) payments to access health services, there is often lack of care for those who cannot afford. This study aimed at establishing the factors influencing the demand for health insurance among Jua Kali workers in Nairobi. This was a cross-sectional research study involving mixed approach (simple random, purposive sampling, qualitative and quantitative methods) involving 130 *Jua Kali* workers from Associations/Cooperatives and 258 *Jua Kali* workers from non-organized groups; key informants from NHIF and the Department of Micro and Small Enterprise Department and was. **The study was** conducted between January to March 2012 within Pumwani Division in Nairobi County. Findings indicated that 113 (29.1%); 21.1% members of *Jua Kali* association and 11.8% individual *Jua Kali* workers out of 388 were enrolled in NHIF while 262 (67.5%) were not enrolled in NHIF. Inadequate Knowledge of NHIF benefit and the KShs. 480 upfront NHIF premium payment were the main contributing factors to non-enrolment of 262 (67.5%) of *Jua Kali* workers. 42.3 % individual *Jua Kali* and 6.1 % members of association with a monthly income less than KShs. 9,000 did not enrol in NHIF. To enhance more enrolment of *Jua Kali* workers, the study recommends that NHIF should design strategies that target the younger, low income and Jua *Kali* workers with low level of education with key information on health insurance benefits and the benefits of enrolment in NHIF , establish satellite payment offices within *Jua Kali* working zones to bring services closer to them, apply KShs. 160 per month instead of KShs. 480 and enhance networking and engage *Jua Kali* association as strategic partners for the purpose of motivating *Jua Kali* workers enrolment.

Key words: *Insurance, National Health Insurance Fund, Jua Kali, Out of Pocket Payment, health system*

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Introduction

Health systems have multiple goals. The World Health Report 2000 (WHO, 2000) defines overall health system goals or outcomes as: "improving health and health equity, in ways that are responsive, financially fair, and make the best, or most efficient, use of available resources." World Health Organization's (WHO) health system framework breaks down the functions of health systems into six essential 'building blocks' (or pillars) that are all needed to improve health outcomes. These include: service delivery; health workforce; health information system; medical products, vaccines and technologies; health financing; and leadership and governance (WHO, 2007). WHO defines a health system as all the activities whose primary purpose is to promote, restore or maintain health (WHO, 2000).

A good health system, according to the WHO, is one which has a good health financing system that raises adequate funds for health in a way that ensures people can access and use needed services and are protected from financial catastrophe (WHO, 2007). *Jua Kali* workers in Nairobi depend heavily on out-of-pocket (OOP) payment, which limits their access to quality healthcare services when they need them. They cannot afford the cost of treatment in private clinics and hospitals ending up seeking treatment from the affordable, but crowded public health facilities which sometimes experience inadequacy of drugs. Others resort to either self-medication or forgo care from health facilities altogether. Indeed, they are rarely protected against catastrophic expenditure and poverty. This condition is exacerbated by the mere fact that OOP payment constitutes nearly 40% of healthcare expenditure in Kenya burdening the poor and vulnerable who cannot afford medical insurance (Mwema, *et al.* 2010). For instance by the year 2009, only 7% of women and 11% of men aged 15-49 years in Kenya had medical insurance (KNBS, 2010).

Considering that the cost of medical treatment is becoming expensive in Kenya (Torooti, 2012), it is correct to pronounce that in view of the premiums levied by private insurance, National Health Insurance Fund (NHIF) is the most financially accessible health insurance scheme for *Jua Kali* workers because it guarantees enrolment eligibility of all Kenyans earning a monthly income of KShs.1,000/= and above without any exclusion whatsoever. NHIF remains the single largest social health insurance charging a monthly premium of KShs.160 for the principle member and their beneficiaries (CHAK, 2010). Therefore, since it has become common for families to surrender household assets to pay for family member's medical treatment, otherwise patients are detained in hospitals for failing to pay medical bills, NHIF becomes the most cost effective and affordable health insurance provider that can guard against catastrophic out of pocket payment (Torooti, 2012).

This study addressed the demand for health insurance specifically NHIF and the access to quality healthcare for the achievement of equitable and sustainable healthcare service. Enhanced health service delivers effective, safe, good quality personal and non-personal care to those in need of healthcare, when needed and with minimum waste (WHO, 2007). The service delivery pillar (or building block) of any health system is concerned with how inputs and services are organized and managed to ensure access, quality, safety and continuity of care across health conditions and over time. This requires raising the demand, understanding users' perspec-

tives, raising public knowledge and reducing financial or equitable expansion barriers to access to healthcare services and available resources (money, staff, medicines, and supplies). A strengthened service delivery pillar (building block) promotes individual continuity of care where needed, over time, and between facilities and avoids fragmentation of services (WHO, 2007).

A good health financing system encourages the provision and use of an effective and efficient mix of personal and non-personal services, which is achieved through collection of revenue from households, the pooling of pre-paid revenues, and purchasing of services. It raises additional funds where health needs are high and the revenue is insufficient and reduces reliance on out-of-pocket payments where they are high. According to WHO (2007), strengthening the two pillars of health systems (service delivery and health financing) result in improved health outcomes. Health insurance as a mechanism for spreading the risk of incurring healthcare costs, reduces the burden of OOP payment, harnessing financial access to quality healthcare service. Private health insurance schemes are mainly for profit, levy high insurance premiums hence they deter many *Jua Kali* workers from joining. On the other hand, NHIF is a public health insurance scheme charged with the responsibility to provide health insurance to all Kenyans.

Objectives of the Study

This study aimed at establishing the factors influencing the demand for health insurance among Jua Kali workers in Nairobi. The study was conducted between January to March 2012 within Pumwani Division in Nairobi County.

There were five objectives:To establish the socio-demographic factors affecting the demand for health insurance by *Jua Kali* workers in Nairobi; To determine the relationship between *Jua Kali* workers' knowledge about health insurance benefits and the demand for health insurance; To determine the relationship between household income and the demand for health insurance; To find out whether insurance premium levied by NHIF affects demand for health insurance among *Jua Kali* workers in Nairobi; and To determine if membership in *Jua Kali* Association/ Cooperative influences enrolment in NHIF.

Materials and Methods

This was a cross-sectional research study involving mixed approach (simple random, purposive sample, qualitative and quantitative methods) involving 388 respondents (130 *Jua Kali* workers from Associations/ Cooperatives and 258 *Jua Kali* workers from non-organized groups) sampled out of about 10,000 known *Jua Kali* workers (4,000 from *Jua Kali* associations and 6,000 freelance *Jua Kali* workers) and were interviewed using quantitative and qualitative tools. Key Informant Interviews (KIIs) from NHIF and the Department of Micro and Small Enterprise were also interviewed. Two Focus Group Discussions (FGDs), one composed of 12 *Jua Kali* members of associations and 11 non-members of *Jua Kali* Associations participated in the study. .

Results

Socio-demographic factors affecting the demand for health insurance

Of the two types of insurances available to the respondents, NHIF and Private Insurance, the most preferred one was NHIF. As shown in Table 1 below, out of the total

number of respondents interviewed (388) 113 respondents were registered with NHIF compared to only 13 who had opted for Private Insurance. Gender was not found to be a key determinant factor in the demand for health insurance as the total number of female respondents who had been insured was 17.4% compared to their male counterparts represented by 14.9%.

From Table 2, it can be seen that although the total percentage of female respondents interviewed was 45.1%, those who had enrolled in both insurances was higher represented by 17.4% compared to their male counterparts represented by 14.9%. The percentage of male respondents interviewed and who were not enrolled in any insurance stood at 39.9% compared to females at 27.6%. The total number of respondents not registered stood at 67.5% compared to those registered standing at 32.5%.

As indicated in Table 2, the age group that registered the highest percentage of the four groups was the one between 20-40 years which was represented by 20% in both NHIF and Private Insurance. As for the marital status, of the 388 respondents, the highest number of insured respondents was found to be monogamous, represented by 21.6% followed by those who were single and whose percentage was 7.4%. Even within this category, the most preferred type of insurance was still NHIF (28.95%) compared to Private Insurance (3.3%) of the respondents insured.

Knowledge about health insurance benefits and the demand for health insurance

63.7% of the 262 who had not enrolled in any form of insurance had knowledge of NHIF as a health insurance scheme. While 1.1% members of Jua Kali associations and 8% of non-members of Jua Kali had knowledge that NHIF offers outpatient medical cover, 12.2% Jua Kali members and 78.6% knew that NHIF offers in-patient medical cover; none of the 262 knew that NHIF offers a comprehensive medical cover without any exclusion.

The study sought to find out the knowledge about health insurance benefits of 262 *Jua Kali* respondents who were not enrolled in health insurance. Findings revealed that 28 (10.6%) members of *Jua Kali* association

Table 1: Respondents Enrolled in the any Health Insurance (N=*388*)

Variable	Total n (%)	Respondents enrolled in health insurance n (%)	Enrolled in NHIF	Enrolled in Private Health Insurance	Respondents not enrolled in health insurance n (%)
Gender					
Female	175 (45.1)	68 (17.5)	62 (15.9)	6 (1.5)	107 (27.6)
Male	213 (54.9)	58 (14.9)	51 (13.1)	7 (1.8)	155 (39.9)
Total	388 (100)	126 (32.4)	113 (29.1)	13 (3.3)	262 (67.5)

Table: 2. Respondents' Socio-demographic Information by Health Insurance enrolment Status *(N=388).*

Variable	Total n (%)	Enrolled in NHIF n (%)	Enrolled in Private Insurance n (%)	Total enrolled in health insurance n (%)
Gender				
Female	175 (45.1)	62 (15.9)	6 (1.5)	68(17.5)
Male	213 (54.9)	51 (13.1)	7 (1.8)	58(14.9)
Age				
18-19 years	77(19.8)	18(4.6)	4(1.0)	22(5.7)
20-40 years	222(57.5)	74(19)	4(1.0)	78(20.0)
41-55 years	72(18.6)	19(4.8)	5(1.2)	24(6.1)
Above 55 years	17(4.3)	2(0.5)	0(0)	2(0.5)
Marital Status				
Monogamy	243(62.6)	75(19.3)	9(2.3)	84(21.6)
Polygamy	16(4.1)	7(1.8)	0(0)	7(1.8)
Divorce	8(2.1)	1(0.25)	0(0)	1(0.25)
Separated	15(3.9)	5(1.2)	0(0)	5(1.2)
Single	106(27.3)	25(6.4)	4(1.0)	29(7.4)
Level of Education				
No formal education	28(7.2)	8(2.0)	0(0)	8(2.0)
Primary school	129(33.2)	33(8.5)	3(0.8)	36(9.2)
Secondary education	203(52.3)	60(15.4)	10(2.5)	70(18.0)
Post-Secondary	28(7.2)	12(3.0)	0(0)	12(3.0)
Income per month				
Above KShs. 20,100	9(2.3)	3(0.7)	1(0.25)	4(1..3)
KShs 15,100- 20,000	62(16.0)	25(6.7)	2(0.5)	27(7.2)
KShs 12,100-15,000	40(10.3)	14(3.6)	2(0.5)	16(4.1)
KShs. 9,100-12,000	108(27.8)	34(8.7)	3(0.7)	37(9.4)
KShs.6,000-9,000	169(43.6)	37(9.5)	5(1.2)	42(10.7)
Expenditure on rent per month				
Below kShs.1,000	19(4.8)	3(0.7)	1(0.25)	4(1.0)
KShs 1,100-1,500	147(37.9)	28(7.2)	3(0.7)	31(7.9)
KShs 1,600-2,000	85(21.9)	33(8.5)	2(0.5)	35(9.0)
KShs 2,100-3,000	69(17.8)	22(5.6)	3(0.7)	25(6.4)
KShs 3,100-5,000	60(15.5)	21(5.4)	4 (1.0)	25(6.4)
KShs 5,500-10,000	8(2.0)	6(1.5)	0(0)	6(1.5)
Expenditure on food per month				
Below KShs 3,000	33(8.5)	2(0.5)	0(0)	2(0.5)
KShs 3,100-4,500	175(45.1)	49(12.6)	5(1.2)	54(13.9)
KShs 4,600-6,000	118(30.4)	41(10.5)	3(0.7)	44(11.3)
KShs 6,100-7,500	28(7.2)	10(2.5)	2(0.5)	12(3.0)
KShs 7,600-9,000	24(6.2)	7(1.8)	2(0.5)	9(2.3)
Above KShs 9,100	10(2.6)	4(0.25)	1(0.25)	5(1.2)
Number of dependants				
No child	56(14.4)	15(3.9)	1(0.3)	16(4.1)
One child	77(19.8)	14(3.6)	3(0.8)	17(4.4)
Two children	114(29.3)	40(10.3)	4(1.0)	44(11.3)
Between 3 & 5 children	119 (30.6)	38(9.8)	5(1.3)	43(11.0)
6 and above children	22(56.7)	6(1.5)	0(0)	6(1.5)

and 167 (63.7%) non-members of Jua Kali association had heard about NHIF while 28 (10.7%) members of Jua Kali association and 24 (9.1%) non-members of *Jua Kali* association indicated that they were aware of the benefits of NHIF. On the question of whether NHIF has a good public education to attract enrolment of *Jua Kali* members, 9 (3.4%) members of *Jua Kali* associations and 31 (11.8%) non-members of *Jua Kali* association responded to the affirmative that NHIF had done good public education on the products and benefits of NHIF. The Chi square test on knowledge of NHIF and enrolment in NHIF shows that there is a statistical significance (p = .000) as indicated in Table 3 below.

Whereas key informant interviews with NHIF officials indicated that NHIF is engaged in public education through local administration meetings, church and mosques, colleges, print and mass media, the FGDs revealed that most of the information delivered is either inadequate or it does not reach some *Jua Kali* workers.

Table 3: Knowledge about Health Insurance Benefits offered by NHIF among non-insured (N=262).

Variables	Respondents' Category		χ^2	P Value
	Member n (%)	Non-member n (%)		
Gender				
Male	34(12.9)	121 (46.1)	24.12	.182
Female	1(0.38)	106 (40.4)		
Age				
18 -19 years	5(1.9)	50 (19.0)	28.62	.507
20- 40 years	9(3.4)	135 (51.5)		
41 – 55 years	14(3.5)	34 (12.9)		
Above 55 years	6(2.2)	8 (3.0)		
Knowledge of NHIF				
Yes	28 (10.6)	167 (63.7)	0.659	.000*
No	7 (2.7)	60 (22.9)		
Knowledge of products offered by NHIF				
Outpatient medical cover	3 (1.1)	21(8.0)	0.017	.002*
In-patients medical cover	32 (12.2)	206 (78.6)		
Comprehensive in patient medical cover	0 (0)	0 (0)		
Comprehensive medical cover	0 (0)	0 (0)		
Awareness of NHIF Benefits				
Yes	28 (10.7)	24 (9.1)	91.9	.000*
No	7 (2.7)	203 (77.4)		
NHIF done good public education to attract enrolment of Jua Kali				
Yes	9 (3.4)	31 (11.8)	3.4	.000*
No	26 (9.9)	196 (74.8)		

*p<0.05

Household income and the demand for health insurance

In terms of income for those who were not enrolled in NHIF, 2.2 % non-members of Jua Kali association earning above KShs. 20,100, 13.7% non-members of Jua Kali association earning between KShs. 15,100 and 20,000, 0.38% members of Jua Kali association and 9.5% non-members of Jua Kali association earning between KShs. 12,100 and 15,000, 2.2% members of Jua Kali associations and 23.2% non-members of associations earning between KShs. 9,100 and 12,000 and 6.1% members of associations and 42.3% of non-members of Jua Kali associations were not enrolled in NHIF.

Monthly premiums levied and its effects on demand for health insurance

Out of the 262 Jua Kali 1.14% members of Jua Kali associations and 0.8% non-members of association stated that although they had not enrolled in NHIF they were able to make KShs. 160/= monthly contribution to NHIF. On the other hand 7.6% members of Jua Kali associations and 90.4% non-members of associations felt that they were not able to pay the KShs. 160/= monthly to NHIF.

There were mixed responses to this question; whereas some *Jua Kali* workers felt that the irregular and casual nature of their work did not guarantee them a sustainable income, others felt that their income was unreliable and irregular to sustain payment of premiums as required by NHIF. Other *Jua Kali* respondents felt that the three months lump sum premium payment required by NHIF was challenging to sustain considering their irregular and unpredictable income. Some *Jua Kali* members were concerned about foregoing other basic needs at the expense of future benefit which they were not sure of. To expound on this concern some *Jua Kali* workers expressed the fear that paying premiums to NHIF when they were not sick

Table 4: Respondents' Ability to Pay the NHIF Monthly Premiums among non-insured (N=262)

Ability to Pay the Monthly NHIF Insurance Premiums	Type of Membership in *Jua Kali* Association		Total	χ^2	P-Value
	Member n (%)	Non-member n (%)			
Able to make monthly contribution of KShs.160 to NHIF					
Yes	3(1.14)	2(0.8)	5 (1.9)		
No	20(7.6)	237(90.4)	257(98.0)	16.7	.000*
The reason informal sector has not enrolled in NHIF					
Unaffordable premium	21(8.0)	210(80.1)	231(88.16)	92.4	.000*
Unaware of NHIF benefit	2(0.8)	29(11.06)	31(11.8)		

*p<0.05

Table 5: Respondents' Socio-demographic Characteristics and Reasons for enrolment in NHIF among members and non-members of associations (=388).

Variables	Total N (%)	Enrolled in NHIF N (%)	ENROLLED IN NHIF				P-value
			Members of *Jua Kali* Association/SAC-COs		Non-members of *Jua Kali* Association/ SACCOs		
			Enrolled n (%)	Not enrolled n (%)	Enrolled n (%)	Not enrolled n (%)	
Gender							
Female	175(45.1)	62(15.9)	42(37.1)	7(1.8)	20(17.7)	106(40.4)	.182
Male	213(54.9)	51(13.1)	40(35.3)	41(10.5)	11(9.7%)	121(46.1)	
Age							
18-19 years	77(9.8)	18(4.6)	13(11.5)	9(3.4)	5(4.4)	50(19.0)	.567
20-40 years	222(57.5)	74(19)	55(48.7)	13(4.9)	19(16.8)	135(51.5)	
41-55 years	72(18.6)	19(4.8)	12(10.6)	18(6.9)	7(6.1)	35(13.3)	
Above 55 years	16 (4.1)	2(0.5)	2(1.8)	8(3.0)	0(0)	6(2.2)	
Marital Status							
Monogamy	243(62.6)	75(19.3)	54(47.8)	22(8.3)	21(18.5)	146(55.7)	.000*
Polygamy	16(4.1)	7(1.8)	6(5.3)	6(2.2)	1(0.9)	3(1.1)	
Divorce	8(2.1)	1(0.25)	1(0.9)	4(1.5)	0(0)	3(1.1)	
Separated	15(3.9)	5(1.2)	4(3.5)	1(0.4)	1(0.9)	9(3.4)	
Single	106(27.3)	25(6.4)	17(15.0)	15(5.7)	8(7.0)	66(25.1)	
Level of Education							
No formal education	28(7.2)	8(2.0)	3(2.7)	12(4.6)	5(4.4)	8(3.0)	.047*
Primary school	129(33.2)	33(8.5)	20(17.7)	40(15.2)	13(11.5)	56(21.3)	
Secondary education	203(52.3)	60(15.4)	50(44.2)	3(1.1)	10(8.8)	140(53.4)	
Post-Secondary	28(7.2)	12(3.0)	1(0.9)	1(0.4)	11(9.7)	15(5.7)	

P<0.05

amounted to benefiting NHIF because if they don't fall sick the money would remain with NHIF. Accordingly, most *Jua Kali* workers did not understand why one could contribute money when he or she was not sick. This response came about because they lacked adequate information and knowledge of risk pulling or health insurance. Secondly, most *Jua Kali* workers did not understand that NHIF would cover them together with their dependants (spouse and children).

From the FGDs, some *Jua Kali* workers especially those not in associations expressed the fear that their money would be benefiting NHIF in the event that they do not fall sick. Secondly, some *Jua Kali* workers thought that it was better for them to invest in solidarity schemes such as the merry-go-round or the cooperatives where they were guaranteed of their money and where they could borrow money in the event of sickness. The above facts which were to a greater extent expressed by *Jua Kali* workers who did not belong to associations or cooperatives, were attributed to inadequate knowledge about the value of health insurance. In addition, most *Jua Kali* workers did not have adequate information about health insurance offered by NHIF, besides they did not understand the value of health insurance.

Membership in *Jua Kali* Association/Co-operatives and influence on enrolment in insurance Scheme.

Among the 262 Jua Kali workers who were not enrolled in NHIF female 0.38% and 0.76 % members of Jua Kali association and 0.8% non-members of Jua Kali associations had the ability to contribute KShs. 160/= monthly to NHIF. 4.6% female and 3% members of associations and 49.2% female and 41.2% non-members of Jua Kali association indicated that they did not have the ability to pay KShs. 160 to NHIF.

Discussion

Socio-demographic factors affecting the demand for health insurance

The enrolment of younger *Jua Kali* respondents (18-19 years) was slightly lower and this could be attributed to their young age when they feel healthy and less risk averse and that their income is not enough to enable them enroll in health insurance compared to the respondents in 20-40 years. This was not the case with respondents in 20-40 years bracket where 55 (48.7%) members of *Jua Kali* association and 19 (16.8%) freelance *Jua Kali* workers (non-members of *Jua Kali* association) had enrolled in NHIF. The case of those in 20-40 age brackets could be attributed to the fact that at this age, most people are active and productive in occupations which expose them to occupational hazards therefore, may be more risk averse. According to the theory of demand for insurance, the age of respondents is likely to affect the enrolment in a health insurance scheme or the demand for health insurance. According to the theory of the demand for insurance individuals who feel more risk averse are more likely to enroll in health insurance. Chi-square test for the comparison between age of *Jua Kali* respondents and the enrolment in NHIF indicate that there is no significant relationship between the age of *Jua Kali* and the enrolment in NHIF ($p = .567$). The findings show that the decision to enroll appears to favour the female respondents, 62 (15.9%) compared to 51 (13.1%) male *Jua Kali* workers. Majority of respondents, 262 (67.5%), did not have any type of health

insurance coverage and among them were more male respondents 155 (39.9%).

Marital Status was a significant predictor of enrolment in NHIF. Those in marriage especially in monogamous unions are more likely to find financial support from their spouse/ partner hence increasing the likelihood of enrolling in an insurance scheme. From the FGDs, higher enrolment, 75 (19.3%) among respondents in monogamous relationships was attributed to a number of factors: (i) responsibility of ensuring good health of the family (spouse and children), (ii) support from the spouse (wife) who because of the responsibility have a positive attitude towards health issues and therefore influence the decision to enroll, and (iii) the feeling of being risk averse. Chi-square tests for the comparison between marital status and enrollment in NHIF indicated that there is a highly significant relationship between marital status and enrollment in NHIF ($p = .000$).

The low enrolment among those in polygamous relationships, divorcee and separated was associated with low income against the demand for other expenditures on basic needs. An explanation by respondents to this finding during FGDs confirmed the explanation in the theory for demand for insurance that divorced or separated individuals may be financially unstable affecting their ability to enroll or make contributions to NHIF.

Chi-square test for comparison between gender among those who were members of *Jua Kali* association and freelance *Jua Kali* workers (non -members of associations) revealed that, there is no statistical significant relationship between the gender, being a member of *Jua Kali* association or not, and the enrolment in NHIF ($p = .182$). These results are different from what other studies have found. A study in India by Jain and Bhat (2006) reveals that gender plays an important role in the insurance decision through its effect on the expected medical consumption.

Enrollment in NHIF scheme was significantly higher among respondents with secondary education and post-secondary education demonstrating that an individual's education is likely to affect enrollment to NHIF.

Knowledge about health insurance benefits and the demand for health insurance

FGDs revealed that whereas KIIs with NHIF Officials indicated that NHIF engages the public in the benefits of health insurance benefits through local administration meetings, church and mosques, colleges, print and mass media, FGDs revealed that most of the information delivered rarely conveyed the full health insurance benefits such as the comprehensive healthcare cover and that NHIF does not exclude any illness which could motivate and attract the enrolment of more *Jua Kali* workers. The Chi square test on knowledge of NHIF and enrolment in NHIF shows that there is a statistical significance ($p = .000$).

The study findings revealed that despite some respondents having knowledge about NHIF, most individual *Jua Kali* workers had not enrolled in NHIF. Responses from the FGDs revealed the following:

1) Some *Jua Kali* workers were concerned that in case they do not fall sick their contributions will not be refunded by NHIF.
2) Lack of adequate information about the benefits of the NHIF covers where some respondents were not aware that the NHIF scheme covers the principle contributor, the spouse, and children.

3) No adequate sensitization by NHIF Management to educate *Jua Kali* workers NHIF products.
4) Inadequate trust that money paid to NHIF is put into proper use, for instance, to payment of high medical bills.
5) People do not get the benefit equivalent to the money they pay to NHIF.
6) Others wanted to know if their contributions would gain some interest.

Surprisingly, when the respondents were asked about affordability of premiums levied by NHIF, none expressed or suggested financial inability to pay. In the FGDs, most of them noted that they would be able to pay up to KShs.500/= per month because sometimes they pay more than KShs.1, 000/= on treatment per month.

These findings confirm NHIF Board Chairman's Report in the June 2011 that lack of adequate information about NHIF was the main barrier to millions of Kenyans' access to NHIF (NHIF, 2012). Mathauer *et al* (2007) in the study of enrolment in NHIF in Kenya had the same observation. Jain and Bhat (2006) also support the position that knowledge and awareness about health insurance could be an important factor for health insurance enrolment (purchase). This finding is reinforced by the theory of demand, which states that people without adequate knowledge about the value of insurance are less likely to enroll in health insurance. Whereas KIIs with NHIF officials indicated that NHIF is engaged in public education through local administration meetings, church and mosques, colleges, print and mass media, the FGDs revealed that most of the information delivered is either inadequate or it does not reach some *Jua Kali* workers.

The level of knowledge about the benefits of health insurance, which affect the value attached to health insurance, was also found to be a contributing factor to the non-enrolment of most of the *Jua Kali* workers in Nairobi. However, findings support the study by Carrin, *et al* (2005) in Guinea Conakry and Rwanda that lower income people are less likely to enroll in a health insurance. This study finding agrees with observations by Monheit and Vistines (2004) and Carrin, *et al* (2005) that low-income single workers are less likely to enroll in health insurance. The study further reveals that the fact that a *Jua Kali* worker in Nairobi earns a monthly income of between KShs.12,000 and KShs.20,000, does not necessarily mean they will enroll in NHIF. As earlier stated this could be attributed to other confounding factors such as; (1) knowledge about the benefits of health insurance, (2) value attached to it and (3) the willingness to pay premiums which should be addressed before *Jua Kali* workers can be attracted to enroll in NHIF.

Household income and the demand for health insurance

Lack of money or stable income was a major reason most Jua Kali sector workers have not enrolled in NHIF. During the FGDs, most respondents expressed the concern that their income was unpredictable, unstable hardly able to sustain remittance of premiums as demanded by NHIF. The respondents' feeling was that while the monthly premium of KShs. 160/= was affordable the requirement that they pay KShs. 480/= upfront to cover three months was a challenge to most of them. The study revealed that 16 (6.1%) members and 111 (42.36%) non-members of *Jua Kali* associations had the lowest monthly income at KShs. 6,000/= and KShs.9,000/= respectively. The highest monthly income

of KShs. 15,100/= and above were only 36 (13.7%) among non-members of *Jua Kali* associations. Drawing from the theory of demand for insurance, lack of money or stable income was found out to be a major reason most *Jua Kali* sector workers had not enrolled in NHIF.

The study findings also support the observations by Mathauer, *et al* (2007), Johannes and Doris (2006), WHO, (2006) and Monheit and Vistines (2004) that household income has a significant effect on the decision to enroll in health insurance. Although this study does not disagree with observations made by Mathauer, *et al*, Johannes and WHO (2006), it reveals that their findings are more applicable to *Jua Kali* workers with irregular low earnings who cannot sustain regular remittance of premiums to NHIF. This study further reveals that *Jua Kali* workers in Nairobi who earn more than KShs.9,100/= per month may fail to enroll in NHIF not necessarily because of the household income but rather because of other confounding behavioral traits such as; (1) feeling of not being risk averse, (2) feeling healthier and therefore they may see no need of paying premiums or (3) generally because of unwillingness to pay premiums to NHIF and (4) some especially those in associations or cooperatives may not know the value of health insurance.

Monthly premiums levied and its effects on demand for health insurance

As seen in Table 4 above, 98% of the respondents felt that the NHIF monthly premiums were too expensive and hence they were not affordable to them. The respondents were cross-examined against their monthly income, expenditure on rent and food and it was found out that detailed explanations for non-enrolment in NHIF were not clear. Two FGDs were conducted where respondents were informed about the current monthly premium of KShs.160/= and the proposed Kshs.500 after which they were asked about their affordability. There were mixed responses where some of the respondents felt that their income was irregular, others reported that their income was unreliable to sustain payment of premiums as required by NHIF. Others felt that the three months lump sum premium payment required by NHIF was challenging to sustain considering their irregular and unpredictable income. Some did not understand why one could contribute money to NHIF when he or she was not sick.

Respondents in the FGD expressed the fear that paying premiums to NHIF when they were not sick amounted to benefiting NHIF because if they don't fall sick the money will remain with NHIF. Accordingly, most respondents did not understand why one could contribute money when he or she was not sick. This response came about because they lacked adequate information and knowledge of risk pulling or health insurance. Secondly most *Jua Kali* workers did not understand that NHIF would cover them together with their dependants (spouse and children).

These study findings are in agreement with Gibson and Mamuzora's (2007) study in Tanzania that revealed that the decision to enroll in a health insurance is influenced by a number of factors among them the ability to pay premiums and the level of education. It also confirms Jain and Bhat (2006) study in India, which noted that education has a positive correlation with enrolment and that it increases the probability of enrolling in health insurance.

Membership in *Jua Kali* Association/ Cooperatives and Influence on Enrolment in Insurance Scheme

There was a significant association between being a member of *Jua Kali* association and enrolment in NHIF. A significant proportion of the respondents especially among the non-members *of Jua Kali* Associations were not enrolled in NHIF. Low enrolment affected non-members of *Jua Kali* association/cooperatives without formal education and those with primary education than members of *Jua Kali* Association/cooperatives with the same level of education. Like in Mathauer, *et al* (2005) study, these findings show that *Jua Kali* members of associations are able to raise substantial amount of money through the group solidarity and thus more likely to make contributions for NHIF premium compared to non-members of *Jua Kali* Association. The study reveals that it is easy for contributions from members of *Jua Kali* Associations to be remitted to NHIF as a group as opposed to individual *Jua Kali* workers who luck transport or forget resulting in inhibitive defaulter payments. It was also found out that registration of group members is much easier and has a shorter waiting period of one month compared to an individual *Jua Kali* worker who seeks NHIS services as an individual and has to wait for three months before he or she can start enjoying the services. *Jua Kali* members of Associations were found to be more likely than an individual *Jua Kali* member to enroll and sustain contributions because of group cohesion and collective responsibility taken upon by the Association. The study further found out that although some individual Jua Kali workers had at one time either filled the Registration Forms or enrolled, most of them had either failed to enroll or defaulted because they either forgot or did not have motivation from other colleagues.

This study further reveals that non-enrolment into NHIF by *Jua Kali* workers in Nairobi for those earning between KShs. 9,100/= and KShs. 20,000/= was not related to the financial inability to pay monthly premiums, but rather it was related to the unwillingness to pay the premiums to NHIF. It is related to the fact that some *Jua Kali* workers especially those not in Associations felt that their money would be benefitting NHIF in the event that they do not fall sick. The above facts, which were to a greater extent expressed by *Jua Kali* workers who did not belong to Associations or Cooperatives, were attributed to inadequate knowledge about the value of health insurance. In addition most *Jua Kali* workers did not have adequate information about health insurance offered by NHIF. Besides they did not understand the value of health insurance.

This study further confirms Mathauer, *et al* (2007) that NHIF payment mechanism and the penalties imposed on those who fail to remit their contributions in time fail to take into account the *Jua Kali* workers' low and irregular income. NHIF defaulter penalty is five times the monthly contribution, which means that those in the informal sector will have to pay KShs. 960/= inclusive of the monthly remittance. This is because the defaulter payment was initially designed for employers to discourage them from defaulting.

Conclusions

Several factors among them, socio-demographic, inadequate monthly income among the low earning *Jua Kali* and lack of knowledge about the benefits of health insurance offered by NHIF caused some *Jua Kali* workers not to enrol into the NHIF. There is need for improvement of the performance of

health systems to protect *Jua Kali* workers from catastrophic spending and improvement of health outcomes. Enrolment of *Jua Kali* workers in NHIF needs to be strengthened to reduce catastrophic expenditures to improve access to quality healthcare services for *Jua Kali* workers. Enrolment exercise should be made within the Jua Kali sheds and working areas where NHIF officers can assist those with low level education to fill the forms. These awareness campaigns carried out by NHIF officials should involve officials and members of Associations who, as role models, may influence the decision of individual *Jua Kali* workers to register as members of *Jua Kali* Associations and consequently enrol in NHIF.

Knowledge about the benefit of health insurance influence the value attached to health insurance hence enrolment into health insurance. NHIF has not invested much in marketing itself to the informal sectors and hence the low level of awareness as evidenced by the low enrolment of *Jua Kali* workers especially the non-members of *Jua Kali* association. Upfront payment of KShs. 480 per quarter is a challenge to many individual *Jua Kali* workers to pay.

Recommendations

On the basis of the study findings, the following four recommendations are made: NHIF should tailor-make messages and information to target all *Jua Kali* workers especially those with low level of education. NHIF should establish satellite points within the working areas of *Jua Kali* workers in order to educate them on NHIF benefits, how to enrol and how to remit premiums. The current three months upfront premium of Kshs. 480/= instead of the monthly KShs.160 should be reviewed to one-month premium payment to be compatible with what other NHIF contributors pay. NHIF should support *Jua Kali* Association to appeal to more *Jua Kali* workers to register as members of Associations and use the Associations as vehicles for the enrolment of *Jua Kali* workers into NHIF.

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